SYSTEMATIC STUDIES OF THE INDO-AUSTRALIAN CROWNED WEEVILS (COLEOPTERA: CURCULIONIDAE: CRYPTORHYNCHINAE)

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DEDICATION

I dedicate this work to the memory of Faye Setliff, whom we lost during its writing, to Lexi and Vivien, whom we found, and to Julie and Susan who were with me all along.

ABSTRACT

This dissertation focuses on the systematics of weevils (Coleoptera: Curculionidae) from the Indo-Australian tropics. Special consideration is given to a novel group of seven genera of Cryptorhynchinae that comprise the crowned weevil group, so named for the crown-like carina or glabrous semicircular bulge on the vertex on the head of these weevils, which is one of the more salient features shared by these genera.

Herein, the phylogeny of the largest crowned weevil genus, *Asytesta* Pascoe, is reconstructed with parsimony and Bayesian analyses based on a data set of 82 adult morphological characters (187 states) for 40 ingroup taxa. One species of *Cyamobolus* Schönherr and three species of *Cyamotrox* Heller are used as outgroups and all six genera and 14 species of the crowned weevil group as redefined here (*Cyamomistus* Heller, *Eudyasmus* Pascoe, *Glochinorhinus* Waterhouse, *Nothotragopus* Zimmerman, *Panopides* Pascoe, and *Zygara* Pascoe), are used to test the monophyly of *Asytesta*. The results did not support the monophyly of the *Asytesta* due to the nesting of monotypic *Zygara* within an apical subclade of *Asytesta*. Accordingly, *Zygara* becomes a **new junior synonym** of *Asytesta* and *Zygara doriae* (Kirsch) is returned to its original combination with *Asytesta*; *A. doriae* Kirsch **status revised**. With the inclusion of *Zygara*, *Asytesta* as redefined here is monophyletic. Resolution within *Asytesta* was poor; however, three subclades with strong support were recovered and are formally recognized as species groups. The analyses also recovered monophyletic *Nothotragopus*, *Panopides*, and *Glochinorhinus*. Relationships among the genera were not resolved. The monophyly of *Eudyasmus* was not supported. In a strict consensus of all trees recovered, *Eudyasmus* collapsed into a polytomy with *Glochinorhinus*.

A revision of *Asytesta* is also presented. Of the 41 species recognized here, 23 are previously described and 18 are new: *A. alexanderiae*, *A. alexriedeli*, *A. allisoni*, *A.*

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DISCLAIMER

All nomenclatural acts and species names proposed in the following text are provisional until published elsewhere and are hereby excluded for purposes of zoological nomenclature in accordance with Article 8.3 of the International Code of Zoological Nomenclature (ICZN 1999).

PHYLOGENETIC ANALYSIS AND REVISION OF *ASYTESTA* PASCOE, 1865 (COLEOPTERA: CURCULIONIDAE: CRYPTORHYNCHINAE)

INTRODUCTION

Asytesta Pascoe 1865 (Curculionidae: Cryptorhynchinae: Cryptorhynchini: Cryptorhynchina), are a conspicuous and commonly encountered element of the Indo-Australian weevil fauna. *Asytesta* occur from the Moluccas (Maluku Islands, Indonesia) to the Solomon Islands (Figure 1). The genus is particularly well represented in New Guinea and nearby islands. Many species are distinctly marked with maculae or vittae composed of light colored scales, which are in sharp contrast to darker background squamae. They are small to medium sized weevils (4–10 mm long) with long, slender legs and a more-or-less compact body, giving them a somewhat spider-like appearance (Figure 2), but their slow and ungainly gait is not at all suggestive of arachnoid behavior. Many species are remarkably similar in general shape, and especially markings, to species of *Arachnobas* Biosduval (Curculionidae: Conoderinae), another spider-like weevil genus in the Indo-Australian tropics. The often striking, yet entirely superficial resemblance between these two genera has been cited as evidence of a close systematic relationship between them (Pascoe 1865, Dorn 1879). However, *Arachnobas* clearly lacks a prosternal canal and mesosternal receptacle that occurs in all Cryptorhynchini, as well as all of the shared features of *Asytesta* and its allies in the crowned weevil group (as described below). The resemblance between these two genera is likely the result of convergent evolution.

The crowned weevil group was first proposed in Setliff (2008a). The group is characterized by several shared features including: 1. a semicircular, crown-like carinae, flat glabrous ring, or bulge on the vertex of the head, 2. very long, slender legs; 3. the

elytra and pronotum are subequally wide at the base; 4. an elevated and granulate longitudinal prominence on the third intervals on the elytra; 5. tegmen with parameres undeveloped; and 6. a pair of elongate apodeme-like basal sclerites in the endophallus. An extensive survey of Cryptorhynchinae revealed seven previously recognized genera that exhibit this combination of features. In addition to *Asytesta*, these genera are: *Cyamomistus* Heller 1929, *Eudyasmus* Pascoe 1885, *Glochinorhinus* Waterhouse 1853, *Nothotragopus* Zimmerman 1994, *Panopides* Pascoe 1871, and *Zygara* Pascoe 1885. Here *Eudyasmus*, *Glochinorhinus*, and monotypic *Zygara* are added to the four crowned weevil genera proposed in Setliff (2008a). *Asytesta* is the largest genus in the group (41 species) and the most broadly distributed. It can be distinguished from other crowned weevils by the following diagnostic characters: 1. the intercoxal process on ventrite 1 is broader than long; 2. middle and hind coxae are closely approximate; and 3. an abruptly expanded flange is situated on the ventral margin of the protibia in both sexes (see Figures 3–8). Male *Asytesta* also lack a medial, horn-like granule at the base of the rostrum that occurs in all other crowned weevil genera (Figures 9–20).

Asytesta and the other crowned weevils are cryptorhynchine weevils. Cryptorhynchinae are one of the largest subfamilies in the Indo-Australian region. Of the 568 genera currently recognized from all zoogeographic regions in Alonso-Zarazaga and Lyal 1999 and Lyal *et al*. 2006, roughly half occur in the Indo-Australian tropics and Australian region. Many taxonomists have contributed to our knowledge of the cryptorhynchines of this region. Most notably, F. P. Pascoe, K. M. Heller, J. Faust, A. M. Lea, G. A. K. Marshall, E. Voss, and E. C. Zimmerman. See Setliff (2007) for a review of the contributions made by these workers and a complete bibliography of the taxonomic literature for the weevils for the Papuan subregion. Past workers focused primarily on species and genus level descriptive taxonomy, with much less emphasis given to higher groups and delimiting groups based on shared characters. This benign neglect to classification at all levels has left the subfamily in disarray, leaving numerous poorly delimited and likely non-monophyletic tribes, subtribes, and genera (Lyal 2003 & personal communication). Only one diagnostic character, the presence of a prosternal canal for the reception of the rostrum when the head is in repose (Figure 5), serves to

unite the tribes of this subfamily. As Oberprieler *et al*. (2007) point out, prosternal canals also occur in other subfamilies of Curculionidae (e.g., Baridinae, Ceutorhynchinae, Conoderinae, and Molytinae). Oberprieler *et al*. (2007) following Kuschel (1987) recently challenged the subfamily status of Cryptorhynchinae in a review of weevil classification. They treated Cryptorhynchinae as part of an expanded Molytinae due to a lack of sufficient characters to separate the two subfamilies. However, they did not provide phylogenetic evidence to support their proposal. The competing hypotheses, that Cryptorhynchinae and Molytinae are reciprocally monophyletic, or that cryptorhynchines are a derived element of Molytinae, remain untested. Thus, I continue to use Cryptorhynchinae with the family group names and the generic composition following Alonso-Zarazaga and Lyal (1999) and subsequent modification in Lyal *et al*. (2006).

I arranged the crown weevil group in the subtribe Cryptorhynchina (see Setliff 2008a). Prior to this work, the crowned weevil genera were scattered among all 3 subtribes of Cryptorhynchini and *Zygara* was, until quite recently (Alonso-Zarazaga & Lyal 1999), misplaced in Conoderinae. Such confusion at the higher levels of cryptorhynchine classification, especially at the level of subtribe, is typical of these poorly defined groups. The evolutionary relationships of many such groups remain obscure as a result of the present chaotic state of classification.

In this contribution, I reconstruct a phylogeny and provide a taxonomic revision for *Asytesta*. The phylogenetic analyses are based on 82 adult morphological characters (187 states) for 40 *Asytesta* species, all 14 species in the six other genera of crowned weevils, one species of *Cyamobolus* Schönherr, and three species of *Cyamotrox* Heller. In the revision, a total of 41 *Asytesta* species are treated, 18 of which are new. Three new species groups are recognized based on phylogenetic evidence. Two non-congeneric species are transferred from *Asytesta* to other genera. Four new species level synonyms are proposed, and one subspecies is elevated to full species status. The status of *Zygara* and its type species *Z. doriae* (Kirsch) is rexamined with respect to *Asytesta*. Lectotypes are designated for 18 species to ensure the stability of nomenclature. In accordance with Article 74.3 of the International Code of Zoological Nomenclature, each lectotype is individually designated for each species (ICZN 1999).

Ecology of *Asytesta*

Little is known about the habits of *Asytesta* species or any of the other crowned weevils, although the same could be said about most Indo-Australian weevils. Most *Asytesta* species occur between 0–1500 m a.s.l. with far fewer species known from higher elevations. This observation agrees with Gressitt and Nadkarni (1978), who suggested that the greatest insect diversity in New Guinea occurs at lower elevation. However, this apparent bias may simply be the result of poor sampling at higher altitudes. For example, two new species described here were collected at 3450 m and 3500 m. To my knowledge, no other species of *Asytesta* has been collected above 2200 m, leaving a notable gap of more than 1000 m elevation where the genus is unknown. Specimens are commonly collected by sweeping or beating undergrowth at the edge of disturbed forest areas or hand collected on dead trees (Setliff personal observation, Riedel *in litt*.). *Asytesta* specimens are poorly represented in canopy fogging survey material collected in Papua New Guinea by Olivier Missa in Madang Province (collection in the Institut royal des Sciences naturelles de Belgique, Brussels, Belgium), and Allen Allison and Yves Basset and colleagues in Morobe Province (Allison *et al*. 1993, Basset *et al*. 1996) (collections in the Bernice P. Bishop Museum, Honolulu, U.S.A.). The paucity of material in these large-scale canopy samples suggests that *Asytesta* species dwell primarily in the lower understory and disturbed areas.

No previously published records of adult or larval host preference exist for *Asytesta*. *Asytesta rata* Heller was extensively collected as a part of host specificity studies on lowland rainforest herbivores (see Novotny *et al*. 2002) conducted by the New Guinea Binatang Research Center in Madang, Papua New Guinea over the past decade (http://www.entu.cas.cz/png). Collection and rearing data for *A. rata* are summarized in Table 1. While adult collection records do not necessarily represent host preference, these data indicate that adults of this species frequent several Rubiaceae genera and larvae are capable of developing in the dead wood of trees from several different families and orders of Angiosperms. This observation is not surprising considering woodborers in

dead wood tend to be generalists (Novotny and Basset 2005). The only adult collection record for *A. rata* that was not from Rubiaceae came from a single female that was collected while she was ovipositing on a dead *Ficus nodosa* Teysm. & Binn. (Moraceae). A few host records are available for other species based on specimen label data and all were collected on different plant families (Dipterocarpaceae, Fagaceae, Malvaceae, and Rosaceae), suggesting that the association between *A. rata* and Rubiaceae is not representative for the genus. These additional host records are reported in the individual species accounts.

TABLE 1. Summary of plants that *Asytesta rata* Heller was collected on or reared from at the New Guinea Binatang Research Center in Madang, Papua New Guinea.

Tree Species	**Family**	**Order**	**Clade**
Adults collected from foliage/bark:			
Ficus nodosa Teysm. & Binn.	Moraceae	Rosales	Eurosids I
Nauclea orientalis (L.) L.	Rubiaceae	Gentianales	Euasterids I
Neonaclea clemensii Merrill & Perry	Rubiaceae	Gentianales	Euasterids I
Pavetta platyclada Lauterb. & K. Schum.	Rubiaceae	Gentianales	Euasterids I
Psychotria micrococca (Laut. & Schum.) Val.	Rubiaceae	Gentianales	Euasterids I
Psychotria ramuensis Sohmer	Rubiaceae	Gentianales	Euasterids I
Randia schumanniana Merrill & Perry	Rubiaceae	Gentianales	Euasterids I
Adults reared from dead wood:			
Ficus wassa Roxb.	Moraceae	Rosales	Eurosids I
Myristica sp.	Myristicace	Magnoliales	Basal Angiosperms
Nauclea orientalis (L.) L.	Rubiaceae	Gentianales	Euasterids I
Sterculia schumanniana (Lauterb.) Mildbr.	Malvaceae	Malvales	Eurosids II
Syzygium sp.	Myrtaceae	Myrtales	Eurosids II

Taxonomic History

As already discussed *Asytesta* belongs to the crowned weevil group, which is classified in Cryptorhynchina (Cryptorhynchinae: Cryptorhynchini). The following is a brief summary of the taxonomic history of these higher taxa. A more detailed account for the genera of the crowned weevil group and a species level summary is provided for *Asytesta*.

Subfamily, tribes, and subtribes

Schönherr (1826) erected Cryptorhynchinae in his monumental worldwide revision of Curculionoidea. Lacordaire (1866) first revised the subfamily and established four tribes based on the condition of the prosternal canal. Since that time, the tribal and subtribal composition of Cryptorhynchinae has been unstable, with tribes and subtribes being defined, redefined, synonymized, and in some cases, transferred in part or entirely to different subfamilies (see Morimoto 1978, Kuschel 1987, Zimmerman 1994, Oberprieler *et al*. 2007). Morimoto (1978) revised the Asian genera of Cryptorhynchinae and provided a key to tribes and subtribes. The following seven cryptorhynchine tribes were included in Alonso-Zarazaga and Lyal's catalog (1999): Cryptorhynchini, Aedemonini, Camptorhini, Gasterocerini, Psepholacini, Sophrorhini, and Torneumatini. Cryptorhynchini (= *Cryptorhynchides varis* group of Lacordaire 1866) is by far the largest tribe. It dwarfs the six remaining tribes with more than 440 genera of which 232 genera occur in the Indo-Australian tropics and the Australian region. The next largest tribe is Aedemonini, which contains only 36 genera (from Alonso-Zarazaga and Lyal 1999). Lyal (1993) considered Cryptorhynchini to be non-monophyletic. However, Oberprieler *et al*. (2007) regarded the tribe as valid on account of the prosternal canal ending in a mesosternal receptacle. The monophyly of the tribe remains untested.

Lacordaire (1866) divided Cryptorhynchini into 3 subtribes: Cryptorhynchina, Mecistostylina, and Tylodina. The nominate subtribe, Cryptorhynchina, is comprised of 196 genera with 88 genera in the Indo-Australian tropics and the Australian region (Alonso-Zarazaga and Lyal 1999).

The crowned weevil group

I originally proposed the crowned weevil group for *Asytesta*, *Cyamomistus*, *Nothotragopus*, and *Panopides* (Setliff 2008a). Prior to this work, the group had escaped notice with only scattered mention of putative relationships between a few of its genera. Pascoe (1885) considered *Eudyasmus* close to *Cyamobolus* Schönherr. Heller (1908) proposed a close relationship between *Asytesta* and *Eudyasmus* and in a second paper, Heller (1914b) discussed the affinities of *Asytesta*, *Eudyasmus*, and *A. philippinica* Heller

(transferred to *Panopides* in Setliff 2008a) with *Cyamotrox* Heller and *Cyamobolus*. Lea (1928) noted that *Asytesta*, *Eudyasmus*, and *Cyamobolus trivittatus* Pascoe (a synonym of *Asytesta compressipes* (Olivier)) share the character of a circular carina on the vertex of the head. Heller (1929: 131) suggested a putative relationship between *Cyamomistus*, *Cyamobolus*, and *Glochinorhinus*. These few published comments provided the impetus for this study and were used in selecting outgroup taxa. No further hypotheses of the relationship between the crowned weevil genera have been suggested.

The crowned weevil group belongs in Cryptorhynchina, however its constituent genera were originally scattered among all three subtribes. Alonso-Zarazaga & Lyal (1999) arranged the known genera as follows: *Asytesta*, *Cyamomistus*, *Eudyasmus*, and *Panopides* in Cryptorhynchina, *Nothotragopus* and *Zygara* in Tylodina, and *Glochinorhinus* in Mecistostylina. In Setliff 2008a, I transferred *Nothotragopus* to Cryptorhynchina to accommodate its inclusion in the crowned weevil group. Similarly, *Glochinorhinus* is transferred here to Cryptorhynchina (**new subtribal placement**) to accommodate its inclusion in the group. During my initial examination of *Zygara* for this study, I hypothesized that *Z. doriae* was a species of *Asytesta* and thus belonged in Cryptorhynchina. This hypothesis is tested here.

Of the seven previously described genera in the crowned weevil group, little additional information is available for *Eudyasmus*, *Glochinorhinus*, *Cyamomistus*, and *Zygara*. Lea (1905) provided a redescription and key for *Glochinorhinus*. Heller (1935) reviewed *Eudyasmus* and provided a key to its four species. Monotypic *Zygara* and *Cyamomistus* were described by Pascoe in 1885 and Heller in 1929 respectively and are still known only from their type species. Since these treatments, no additional species have been added to these genera, no new taxonomic changes have been proposed, and no new species have been discovered in the material examined for this study. However, the remaining three genera, *Panopides*, *Nothotragopus*, and *Asytesta*, required revision due to the accumulation of new data. During my studies of the crowned weevil group, I discovered many taxonomic problems and undescribed species in these three genera. In 2008, I revised *Panopides* (see Setliff 2008a). In this work, the first male of the genus, a new species, and a new species group were described and *Asytesta philippinica* Heller

was transferred to *Panopides*. In a second paper, I reviewed *Nothotragopus* (see Setliff 2008b). In that work, the incorrect type locality for the genus was corrected from Australia to Java, the first male of the genus was described, *Cyamobolus tragopoides* Heller was transferred to *Nothotragopus*, and a new species was described from specimens formerly in the mixed syntypic series of *C. tragopoides*. The present paper represents the third installment of this series with a phylogeny and species level revision of *Asytesta*.

Asytesta Pascoe

Since Pascoe described *Asytesta* more than 140 years ago, 31 species and 1 subspecies have been attributed to the genus. Faust (1898) provided the only work to synthesize data for *Asytesta* species and a comprehensive revision of the genus has been lacking. All other papers have been descriptive works treating 1–3 species with occasional notes on taxonomy and distribution. The following is a chronological summary of these works.

Nearly 60 years before the description of *Asytesta*, Olivier (1807) described *Rhynchaenus gazella*, which would later be transferred to *Asytesta*. When Pascoe described *Asytesta* in 1865, he included three new species: *A. humeralis* Pascoe, *A. vittata* Pascoe, and *A. maura* Pascoe. Unfortunately, he failed to designate which of these species was to be the type species for the genus. Lacordaire (1866) transferred Olivier's *R. gazella* to *Tragopus* Schönherr. Chevrolat (1877) described two species in the genus *Arachnopus* (= *Arachnobas*), *Ar. compressipes* Chevrolat and *Ar. rotundipennis* Chevrolat. Dorn (1879) recognized Lacordaire's error in placing *R. gazella* Olivier in *Tragopus* and transferred *Tragopus gazella* (Oliver) to its present and correct place in *Asytesta*. Two more descriptive papers followed (Kirsch 1879, Pascoe 1883), each describing a single species, *A. doriae* Kirsch and *A. antica* Pascoe. In 1885, Pascoe described *Asytesta bivirgata*, *Cyamobolus trivittata*, which was later transferred to *Asytesta*, and the genus *Zygara* (Conoderinae), which Pascoe erected to accommodate *A. doriae* Kirsch. Heller (1894) recommended that *Zygara* be transferred to Cryptorhynchinae based on the presence of a prosternal canal, distant eyes, and

postocular lobes. However, his recommendation was overlooked by subsequent workers until Alonso-Zarazaga and Lyal's (1999) catalog. Heller (1895) added three more species from New Guinea, *A. arachnopus*, *A. gestroi*, and *A. lugubris* and transferred *Cyamobolus trivittata* Pascoe to *Asytesta* in a footnote. Faust (1898) provided the most thorough treatment of *Asytesta* to date. In this seminal work on the genus, Faust presented the first key to 16 species, 10 of which he described as new: *A. versuta*, *A. sejuncta*, *A. aucta*, *A. verecunda*, *A. propinqua*, *A. dorsalis*, *A. signata*, *A. definita*, *A. brevipennis*, and *A. dubia*. Unfortunately, most of Pascoe's species were not available to Faust and were excluded from this important work. Faust (1898) was also the first to mention the generic significance of the circular carina on the head. Heller described four more species in a series of four papers (*A. ypsilon* 1903, *A. rata* 1910, *A. eudyasmoides* 1914a, and *A. philippinica* 1914c). In 1908, Heller (1908) transferred Chevorlat's two "*Arachnopus*" species to *Asytesta*, made *A. trivittata* (Pascoe) a junior synonym of *A. compressipes* (Chevrolat), and synonymized *A. rotundipennis* (Chevrolat) as a junior synonym of *A. gazella* (Olivier). Lea (1928) described three species, *A. circulifera*, *A. granulifera*, and *A. setipes*. In the *Coleopterorum Catalogus*, Hustache (1936) erroneously placed *A. gazella* (Olivier) 1807 as a junior synonym of *A. vittata* Pascoe 1865. This error was likely the result of a misinterpretation of Dorn's (1897) awkwardly worded diagnoses of the two species. Bigger and Schofield (1983) and I (Setliff 2007) ignored this error and treated *A. gazella* as a valid species in their checklists. Voss was the most recent authority to describe a species of *Asytesta*. He described a subspecies of *A. lugubris*, *A. l. bidentatus* Voss (1958) and *A. albifrons* Voss (1960). In Setliff (2007), I selected *A. humeralis* as the type species of *Asytesta* for reasons given below. In Setliff (2008a), I transferred *A. philippinica* to *Panopides* and discussed the relationship of *Asytesta* with three other genera bearing a crown on the vertex of the head (*Cyamomistus*, *Nothotragopus*, and *Panopides*).

Aside from these taxonomic treatments, few other references to *Asytesta* species exist. Four expedition reports provided range extensions for several species (Pascoe 1885, Faust 1899, Marshall 1915, Voss 1958). Three catalogs treated *Asytesta* at the species level. The first catalog was Gemminger and Harold (1871), which reported

Pascoe's first three species from the Moluccas. Masters (1888) listed three Papuan species, including *A. doriae*, in his catalog. Masters was apparently unaware that Pascoe made *A. doriae* the type species of *Zygara* three years earlier. In the *Coleopterorum Catalogus*, Hustache (1934, 1936) included 27 species in *Asytesta* and had *A. doriae* in both the Cryptorhynchinae fascicle as *Asytesta* and in the Zygopinae (= Conoderinae) fascicle as *Zygara*. In their catalog of weevil genera, Alonso-Zarazaga and Lyal (1999) indicated that no type species had been designated for *Asytesta* and included *Zygara* in Cryptorhynchinae for the first time (but see Heller 1894). In addition to these catalogs, *Asytesta* and *Zygara* were treated in two species level checklists. Bigger and Schofield (1983) listed 21 *Asytesta* species and "*Zygara doriae*" in Zygopinae in their checklist for Melanesia. In my checklist (Setliff 2007), I listed 23 *Asytesta* species and "*Zygara doriae*" (in Cryptorhynchinae) from the Papuan region and designated *A. humeralis* as the type species of the *Asytesta* without further discussion.

My decision to select *A. humeralis* as the type species (in Setliff 2007) was influenced by four factors. First, *A. humeralis* was the only species to accompany the generic description on page 426 (Pascoe 1865). *Asytesta vittata* was described on page 431 and *A. maura* on page 432, at the end of the paper. Second, *A. humeralis* was the only species figured in the work (Pascoe 1865: pl. xvii: Figure 13). Third, Pascoe (1865: 426) specifically refers to *A. vittata* as "a second species" implying that *A. humeralis* was the first. Finally, I determined that the third species, *A. maura*, is not congeneric with *A. humeralis* and *A. vittata*, thus in the interest of nomenclature stability, I did not consider it further.

MATERIALS AND METHODS

Collections Consulted

Specimens used in this study were borrowed from the following collections with the majority of type material coming from the Natural History Museum (London, U.K.), Staatliches Museum für Tierkunde (Dresden, Germany), Museo Civico di Storia Naturale

"Giacomo Doria" (Genoa, Italy), and Museum National d'Histoire Naturelle (Paris, France). A wealth of undetermined material was also borrowed from the New Guinean weevil collections at the Bernice P. Bishop Museum (Honolulu, U.S.A.) and the personal collection of Dr. Alexander Riedel, presently housed in the Staatliches Museum für Naturkunde (Karlsruhe, Germany).

ARC	Alexander Riedel collection, presently stored in SMNK, Karlsruhe, Germany
BMNH	The Natural History Museum, London, U.K.
BPBM	Bernice P. Bishop Museum, Honolulu, U.S.A.
CASC	California Academy of Sciences, San Francisco, U.S.A.
CNCI	Canadian National Collection, Ottawa, Canada
CMNC	Canadian Museum of Nature, Ottawa, Canada
CWOB	Charles W. O'Brien collection, Green Valley, Arizona U.S.A.
DEI	The Deutsches Entomologisches Institut, Müncheberg, Germany
GPSC	Gregory P. Setliff collection presently stored in USNM, U.S.A.
ISNB	Institut royal des Sciences naturelles de Belgique, Brussels, Belgium
MNHN	Museum National d'Histoire Naturelle, Paris, France
MSNG	Museo Civico di Storia Naturale "Giacomo Doria," Genoa, Italy
MZB	Museum Zoologicum Bogoriense, Widyasatwaloka, Cibinog, Indonesia
SAM	South Australian Museum, Adelaide, Australia
SMNK	Staatliches Museum für Naturkunde, Karlsruhe, Germany
SMTD	Staatliches Museum für Tierkunde, Dresden, Germany
UMO	Hope Entomological Collection, Oxford, U.K.
UMSP	University of Minnesota Insect Collection, St. Paul, U.S.A.
USNM	National Museum of National History, Washington D.C., U.S.A.
ZMAN	Zoölogisch Museum Amsterdam, Amsterdam, Netherlands
ZMUC	Zoological Museum University of Copenhagen, Copenhagen, Denmark
ZMUH	Zoologischen Institut und Zoologischen Museums, Universität Hamburg, Germany

Material Examined

More than 1,200 specimens were examined during this study. A total of 40 *Asytesta* species, all 14 species comprising the six other crowned weevil genera, and four species in two genera that are external to the crowned weevil group were examined for the phylogenetic analyses. Taxon sampling outside of *Asytesta* included: *Cyamomistus* (1 species, monotypic), *Nothotragopus* (3 species), and *Panopides* (3 species). These three genera were included in the crowned weevil group (in Setliff 2008a). *Eudyasmus* (4 species), *Glochinorhinus* (2 species), and *Zygara* (1 species, monotypic) are newly included in the crowned weevil group in this study. *Cyamotrox* (3 species) and *Cyamobolus* (1 species) are more distantly related genera that were included in the analysis based on previously published assertions of their relationship to crowned weevil genera already discussed in the "Taxonomic History" section.

Type material was examined for all species of the six crowned weevil genera except *Glochinorhinus*, for which only non-type material was available. Type material was also examined for all *Asytesta* species except the following three taxa, which I was unable to locate: *Arachnopus rotundipennis* Chevrolat (=*Asytesta gazella* (Olivier)), *Arachnopus compressipes* Chevrolat, and *Rhynchaenus gazella* Olivier. Reliably identified material was available for *A. gazella* from MSNG and type material was examined for *A. trivittata* from BMNH, which is a junior synonym of *A. compressipes*. Two *Asytesta* species, *A. maura* Pascoe and *A. ypsilon* Heller were also examined but then excluded because they were not congeneric with any of the genera included in this study. Both species are formally transferred to different genera in the subtribe Tylodina below.

Only one sex was available for study for nine taxa. Males were unknown or unavailable for three species: *Cyamomistus albitarsus* Heller, *Nothotragopus tragopoides* (Heller), and *Asytesta albifrons* Voss. Females were not known for six species, *Panopides riedeli* Setliff, *Asytesta eudyasmoides* Heller, *A. fayae* new species, *A. emarginata* new species, *A. versuta* Faust, and *A. vivienae* new species.

Morphological Terminology

General entomological terminology follows Nichols (1989). Terminology of weevil structures largely follows Lyal (1993). *Asytesta* species commonly have lateral and/or sublateral vittae on the pronotum. I define lateral vittae as barely visible in dorsal view and aligning with the seventh elytral intervals, whereas sublateral vittae are situated on the pronotal disk and align with the fifth intervals on the elytra. When referring to elytral punctation, the term ‘‘interspace’’ is used to describe the spaces between punctures within a stria and the term ‘‘interval’’ is used to refer to the longitudinal spaces between striae. The mesosternal receptacle varies from cavernous to shallow and the posterior margin can be described as open, semi-open, or closed indicating the degree to which the posterior margin is produced at the center of the mesosternal receptacle. Aspects of the legs refer to an idealized position 90º from the body axis with the tibia extended so that all three pairs of legs are labeled in the same manner regardless of their orientation. Externally visible sternites of the abdomen are termed ventrites I–V (= sternites III–VII). The aedeagus, as defined here, refers to the median lobe of the penis without the tegmen (Figures 21–92).

Specimen Preparation

Observations, line drawings, and measurements were made using an Olympus SZX12 stereomicroscope fitted with a drawing tube and ocular grid.

For measurements of body length, body width, and rostral length (Figures 3–5), the number of specimens measured (*n*), range, and mean values are given except when the measurments for all specimens were identical. Body length was measured from the anterior margin of the pronotum in dorsal view to the posterior margin of the elytron. Body width was measured just behind the humeri of the elytra along the basal margin and excluded produced portions of the humeri when present. In the majority of species, the basal elytral width equaled the maximal body width; however, in rare cases, the

pronotum was slightly broader. The length of the rostrum was measured from the apex to the ventral margin of the eye in lateral view.

Genitalia were examined for multiple specimens per species when adequate material was available and included type material whenever possible. Genitalia were prepared by relaxing specimens in hot (near boiling) water for 10 minutes, opening the apices of the elytra with a pair of forceps, and removing the terminalia (including tergites VI and VII). Occasionally, the abdomen was removed to facilitate the extraction of the terminalia to ensure that the entire genitalic complex was removed. Once extracted, the terminalia were macerated in a hot solution of 10% KOH for 8–10 minutes, neutralized in weak acetic acid for 1–2 minutes, and rinsed in water. The terminalia were dissected and examined in glycerin. A saturated aqueous solution of Chlorazol black E (Sigma) in deionized water was used to stain membranes when needed to view weakly melanized structures of the female genitalia. For this procedure, the genitalia were submerged in the stain for 20 seconds to 1 minute and rinsed in deionized water until melanized structures were clearly visible. Once the desired intensity of stain was achieved, the genitalia were rinsed for a final time, blotted dry on a paper towel, and transferred to glycerin for examination. Following examination, terminalia were preserved in glass microvials containing glycerin and attached to the pin beneath the data labels on the specimen.

Species Descriptions and Illustrations

Species descriptions were generated with DELTA Editor v. 1.04 (Dallwitz 1980; Dallwitz *et al*. 1999) using a modified version of the phylogenetic character matrix (discussed below) that was supplemented with additional descriptive characters. Raw species descriptions were created using the "Translate into natural language" directive in DELTA Editor and edited by hand in Microsoft Word®.

Pencil drawings were digitally scanned into Adobe Photoshop® (v. 9.0 Adobe Systems Inc.), imported into Adobe Illustrator® (v. 11.0 Adobe Systems Inc.), and digitally inked using the pen tool and other features following Holzenthal (2007).

Microsetae and minute punctures that are almost always present on the terminalia are omitted from the illustrations and no mention of them is made in the species descriptions.

Digital images were taken with a Leica EC3 digital camera mounted on an Olympus SZX12 stereomicroscope. To overcome problems with depth of focus of three dimensional objects under magnification, multiple images (~10–40 images) were taken of each view at different focal depths using the microscope's fine focus adjustment. The resulting image layers were aligned and assembled into a single, deep focus image using Auto-Montage Pro® (v. 5.01). Final images were edited and assembled into plates with Adobe Photoshop® (v. 9.0).

Label data are recorded verbatim and enclosed in quotation marks. A solidus (/) separates information on different labels for the same specimen. Comments and corrections for the data labels are enclosed in square brackets. Type labels for new species and new lectotypes and paralectotypes have a black border and the type status printed in all capital letters across the top of the label (e.g., PARATYPE, LECTOTYPE, etc.). The following color scheme for type labels was used: red holotype labels, yellow lectotype labels, and blue paratype and paralectotype labels. Allotypes were not designated. The name of each specimen is either written in archival ink using a Pigma Micron pen, size 01 (Sakura Color Products Corp.) or printed using an Epson laser printer.

Character Systems and Coding

From the morphological survey, 82 phylogenetically informative characters were coded. Of these, 64 were binary and 18 were multistate for a total of 187 states. Most of the characters (75/82) were derived from external morphology. A complete list of characters and states is given in the results. Male and female genitalia were surprisingly uniform across all ingroup taxa and were a poor source of characters—only four male and three female binary characters were defined based on the genitalia. The remaining characters came from the habitus (4 characters, 8 states), head, rostrum, and antenna (11 characters, 25 states), thorax (22 characters, 49 states), legs (16 characters, 40 states),

elytra and hind wings (19 characters, 44 states), and pregenitalic abdominal segments (3 characters, 6 states). A subset of 23 characters (43 states) came from the vestiture most of which pertained to maculae and vittae. Ten male characters (20 states) and 3 female characters (6 states) were included. All characters were discrete and parsimony informative. In order to minimize assumptions about evolutionary process, all characters were treated as equally weighted and unordered. For the nine taxa known only from male or female specimens, sexual characters pertaining to the absent sex were coded as missing and denoted by a question mark (?) in the data matrix (Wilkinson 1995). Twelve characters pertained to features that were not present in all taxa. Several strategies for coding such inapplicable data have been proposed (see Maddison 1993, Pleijel 1995, Wilkinson 1995); however the appropriateness of these strategies remains controversial (Lee & Bryant 1999, Strong & Lipscomb 1999, Seitz *et al*. 2000). In this study, I used unordered composite coding (Maddison 1993) to account for inapplicable data. Absence of a character was coded as a separate state in a multi-state character. Composite coding has recently been criticized because it involves a loss of phylogenetic information (Hawkins *et al*. 1997, Lee & Bryant 1999); however, I use this conservative approach because it avoids potential optimization problems of coding inapplicable data as missing data (reductive coding) by PAUP* and problems of character independence and redundancy that afflict other coding strategies (see Strong & Lipscomb 1999).

Phylogenetic Analyses

To infer phylogenetic relationships, I used two different optimality criteria, maximum parsimony and Bayesian inference (a model-based likelihood method), to examine the sensitivity of phylogenetic inference to different assumptions. Maximum parsimony (MP) is the standard criterion for reconstructing phylogenies based on morphological data. Recently, simple models implemented in a Bayesian framework have been shown to approximate parsimony (Tuffley & Steel 1997) and these models are increasingly being used to analyze discrete morphological data (Lewis 2001, Nylander *et al*. 2004, Lechen & Buckley 2007). I used Bayesian inference to determine the posterior

probability of observing a tree given the data under a simple model of character evolution (Lewis 2001) and to examine rate heterogeneity among morphological characters. *Cyamobolus funereus* Pascoe was used to root these analyses.

Maximum parsimony analysis was implemented in PAUP* 4.0 beta v. 10 (Swofford, 2001). A heuristic search using 1000 random addition sequence replicates was conducted using TBR branch swapping and MULTREES option. Non-parametric bootstrap support values (Felsenstein, 1985) were obtained with 100 bootstrap replicates, each with 100 random sequence addition replicates, TBR branch swapping, MULTREES off, with the maximum number of trees saved limited to 10,000. Bremer support (Bremer 1988), also known as the decay index (Donoghue *et al*. 1992), was generated to assess nodal support using Treerot v. 3 (Sorenson & Franzosa 2007). DeBry (2001) recently criticized Bremer support based on observations that the support value is generally not comparable across nodes within a tree. Despite this shortcoming, I include Bremer support as it provides a reasonable heuristic method for determining clade stability and the strength of support for a single node (Bremer 1994, Kitching *et al*. 1998).

Bayesian analysis was performed using Markov chain Monte Carlo sampling (MCMC) implemented in MrBayes 3.1 (Ronquist & Huelsenbeck, 2003). The default Mk model was used following Lewis (2001). The coding parameter was set to "variable" to avoid potential problems with overestimation of branch lengths due to the absence of constant characters in morphological data (Lewis 2001). Chain mixing was poor in test runs so the temperature parameter was lowered from 0.2 to 0.1 (Ronquist *et al*., 2005). Default settings were used for all other priors. Two parallel analyses with 8 chains each were run for 1 x 10^7 generations and trees were sampled every 1000th generation. The first 1,000 trees were discarded as burn-in. The entire analysis was executed once with equal rates of variation across the characters and once with a gamma distributed rate variation with four discrete rate categories and uniform priors. A Bayes factor analysis was used to assess support for one hypothesis over the other using the criteria of Kass and Raftery (1995). The log-likelihood scores of sample points were plotted against generation to ensure that stationarity was achieved. The 9,000 trees remaining after the

burnin was discarded were used to construct a majority-rule consensus tree with average branch lengths using the "sumt option" in MrBayes.

RESULTS

Characters and Character States

A list of 82 morphological characters and 187 associated states that were used in the phylogenetic analyses is presented here. Individual character indices, consistency index (ci) and retention index (ri), follow each character and are based on the phylogenetic results (Figures 93–95). Figures for this section are arranged as follows: habitus line drawings and line drawings of the pleural sclerites, legs, tarsi, antennae, elytra, and genitalia (Figures 3–92), and the species atlas (Figures 96–188).

1. *Elytral shape in lateral view*: (0) elongate; length more than two times elytral depth (Figures 68, 149–156); (1) short; length less than two times elytral depth (Figures 66–67, 108, 112, 114, 144, 160, 166, 174, 178). This character [ci = 1.00, ri = 1.00]

2. *Condition of the vertex of the head above the eyes*. (0) with a thin, subcordate to circular crown-like carinae (Figures 102–106); (1) with a flat, subcordate to semicircular glabrous ring; (2) with a semicircular bulge; (3) unadorned. State (0) was a synapomorphy for the crowned weevil group. [ci = 1.00, ri = 1.00]

3. *Pair of small, pale, circular maculae on temple above eyes*. (0) absent; (1) present (Figure 104). [ci = 0.33, ri = 0.87]

4. *Interocular distance*. (0) narrower than basal width of rostrum (Figure 106); (1) broader than or equal to basal width of the rostrum (Figure 105). State (1) was a synapomorphy of the *Asytesta dorsalis* species group and was reversed in one species in the group [ci = 0.50, ri = 0.75]

5. *Small horn-like granule on base of male rostrum*. (0) absent; (1) present. [ci = 0.50, ri = 0.90]

6. *Rostral length*. (0) longer than pronotal length; (1) shorter than pronotal length. [ci = 0.50, ri = 0.91]

7. *Dorsal sculpturing on basal half of male rostrum*. (0) with narrow dorsomedial carina; (1) with pair of sublateral (suprascrobal) carinae or row of granules and a rugose or irregularly punctured medial elevation that is comprised of two imperfectly fused carinae that converge near the base the of rostrum just below the eyes and reach at least to the insertion point of the scape (Figure 102); (2) confused, lacking distinct carinae or medial elevations (Figures 180). [ci = 1.00, ri = 1.00]

8. *Male rostrum with small laterally produced tooth-like processes*. (0) present (Figure 178); (1) absent. [ci = 0.33, ri = 0.75]

9. *Two pair of strongly curved, tusk-like horns on male rostrum* (0) present (Figure 17); (1) absent. State (0) occurs in addition to a lateral tooth-like process (character 8 state 0) in *Glochinorhinus* and was synapomorphic. [ci = 1.00, ri = 1.00]

10. *Scrobe on the male rostrum*. (0) terminating proximal to the eye, broadly open beneath (Figure 3, 9, 11, 13, 15, 19); (1) terminating distal to eye; closed behind by ventrally directed prominence (Figure 17). State (1) was a synapomorphy for *Glochinorhinus*. [ci = 1.00, ri = 1.00]

11. *Shape of antennomere 7*. (0) similar to other antennomeres of flagellum; subquadrate to ovate or weakly capitate, usually broader than long or width and length subequal (Figures 21–23, 25–27); (1) unlike the remaining funicular articles; elongate, as long as the previous three articles combined, strongly capitate; broadly contiguous with article 8

of the club (Figure 24). State (1) was a synapomorphy for *Glochinorhinus*. [ci = 1.00, ri = 1.00]

12. *Length of antennal club*. (0) elongate; longer funicular articles 1+2; (1) short and compact; shorter than funicle articles 1+2. State (1) was a synapomorphy for the outgroup genus *Cyamotrox*. [ci = 1.00, ri = 1.00]

13. *Distance between meso- and metacoxae*. (0) separated by a distance narrower than half the width of the mesocoxa (Figure 10); (1) separated by a distance half the width of the mesocoxae or more (Figures 9, 11, 13). State (0) was a synapomorphy for *Asytesta*. [ci = 1.00, ri = 1.00]

14. *Preapical armature of profemora*. (0) with large tooth bearing three or more small denticles on its anterior margin (Figures 42–44); (1) with simple tooth (Figures 28, 30, 32–34, 45–54, 56–63); (2) edentate with a short carinae (Figure 31); (3) edentate and acarinate (Figure 55). State (0) is synapomorphic for the *Asytesta doriae* species group and state (2) is a synapomorphy for *Glochinorhinus*. [ci = 0.75, ri = 0.83]

15. Small denticle near the middle of profemur. (0) absent; (1) present (Figures 30, 45–46, 56–57, 60–61). [ci = 0.17, ri = 0.64]

16. Scales on dorsal edge of tibia. (0) concolorous with the background scales; (1) bearing a row of dark scales along dorsal margin, noticeably darker than background scales; (2) bearing a row of pale whitish scales along margin, noticeably lighter than background scales (Figures 151, 153). [ci = 0.40, ri = 0.75]

17. *Premucro on the apex of protibia*. (0) present (Figure 6); (1) absent (Figure 31). State (1) was a synapomorphy for *Glochinorhinus*. [ci = 1.00, ri = 1.00]

18. *Apical flange on apex of protibia*. (0) absent; (1) present (Figure 6). A well developed apical flange (state 1) was a synapomorphy of the crowned weevil group. [ci = 1.00, ri = 1.00]

19. *Subapical tooth-like supra-uncal projection on the protibia at a perpendicular angle to the uncus*. (0) absent; (1) present (Figure 6). A reversal in this character (from state 1 to 0) was synapomorphic for the *Asytesta emarginata* species group (Figures 53–55). [ci = 0.50, ri = 0.92]

20. *Row of short stout bristles at apex of protibia*. (0) oblique (Figure 6); (1) transverse. State (0) was a synapomorphy of the crowned weevil group. [ci = 1.00, ri = 1.00]

21. *Orientation of apical setal brush on the hind tibia*. (0) nearly vertical, slightly oblique to the longitudinal axis of the tibia; (1) transverse to the longitudinal axis of the tibia. State (0) was a synapomorphy of the crowned weevil group. [ci = 1.00, ri = 1.00]

22. *Length of tarsomere 1 on the hind leg*. (0) slightly longer than tarsomeres 2+3; (1) more than 1 ½ times as long as tarsomeres 2+3; (2) shorter than tarsomeres 2+3. State (0) was a synapomorphy of the crowned weevil group with a change to state (1) apparently occurring in the ancestor of *Eudyasmus* and *Glochinorhinus*. [ci = 1.00, ri = 1.00]

23. *Shape of tarsomere 2 on the proleg*. (0) short, trapezoidal (Figure 64); (1) elongate, clavate (Figure 65); (2) subquadrate. State (0) was a synapomorphy of the crowned weevil group and state (1) occurred in an apical subclade of the *Asytesta dorsalis* group. [ci = 1.00, ri = 1.00]

24. *Length of mesofemur compared to elytra*. (0) reaching or exceeding elytral apices; (1) not exceeding length of elytral apices. State (0) was a synapomorphy of the crowned weevil group. [ci = 1.00, ri = 1.00]

25. *Flange on ventral margin of protibia*. (0) present (Figure 6); (1) absent.
The often abruptly expanded, blade-like flange was a synapomorphy for *Asytesta* that was secondarily lost in two species of the *A. emarginata* species group. The character is sometimes sexually dimorphic. Females often exhibit a broader, more gradually tapering flanges whereas the males have more abrupt, tooth-like flanges (Compare Figures 48 and 49), or the flange is secondarily absent (Figure 53–55). If a flange was present in female and not males (see Figures 51 and 52) the character was scored as present. [ci = 0.50, ri = 0.94]

26. *Protibia laterally compressed*. (0) present; (1) absent. [ci = 0.33, ri = 0.86]

27. *Dorsal edge of protibia flattened and blade-like*. (0) absent; (1) present, broader in the middle than at either end (Figures 51–52, 56–57); (2) present, emarginate in the middle (Figures 53–54) State (2) was a synapomorphy for the *Asytesta emarginata* species group. [ci = 0.50, ri = 0.85]

28. *Vestiture on ventral margin of protibia*. (0) the same as the rest of the tibial vestiture; (1) fringed with sparse, suberect, hair-like setae that are longer than the rest of the tibial vestiture (Figure 6); (2) fringed with very large, erect, dark scales; (3) fringed with densely set setal brush comprised of very long hair-like setae (Figure 34). State (3) was a synapomorphy of the *Panopides antica* species group (see Setliff 2008a). [ci = 1.00, ri = 1.00]

29. *Curvature of male protibia*. (0) not strongly curved (Figure 6); (1) apical two thirds strongly curved (Figure 34). State (1) was a synapomorphy of the *Panopides antica* species group (see Setliff 2008a). [ci = 1.00, ri = 1.00]

30. *Prosternal canal*. (0) shallow, lateral walls not vertical; (1) deep, lateral walls vertical. A reversal in this character (from state 1 to 0) was synapomorphic for the *Asytesta emarginata* species group [ci = 0.25, ri = 0.75]

31. *Mesosternal receptacle*. (0) slightly cavernous to cavernous, lateral margins produced, posterior margin enclosed to slightly open (Figure 5); (1) very shallow, almost obliterated, lateral margins not or only weakly produced, broadly open behind. [ci = 0.20, ri = 0.85]

32. *Cervical constriction of pronotum*. (0) absent; (1) present (Figures 3–4). Pronotum without a cervical constriction (state 0) occurred only in the outgroup genus *Cyamotrox*. [ci = 1.00, ri = 1.00]

33. *Rugosity of the pronotal disk*. (0) rugose, with rasp-like raised posterior margins on pronotal punctures (Figure 112); (1) smooth but not shiny; (2) smooth and shiny (Figures 108, 110). State (0) was a synapomorphy of the crowned weevil group and state (2) was synapomorphic for the *Asytesta doriae* species group [ci = 1.00, ri = 1.00]

34. *Paired posterior depressions on pronotal disk with a raised central ridge*. (0) absent; (1) present (Figure 124). State (1) was a synapomorphy of the *Asytesta emarginata* + *A. dorsalis* species groups. [ci = 1.00, ri = 1.00]

35. *Transverse row of granulate prominences apicad of midline on pronotal disk*. (0) absent; (1) present (Figures 116, 130). State (1) was a synapomorphy of the *Asytesta emarginata* + *A. dorsalis* species groups but was reversed in an apical subclade within the *A. dorsalis* group. [ci = 0.50, ri = 0.80]

36. *Relative widths of the pronotum and the elytra*. (0) pronotum and elytra approximately the same width (Figures 4, 10, 12, 14, 16); (1) pronotum much narrower than elytra. Humeral prominences were excluded from the measurement of the elytra when present. State (0) was a synapomorphy of the crowned weevil group. [ci = 1.00, ri = 1.00]

37. *Paired dark spots on either side of the midline at the posterior of pronotal margin*. (0) absent; (1) present (Figures 128, 144, 174, 180). [ci = 0.33, ri = 0.92]

38. *Pale dorsomedial vittae on pronotal disk*. (0) absent; (1) with complete vitta reaching the anterior and posterior margins (Figure 150, 152); (2) with incomplete vitta not reaching the posterior margin (Figure 170); (3) with incomplete vitta not reaching the anterior margin (Figure 126). [ci = 0.30, ri = 0.63]

39. *Pair of sublateral longitudinal vittae on pronotum*. (0) absent; (1) present (Figures 138, 146, 160, 162). [ci = 0.20, ri = 0.20]

40. *Pair of lateral pronotal maculae or longitudinal vittae*. (0) absent; (1) with pale, whitish, oblong macula on sides of pronotum; (2) with pale longitudinal vitta spanning the entire length of the pronotum (Figures 183–184). [ci = 0.40, ri = 0.57]

41. *Ornamentation on the anterolateral region of the pronotum (anterior to the procoxae)*. (0) absent; (1) with ring of pale scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, usually with darker color scales in center of the ring (Figure 104); (2) anterolateral region of pronotum with oblique, pale stripe from the lower margin of the postocular lobe to the middle of the procoxae (Figure 183). [ci = 0.40, ri = 0.87]

42. *Transverse vittae on lateral margins of the pronotum from just above the center of the dorsal margin of the procoxae to dorsolateral portion of pronotal disk*. (0) absent; (1) present (Figure 159, 185). [ci = 0.33, ri = 0.60]

43. *Small, white, circular maculae on pronotal disk*. (0) absent; (1) present (Figures 171–172, 178). [ci = 0.75, ri = 0.83]

44. *Transverse band of dark, irregular macula on the pronotal disk in front of the midline*. (0) absent; (1) present (Figure 174). [ci = 0.50, ri = 0.96]

45. *Posterior pronotal margin*. (0) nearly truncate, with at most a very weakly produced posterior projection in the middle (Figure 4); (1) with a well developed median projection produced posteriad, fitting into the prescutellar space (Figures 10, 12, 18). State (0) was a synapomorphy for *Asytesta*. [ci = 1.00, ri = 1.00]

46. Glabrous dorsomedial carinae on the pronotal disk. (0) absent; (1) present (Figures 12, 14, 16, 18, 20). [ci = 0.33, ri = 0.86]

47. *Shape of the mesepimeron*. (0) subparallel sided (Figure 8); (1) distinctly larger at one end. State (1) was a synapomorphy of the crowned weevil group. [ci = 1.00, ri = 1.00]

48. *Size of mesepisternum*. (0) large; lower margin extending at least half or more than one half length of lateral portion of mesosternum (Figures 11, 13, 19); (1) small; lower margin not extending more than one half length of lateral portion of mesosternum (Figures 15, 17). [ci = 0.33, ri = 0.82]

49. *Metepisternum*. (0) clearly visible for the entire length of the sclerite (Figure 8); (1) encroached upon from beneath by the metasternum and above by the elytron for much of its length leaving only the ends clearly visible and only a narrow strip along the middle exposed (Figure 17). State (1) was a synapomorphy for *Glochinorhinus*. [ci = 1.00, ri = 1.00]

50. *Dorsal vestiture*. (0) absent except for vittae or maculae (Figures 108, 110); (1) present, more or less uniformly squamose (Figures 113–188). State (0) was a synapomorphy for the *Asytesta doriae* species group. [ci = 1.00, ri = 1.00]

51. *Dorsal vestiture*. (0) scales course, individually distinct when viewed under low magnification; (1) scales fine, indistinct under low magnification. [ci = 0.20, ri = 0.77]

52. *Shape and orientation of dorsal scales*. (0) scales primarily elliptical, suberect to decumbent; (1) scales small, circular, appressed. Small circular appressed scales (state 1) occurred in *Nothotragopus* and *Glochinorhinus*. [ci = 0.50, ri = 0.75]

53. *Scutellum*. (0) not visible (Figure 108, 110, 112); (1) very small to minute, smaller than adjacent punctures on elytra (Figure 4); (2) as large as or larger than adjacent punctures on elytra (Figures 10, 12, 14, 18). State (1) was a synapomorphy for *Asytesta* with parallel losses (state 0) occurring in an apical clade. [ci = 0.67, ri = 0.95]

54. *Hind wing*. (0) fully developed; (1) vestigial. [ci = 0.33, ri = 0.75]

55. *Punctures on elytra*. (0) shallow; (1) foveate (Figure 112). Foveate elytra (state 1) occur in *Panopides* and *Asytesta dubia*. [ci = 0.50, ri = 0.67]

56. *Shape of the anterior margin of the elytra excluding the prescutellar space*. (0) nearly truncate (Figure 4); (1) weakly sinuate (Figure 17); (2) strongly sinuate (Figure 130). State (0) was a synapomorphy of the crowned weevil group, state (1) occurred only in *Glochinorhinus*, and state (2) was synapomorphic for the *Asytesta emarginata* species group. [ci = 0.67, ri = 0.86]

57. *Condition of the first two basal punctures of each elytral striae*. (0) with first two punctures of each striae clearly separated; (1) with first two punctures of each striae imperfectly fused into one elongate puncture. [ci = 0.25, ri = 0.70]

58. *Condition of the basalmost punctures of each elytral striae*. (0) similar to other punctures in the striae; (1) deeper than other punctures in the striae. State (1) was a synapomorphy of the *Asytesta doriae* species group. [ci = 1.00, ri = 1.00]

59. *Condition of the elytral humeri*. (0) not flattened or produced (Figure 108, 138); (1) flattened but not produced; (2) flattened and laterally and anteriorly produced (Figures 118, 128). [ci = 1.00, ri = 1.00]

60. *Prominence on elytral intervals 3*. (0) slightly raised above adjacent intervals, not greatly distorting the outline of the dorsal contour in lateral view (Figures 66–68); (1) abruptly and significantly raised above adjacent intervals, clearly distorting the outline of dorsal contour in lateral view (Figures 70, 72, 74, 76, 78); (2) absent. State (0) was a synapomorphy of the crowned weevil group. Three parallel changes to state (1) occurred in *Glochinorhinus*, one species of *Panopides*, and in the *Asytesta dorsalis* species group. [ci = 0.50, ri = 0.82]

61. *Pair of basal tubercles on elytral intervals 3 near anterior margin*. (0) absent; (1) present (Figures 17–18, 72, 76, 78). Basal tubercles (state 1) occurred in *Glochinorhinus* and the *Asytesta dorsalis* species group, but was reversed in one species in the group. [ci = 0.33, ri = 0.67]

62. *Elytral intervals 4 elevated above intervals 1 and 2*. (0) absent; (1) present. [ci = 0.33, ri = 0.83]

63. *Condition of the fifth elytral interval*. (0) not strongly elevated above adjacent intervals; (1) strongly elevated above adjacent intervals (Figure 69); (2) tuberculate. State (2) was an autapomorphy of *Glochinorhinus doubledayi* Waterhouse. [ci = 0.50, ri = 0.50]

64. *Condition of the seventh elytral intervals*. (0) not or only slightly elevated above the immediately adjacent intervals (excluding the humeri); (1) intervals 7 elevated above immediately adjacent intervals and produced beyond the outline of the lateral margins of the elytra in dorsal view (Figures 73–80). [ci = 0.50, ri = 0.67]

65. *Condition of the sixth elytral interval*. (0) not or only slightly elevated above the immediately adjacent intervals; (1) elevated above the immediately adjacent intervals especially towards elytral declivity, produced beyond the outline of the lateral margins of the elytra in dorsal view (Figures 76, 80). [ci = 0.33, ri = 0.50]

66. *Pale vitta on the elytral suture*. (0) absent; (1) present (Figures 138, 140, 150, 160, 162, 186). [ci = 0.20, ri = 0.79]

67. *Pale vittae or maculae on elytral intervals 5*. (0) absent; (1) with a pair of basal macula or short vittae that do not pass the midline (Figures 164, 174, 178, 180); (2) with a pair of longitudinal vittae spanning nearly the entire length of the elytra (Figure 152); (3) with a pair of longitudinal vittae on intervals 5 that do not reach the apex of the elytra (Figure 172). [ci = 0.33, ri = 0.70]

68. *Pair of large, oblong, obliquely situated, pale macula on humeri*. (0) absent; (1) present. State (1) occurred in the outgroup genus *Cyamotrox*. [ci = 1.00, ri = 1.00]

69. *Pair of short, pale, longitudinal vittae on fourth intervals at the elytral declivity*. (0) absent; (1) present. State (1) only occurred in the outgroup genus *Cyamotrox* and although two species were scored for state (1), the characters was ambiguous for that unresolved node resulting in a retention index value of 0.00. [ci = 0.50, ri = 0.00]

70. *Pair of short, white, longitudinal vittae or maculae on the sixth intervals*. (0) absent; (1) with pair of basal maculae or short vittae, not reaching midline (Figures 164, 174, 178, 180); (2) with pair apical vittae; vittae not reaching anterior margin (Figure 109). [ci = 0.50, ri = 0.50]

71. *Pale whitish fascia along basal margin of the elytra*. (0) absent; (1) present (Figures 132, 160, 168). [ci = 0.20, ri = 0.71]

72. *Pale whitish vittae along the epipleural margin of the elytra*. (0) absent; (1) present (Figures 131, 137, 139, 149, 159, 161, 171, 183, 185, 187) [ci = 0.33, ri = 0.83]

73. *Condition of ventrite 1 including the intercoxal process*. (0) as long as or longer than all remaining ventrites (2–5) combined (Figure 5); (1) not longer than ventrites 2+3. State (0) was a synapomorphy of the crowned weevil group and was reversed (to state 1) in *Glochinorhinus*. [ci = 0.50, ri = 0.80]

74. *Condition of ventrite 1 including the intercoxal process*. (0) greatly distended, on a significantly lower plane than the remaining ventrites in lateral view (Figure 5); (1) not greatly distended, more or less on the same plane as the remaining ventrites in lateral view. [ci = 0.33, ri = 0.71]

75. *Condition of intercoxal process of ventrite 1*. (0) narrower than the total length of ventrite 1; (1) broader than the total length of ventrite 1 (Figures 3, 5). [ci = 0.50, ri = 0.92]

76. *Hemisternites on male sternite VIII*. (0) present; (1) absent (sternite VIII entirely membranous) or greatly reduced (Figure 82). State (1) was a synapomorphy for *Asytesta*. [ci = 0.50, ri = 0.94]

77. *Development of the parameriodal lobes of the tegmen*. (0) developed; (1) undeveloped (Figures 86–87). [ci = 1.00, ri = 1.00]

78. *Apex of the penis*. (0) produced with apex rounded to acute (Figures 83–84); (1) truncate. Rounded to acute apex was observed in all crowned weevils examined and the state (0) is probably a synapomorphy for the crowned weevil group. However, the male of *Cyamomistus* is not known and the character was scored as "?" for this genus, which prevented unambiguous optimization of the character. [ci = 1.00, ri = 1.00]

79. *Basal endophallic sclerites*. (0) elongate (Figure 84); (1) short. Elongate sclerites were present in all crowned weevils examined and the state (0) is likely a synapomorphy for the group. However, the male of *Cyamomistus* is not known and the character was scored as "?" for this genus, which prevented unambiguous optimization of the character. [ci = 1.00, ri = 1.00]

80. *Sclerotization of the vagina near junction with the spermathecal duct*. (0) absent; (1) present. [ci = 1.00, ri = 1.00]

81. Vagina internally with a flat spindle-shaped sclerite near junction with spermathecal duct. (0) absent; (1) present. A flat spindle-shaped sclerite in the vagina only occurred in *Nothotragopus* species. [ci = 1.00, ri = 1.00]

82. *Orientation and connection of the bursa to the vagina*. (0) with bursa more or less indistinct from and broadly connected to the vagina; (1) with bursa diverging from vagina apicad to vaginal-oviduct-spermathecal duct junction with a narrow connection to the vagina. State (0) was a synapomorphy for *Asytesta*. [ci = 1.00, ri = 1.00]

Additional Comments on Character Performance

Characters pertaining to the dorsal vestiture, particularly the presence or absence and arrangement of maculae and vittae, were useful for diagnosing species; however, these characters were highly homoplastic compared to other classes of character (*e.g*. elytral prominences). Proleg morphology and rostral characters provided some of the best information at the generic level and species level within *Asytesta* to a lesser extent. Characters pertaining to elytral prominence were important to diagnosing species groups within *Asytesta*. Notably, male and female genitalia exhibited virtually no variation at the species level. Only subtle differences were observed in genitalic characters at the generic level, specifically in the shape of the apex and endophallic sclerites of the aedeagus, development of the parameroid lobes of the tegmen and hemisternites on male sternite

VIII, and degree of sclerotization and shape of the vagina-bursa complex (Characters 76–82).

Phylogenetic Analyses

The MP analysis recovered 7,390 most parsimonious trees with a tree length (TL) of 215 steps, consistency index (CI) of 0.49, and retention index (RI) of 0.85. The mean total tree length from the Baysian analysis was 7.1883. The Bayes factor analysis strongly favored the Mk model invoking the gamma parameter (B_{10} = 32.28). The mean of the posterior distribution on the shape parameter (α) of the gamma distribution was 0.9461, suggesting that most characters varied little while a few characters exhibited considerable variation (Ronquist *et al*. 2005). The strict consensus MP tree is presented in Figure 93 with bootstrap, decay, and Bayesian posterior support values. The Bayesian majority-rule consensus is not shown because no strongly supported nodes (posterior probability ≥ 0.95) were recovered that conflicted with strongly supported nodes in the MP strict consensus (bootstrap ≥ 75%, decay ≥ 2). Synapomorphic character state reconstructions for recovered nodes are shown in Figure 94.

With the root placed at *Cyamobolus funereus* Pascoe, the analyses recovered five clades. *Cyamotrox* placed as the sister to clade A that comprises the crowned weevil genera (Fig. 93). Monotypic *Cyamomistus* placed as sister to a clade containing all remaining crowned weevil genera, but no there was support for this sister relationship. Little resolution among the crown weevil genera was obtained within this clade (Fig. 93, Clade B). Four crowned weevil genera *Nothotragopus*, *Panopides*, *Glochinorhinus*, and *Asytesta* were recovered as monophyletic; *Eudyasmus* was not (Figures 93 and 94, clades B, C, G, H respectively). The monophyly of *Panopides* and *Nothotragopus* was supported, albeit with weak nodal support, corroborating the taxonomic actions proposed in Setliff (2008a and 2008b) respectively. *Nothotragopus* (clade B) was supported by 4 synapomorphies, but only one was uniquely derived. The relationship among the three species of *Nothotragopus* was unresolved. The *Panopides* clade (clade C) was poorly supported but was fully resolved with *P. riedeli* Setliff recovered as sister to a strongly

supported subclade comprised of *P. anticus* Pascoe + *P. philippinicus* (Heller). Clade E corresponded to the *P. anticus* species group described in Setliff (2008a) and was supported by three synapomorphies, two of which were uniquely derived.

In contrast to the other crowned weevil genera, monophyly of *Eudyasmus* was problematic and its species were recovered as a partially resolved clade with *Glochinorhinus* (Figures 93 and 94, clade D). In the strict consensus of optimal MP trees, a sister-relationship between *E. albertisii* Pascoe and *E. praecox* Faust (Clade F) was strongly supported. The two remaining species, *E. simplex* Heller and *E. planidorsis* Heller, however, formed a polytomy with this subclade and *Glochinorhinus*. Neither the MP nor Bayesian analyses resolved this polytomy (Figures 95A & B). Further work is needed to determine the correct phylogenetic placement of these two species. Monophyly of *Glochinorhinus* (clade G) was strongly supported by 11 synapomorphies (six unique).

Based on this analysis, the monophyly of *Asytesta* (Figures 93 and 94, clade H), as currently constituted, must be rejected due to the single species of monotypic *Zygara* that is nested within an apical subclade of *Asytesta* (Figures 93 and 94, clade I). These results support my initial assertion that *Zygara* is a junior synonym of *Asytesta*. Thus, I formally return *Zygara doriae* to its original combination with *Asytesta* and synonymize *Zygara* with *Asytesta* below. With the synonymy of *Zygara*, the monophyly of *Asytesta* is upheld and is supported by 12 synapomorphies, six of which are uniquely derived.

Within this redefined *Asytesta*, little resolution of species relationships was recovered and support for most nodes was generally low in both MP and Bayesian analyses (bootstrap < 75%, decay < 2, and posterior probabilities < 0.95). Based on these support criteria, 30 of the 41 *Asytesta* species were not recovered in any well-supported subclades. However, three subclades were strongly supported (Figures 93 and 94, clades I, J, and L). Clade I comprised two species of *Asytesta* and included *Z. doriae* (Kirsch), which has already been discussed. Monophyly of this clade was supported by five synapomorphies, four of which were uniquely derived. Clade J comprised 3 species and was supported by six synapomorphies with two uniquely derived characters. Finally, clade L was supported by 3 synapomorphies, one of which was uniquely derived and

comprises six species. These three subclades are described here as species groups of *Asytesta*.

Taxonomic actions

Generic synonymy

Based on the results of the phylogenetic analyses, I propose that *Zygara* is a **new junior synonym** of *Asytesta*. *Zygara doriae* (Kirsch), originally described in *Asytesta*, is formally returned to that genus, *Asytesta doriae* Kirsch **new status**.

Non-congeneric species removed from *Asytesta*

The following two species were previously attributed to *Asytesta* but clearly belong to other genera well outside of the crowned weevil group. These species are formally transferred here and were excluded from the phylogenetic analysis. *Asytesta philippinica* Heller (Figures 100–101) was transferred to *Panopides* in Setliff (2008a).

Asytesta maura Pascoe (Figures 96–97)

Faust (1898: 161) was the first to suspect that *A. maura* did not belong in *Asytesta*, citing Pascoe's original description of the tibiae. This species has longitudinally ridged tibiae, very coarse punctation, large conical granules on the elytra and pronotum, and a row of fine sclerolepidia on the anapleural margin of the metepisternum. The species also lacks a corona on the vertex of the head, internal flanges on the protibia, and elevated prominences on the third elytral intervals. All of these conditions serve to separate *A. maura* from species of *Asytesta* and all other crowned weevils. I compared Pascoe's unique type specimen with type material of *Microporopterus paucus* Heller and determined that the two species are congeneric based on habitus and leg morphology. Thus, I remove *A. maura* from *Asytesta* and transfer it to *Microporopterus* Lea **new combination**.

Asytesta ypsilon Heller (Figures 98–99)

This distinctive and handsome species is hereby transferred to *Meroleptus* Faust. As with the previous species, *M. ypsilon* (Heller), **new combination** lacks the shared features of the crowned weevil group. Like other *Meroleptus* species, it has a broad, tranverse, glabrous band across the vertex of the head at the point of articulation with the anterior pronotum, three distinct carinae on the dorsal face of the rostrum, and very large, shiny, round tubercles on the pronotum and elytra that protrude beyond the densely arranged vestiture. I compared type material for *M. ypsilon* with *Meroleptus gemmatus* Faust, *M. bacatus* Heller, and *M. mus* Heller. *Meroleptus ypsilon* appears to be more closely related to the latter species based on the arrangement of its most prominent tubercles on the sides rather than the dorsum as in the two former species.

Checklist of the Crowned Weevil Genera and Species

The following list includes all six genera and 54 species belonging to the crowned weevil group as recognized in this work based on the results of the phylogenetic analyses. Species are arranged alphabetically by genus and by species group within *Asytesta*. Species level synonyms are indented. General distribution is provided for all valid species. For the purposes of this list, New Guinea has been divided into its two political divisions, West Papua (= Irian Jaya, West New Guinea, Papua Barat) and Papua New Guinea (= Territory of Papua and New Guinea); peripheral islands and archipelagoes are listed separately.

Asytesta Pascoe (41 species)

***A. doriae* species group** (2 species)

Asytesta albifrons Voss	Papua New Guinea
Asytesta doriae Kirsch **status revised**	Yule Island

***A. dorsalis* species group** (6 species)

Asytesta dorsalis Faust	Papua New Guinea
Asytesta frontalis Setliff **new species**	Misima Island
Asytesta gressitti Setliff **new species**	Papua New Guinea
	West Papua, Papua
Asytesta julieae Setliff **new species**	New Guinea
Asytesta sedlaceki Setliff **new species**	Papua New Guinea
Asytesta tuberculata Setliff **new species**	Papua New Guinea

***A. emarginata* species group** (3 species)

Asytesta alexriedeli Setliff **new species**	West Papua
Asytesta emarginata Setliff **new species**	West Papua
Asytesta vivienae Setliff **new species**	Papua New Guinea

Asytesta sedis mutabilis (30 species not placed in species groups)

Asytesta alexanderiae Setliff **new species**	Papua New Guinea
Asytesta allisoni Setliff **new species**	Papua New Guinea
Asytesta antica Pascoe	Kaioa Island
Asytesta arachnopus Heller	Papua New Guinea
Asytesta aucta Faust	Papua New Guinea
Asytesta granulifera Lea **new synonym**	
Asytesta biakana Setliff **new species**	Biak Island
Asytesta bidentata Voss **new status**	Deslacs Islands
Asytesta bivirgata Pascoe	West Papua
Asytesta brevipennis Faust	Mailu Island
Asytesta cheesmanae Setliff **new species**	Yepen Island
Asytesta compressipes (Chevrolat)	West Papua
Asytesta trivittata (Pascoe)	
Asytesta concolora Setliff **new species**	West Papua
Asytesta dubia Faust	Ambon, Seram Islands
Asytesta eudyasmoides Heller	Biak Island

Asytesta fayae Setliff **new species**	Kei Island
Asytesta gazella (Olivier)	West Papua
Arachnopus rotundipennis Chevrolat	
Asytesta gestroi Heller	Papua New Guinea
Asytesta humeralis Pascoe	Bacan, Halmahera Islands
Asytesta definita Faust **new synonym**	
Asytesta lugubris Heller	Papua New Guinea
Asytesta setipes Lea **new synonym**	
Asytesta marginalis Setliff **new species**	Ternate Island
Asytesta morobeana Setliff **new species**	Papua New Guinea
Asytesta propinqua Faust	D'Entrecasteaux Islands
Asytesta rata Heller	Papua New Guinea
Asytesta circulifera Lea **new synonym**	
Asytesta sejuncta Faust	Papua New Guinea
Asytesta signata Faust	Trobriand Islands, Papua New Guinea, D'Entrecasteaux Islands
Asytesta thompsoni Setliff **new species**	Bougainville Island
Asytesta verecunda Faust	Papua New Guinea, D'Entrecasteaux Islands
Asytesta versuta Faust	New Guinea
Asytesta vittata Pascoe	Bacan, Aru Islands
Asytesta woodlarkiana Setliff **new species**	Woodlark Island

Cyamomistus Heller (1 species)

Cyamomistus albitarsus Heller	Buru Island

Eudyasmus Pascoe (4 species)

Eudyasmus albertisii Pascoe	Papua New Guinea

Eudyasmus planidorsis Heller	Papua New Guinea
Eudyasmus praecox Faust	Papua New Guinea
Eudyasmus simplex Heller	Papua New Guinea

Glochinorhinus Waterhouse (2 species)

Glochinorhinus doubledayi Waterhouse	Australia
Glochinorhinus evanidus Lea	Australia
Glochinorhinus cooki Faust	

Nothotragopus Zimmerman (3 species)

Nothotragopus tragopoides (Heller)	Java
Nothotragopus tuberosus (Boheman)	Java
Nothotragopus zimmermani Setliff	Java

Panopides Pascoe (3 species)

Panopides anticus Pascoe	Sulawesi
Panopides philippinicus (Heller)	Philippines
Panopides riedeli Setliff	Sulawesi

Key to the Genera of the Crowned Weevil Group

1. Vertex of head above eyes with poorly defined, flat, glabrous ring or nonglabrous semicircular bulge, often abraded, sometimes absent; profemur usually edentate; if dentate, then prosternal canal nearly obliterated; tarsomere 1 of protarsus 1.25–2 times as long as tarsomeres 2+3.....2

1'. Vertex of head above eyes with distinct, circular to semicircular, "crown-like" carina, rarely abraded; profemur usually dentate (except *Asytesta emarginata* n. sp.). Tarsomere 1 of hind leg not or only slightly longer than tarsomeres 2+3.....4

2 (1). Scape shorter than funicle; antennomere 7 as long as articles 4–6 combined, capitate, contiguously joined with club and similarly clothed; metepisternum

reduced along middle to narrow strip, broader at anterior and posterior ends; mesosternal receptacle deep, posterior margin enclosed; male rostrum bearing densely arranged scales and erect hair-like setae, dorsal face with two divergent rows of large, shiny tubercles, and two pair of well-developed and strongly curved, tusk-like projections near insertion point of antennae. Australia.....*Glochinorhinus* Waterhouse

2'. Scape as long as or longer than funicle; antennomere 7 broader than long or width and length subequal, only slightly longer than antennal article 6, subquadrate to ovate or at most weakly capitate, distinctly separate from club, vestiture similar to other antennal articles; metepisternum visible for entire length, middle wider than caudal end; mesosternal receptacle nearly obsolete; male rostrum with erect setae sparse, dorsal face with medial tubercle at base, pair of weakly tuberculate suprascrobal carinae, and weak lateral projections near insertion point of antennae. New Guinea..... *Eudyasmus* Pascoe

4 (1'). Scutellum minute, sometimes absent; ventral margin of protibia with abruptly expanded flange; metasternum very short, middle and hind coxae separated by distance less than one-half length of mesocoxa; intercoxal process on ventrite 1 broader than long; male rostrum lacking medial, horn-like granule at base. Moluccas, New Guinea and adjacent islands, Solomon Islands .....*Asytesta* Pascoe

4'. Scutellum present, equal in size to adjacent punctures on elytra or larger; ventral margin of protibia unmodified; metasternum longer, middle and hind coxae separated by distance greater than one-half length of mesocoxa; intercoxal process on ventrite 1 longer than broad; male with medial, horn-like granule at base of rostrum (male *Cyamomistus* not seen). Philippines to Moluccas.....5

5 (4'). Body robust, suboval, greater than 4 mm wide; dorsomedial carina on pronotal disk absent; posterior margin of mesosternal receptacle slightly open. Buru Island .....*Cyamomistus* Heller

5'. Body elongate-oval to parallel sided, less than 4 mm wide; dorsomedial carinae present on pronotal disk (often restricted to apex); posterior margin of mesosternal receptacle enclosed.....6

6(5’). Elytra with deep, circular, punctures or foveae; dorsal vestiture comprised primarily of sparsely to evenly distributed elliptical scales; scutellum elongate oval, weakly protruding, larger than adjacent elytral punctures. Philippines, Sulawesi..... .....*Panopides* Pascoe

6’. Elytral punctures relatively shallow; dorsal vestiture mainly comprised of densely distributed, appressed, circular scales, arranged in patchy mats of individually indistinct scales; scutellum subquadrate to circular, strongly protruding, smaller than adjacent puncture on elytra. Java.....*Nothotragopus* Zimmerman

Asytesta Pascoe

Asytesta Pascoe, 1865: 426

Zygara Pascoe, 1885: 288 **new synonym**

Type species: *Asytesta humeralis* Pascoe, 1865: 426, subsequent designation in Setliff 2007: 10. Type locality: Moluccas [=Maluku Islands, Indonesia].

Generic diagnosis. *Asytesta* is closely related to *Cyamomistus*, *Nothotragopus*, and *Panopides* in the crowned weevil group based on the presence of a well developed semicircular to subcordate carina on the vertex of the head (Figures 102–106). This character distinguishes *Asytesta* from all other weevil genera except these three genera. *Asytesta* differs from these genera in the abruptly expanded flange on the ventral margin of the protibia (Figure 6), compressed tibiae, minute (sometimes absent) scutellum (Figure 4), short metasternum, middle and hind coxae separated by distance less than one-half the length of a mesocoxa, and intercoxal process on ventrite 1 that is broader than long (Figure 5). Additionally, the male rostrum in *Asytesta* lacks a medial, horn-like granule at base (Figure 3), which occurs in all other crowned weevil genera for which the male is known (Figures 9, 10, 13, 15, 17, male of *Cyamomistus* is not known).

Redescription. *Adult habitus*. Length 3.4–10.5 mm, width 1.6–5.0 mm. Body sub-globular, slightly broader than long to elongate, more than twice as long as broad. Pronotum and elytra subequal in width. Integument dark reddish-brown to black, antennae, tarsi, and mouthparts reddish-brown. Dorsum sparsely to densely squamose, glabrous in *A. doriae* species group. Head, pleura, venter, legs, and tarsi variously squamose in all species. Ventral portion of head, dorsal and ventral apex of rostrum, and antennae glabrate to glabrous. Vestiture comprised of appressed, elliptical background scales, interspersed with longer, suberect scales originating from punctures on dorsum and sparsely distributed on legs; suberect scales capitate, usually lighter color than background scales. Pronotum and elytra of most species variously marked with dark or pale vittae or maculae. *Head*. Convex, visible in dorsal view (except *A. frontalis* new species), with thin, glabrous, subcordate to semicircular, crown-like carina on vertex above eyes; crown with posterior margin interrupted by flattened, glabrous V-shaped area where head articulates on pronotum (Figures 102–106). Eyes situated sublaterally, finely faceted, slightly convex, as long as wide or slightly longer, subcordate to oval, dorsal and anterior margins rounded, posterior margin nearly straight. Interocular distance variable, narrower than basal width of rostrum to broader (compare Figures 105 and 106). Rostrum weakly arcuate, shorter than or equal to pronotal length, parallel sided to near apex, moderately widened and depressed at apex, with small, medial interocular pit at base; pit often obscured by squamae. Dorsal face of male rostrum from base to antennal insertions rugose, smooth in female rostrum. Antennae inserted slightly beyond middle of rostrum in both sexes; scrobe mostly concealed beneath sides of rostrum; scape not reaching eye, funicular articles 1 and 2 each longer than any remaining articles, article 7 as broad as long, larger and more densely setose than previous articles; club oval to elongate-elliptical, longer than or equal to length of funicular articles 1+2 (Figure 7). Mandible simple, margin entire, without teeth, apex evenly convex, spoon-shaped. Entire ventral portion of head with very fine, parallel strigae; sparse at midline, more closely approximate and densely distributed on ventrolateral portion. *Thorax*. Pronotum 1.0–1.5 times broader than long, usually broadest at base occasionally at middle, abruptly constricted towards head, sides rounded behind cervical constriction to more or less

parallel sided (Figure 4), usually coarsely punctate, set with small, shiny, rasp-like granules at posterior margin of punctures (except *A. doriae* group), each granule bearing long, capitate, anteriorly directed, decumbent scale. Postocular lobes well developed (Figure 3) with fine vibrissae covering posteroventral portion of eye when head in repose (Figure 104). Posterior pronotal margin nearly truncate to weakly sinuate. Prosternal canal shallow to deep, with lateral margins nearly vertical, carinate; ceiling of canal and mesosternal receptacle usually glabrous, interior lateral margins and occasionally ceiling squamose. Mesosternal receptacle slightly cavernous to cavernous, with lateral margins produced, posterior margin enclosed to slightly open or receptacle very shallow, nearly obliterated, lateral margins not or only weakly produced, posterior margin broadly open. Posterior margin of receptacle reaching middle of mesocoxae (Figures 5, 104). Scutellum circular to oval, minute, absent in 4 species. Elytra and pronotum behind cervical constriction strongly convex in lateral view such that scutellum on significantly lower plane; humeri subcontiguous with posterolateral margin of pronotum, steeply declivous past midline to gradually sloping to apex. Elytral length variable, slightly broader than long to 1.5 times longer than broad. Anterior margin truncate to emarginate at middle. Humeri flattened and anteriorly produced in *A. dorsalis* and *A. emarginata* species groups. Sides truncate at seventh interval, most noticeable at humeri. Elytral intervals typically granulate (smooth in *A. doriae* group); granules bearing one decumbent scale. Granulate prominence on third elytral intervals raised above all other intervals, intervals 4, 5, 6, and/or 7 also elevated in some species, always to lesser extent than intervals 3 (see Figures 69–80). Ten elytral striae visible, tenth stria greatly reduced, usually restricted to basal 1/3 of elytra. Hind wing well developed to vestigial. Punctures on elytra circular, moderately deep to shallow, size variable, interspace between punctures about half as long as puncture (interspace longer in *A. doriae* species group), each puncture bearing one decumbent scale. Pleural sclerites with margins entire; lateral portion of mesosternum square; mesepisternum triangular, small, lower margin not extending more than one half length of lateral portion of mesosternum; mesepimeron subparallel sided; metepisternum not concealed by epipleural margin of elytra, sclerolepidia not observed on anapleural suture. Metasternum very short, meso- and

metacoxae closely approximate, intercoxal space narrower than width of mesocoxa, lateral portion punctate (often obscured by scales), posterior margin depressed anterior to metacoxa, resulting in produced ventrolateral ridge (Figure 8). Legs long, hind femur exceeding elytral apex by at least one-fourth its length, mesofemur usually reaching or exceeding elytral apex. Femora weakly sulcate beneath, with small subapical ventral denticle on meso- and metafemora, profemora unidentate (Figures 42–44, 47–55, 58–59, 62–63), bidentate (Figures 45–46, 56–57, 60–61), or secondarily edentate (Figure 55). Tibia strongly compressed, sublinear, dorsal margin straight, convex, or emarginate at middle; ventral margin of protibia with thin blade-like flange, tapering to tibial apex (Figure 6). Female often with broader, more gradually tapering flanges, male flanges more abrupt, sometimes reduced, tooth-like (compare Figures 48 and 49); flange secondarily absent in 3 species. Ventral margin of protibia fringed with sparsely distributed, suberect, hair-like setae near apex; setae longer than scales of tibial vestiture. Apex of protibia with well developed uncus and premucro, broadly separated with small flange situated in between, flange supporting long setae; subapex with oblique row of short stout bristles ascending from near uncus to perpendicular angle of apex, forming tooth-like supra-uncal projection (Figure 6), sometimes greatly reduced or absent (Figures 53–55). Hind tibia with apical setal brush of short stiff setae arranged almost vertically. Tarsomere 1 longer than tarsomeres 2+3; tarsomere 2 strongly depressed, short and trapezoidal, or elongate and clavate. *Abdomen*. Ventrite 1 as long as or longer than remainder of abdomen (ventrites 2–5) and on distinctly lower plane, usually somewhat overlapping ventrite 2; ventrites 1 and 2 connate; intercoxal process on ventrite 1 broadly V-shaped, broader than total length of ventrite 1; ventrite 2 often transversely folded along middle, anterior half forming part of declivity of ventrite 1. Flat portion of ventrites 2, ventrite3 and 4 subequal in length, ventrite 2 twice as long as ventrites 3 and 4 when not folded (as in *A. emarginata* group); ventrite 5 twice as broad as long. *Male terminalia*. Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, with two rows of fewer than 8 plectral tubercles each reaching posterior margin; tubercles minute, usually visible only under high magnification (Figure 81). Tergite VIII slightly longer than broad, posterior margin

rounded. Sternite VIII obsolescent, with hemisternites completely membranous, apical margins setose near base (Figure 82). Spiculum gastrale with apodeme shorter than aedeagal apodemes; apical arms well developed, asymmetrical (Figure 85). Tegmen with parameres undeveloped (Figures 86–87). Body of aedeagus (= median lobe of authors) one-third to one-fourth as long as apodemes, weakly curved; apex produced, setose; apodemes and body united. Endophallus with inverted Y-shaped apical sclerite, pair of small sclerites near base, and pair of elongate apodeme-like basal sclerites (Figures 83–84). *Female terminalia*. Tergite VII longer than broad, anterior and posterior margins broadly convex, with two rows of fewer than 8 plectral tubercles each; plectral rows not reaching posterior margin; tubercles minute, usually visible only under high magnification (Figure 88). Vagina with walls weakly sclerotized. Bursa more or less indistinct from vagina. Tergite VIII longer than broad, apex rounded, margin smooth, with numerous short, stout setae arising submarginally on ventral and dorsal surfaces, middle weakly sclerotized from base to past midline (Figure 89). Sternite VIII broad apical plate with two patches of 6–8 long setae on either side of midline at apex, apodeme broadly connected to apical plate, widened at apex (Figure 90). Hemisternites elongate, narrow, subcylindrical, 3 times longer than styli; styli 3.5 times long as broad, cylindrical, with short apical setae (Figure 91). Spermatheca hook-shaped, apex of cornu variably acute to bluntly rounded (Figure 92).

Distribution. Broadly distributed throughout the Papuan region (Moluccas, New Guinea and surrounding archipelagos, and the Solomon Islands) (Figures 1, 189–194).

Remarks. Following the generic description, Pascoe (1865: 426) discussed *Asytesta*'s relationship with the South American genus *Rhyephenes* Schönherr (Cryptorhynchinae) and the Indo-Australian genus *Arachnobas* Boisduval (Conoderinae). The similarities between these genera and *Asytesta* are entirely superficial. It is not clear if Pascoe considered these genera to be closely related or if he included the remarks simply to illustrate the artificial resemblance between these genera. Nevertheless, Gemminger & Harold (1871: 2563) arranged *Asytesta* after *Rhyephenes* in their catalog and Hustache (1936: 236) did the same in the *Coleopterorum Catalogus*.

Key to the Species Groups of *Asytesta* Pascoe

Separate species level keys are provided for each species group following the group's diagnosis. Species not assigned to a species group are treated as "*Asytesta sedis mutabilis*."

1. Pronotum usually with pair of weak impunctate depressions on either side of midline at base; elytral humeri flattened, laterally produced; granulate prominences on third elytral intervals either abruptly elevated above adjacent intervals or exceeding elytral declivity in length; intervals 5 and/or 7 distinctly elevated above adjacent intervals or bearing well developed, elongate prominences.....2

1'. Pronotum evenly convex at base; elytral humeri more or less contiguous with posterolateral corners of pronotum; intervals 3 with granulate prominences elevated slightly above adjacent intervals; prominences gradually raised, terminating at or before elytral declivity; intervals 5 and 7 similar to adjacent intervals, lacking distinct prominences.....3

2(1). Frons typically broader than basal width of rostrum (except *A. julieae* n. sp); mesosternal receptacle cavernous; dorsal edge of tibia straight or slightly convex; protibial flange on ventral margin and supra-uncal projection near apex well developed; basal margin of elytra weakly sinuate to truncate; prominences on intervals 3 abruptly elevated well above adjacent intervals, terminating at or before elytral declivity.....*A. dorsalis* group

2'. Frons narrower than base of rostrum; mesosternal receptacle obsolete; dorsal edge of tibia weakly to strongly emarginate in middle; protibial flange on ventral margin reduced, rarely absent; supra-uncal projection near apex reduced or absent; basal margin of elytra emarginate at scutellum; prominences on intervals 3 elongate, length exceeding elytral declivity, moderately elevated above adjacent intervals.....
.....*A. emarginata* group

3(1’). Typically smaller (3.4–4.6 mm); pronotum and elytra black, smooth, shiny; dorsum glabrous, except white scales restricted to short vittae or maculae sometimes present; punctures on dorsum shallow, smaller than intervening space between punctures; basalmost row of punctures on elytra much deeper than all other punctures; profemoral tooth armed with 3–4 small denticles on distal edge, larger than teeth on meso- or metafemora; scutellum absent; male rostrum with small, laterally produced tooth-like processes near points of insertion of antennae.....*A. doriae* group

3’. Typically larger (3.6–10.5 mm); dorsum variously clothed in fine to coarse scales; pronotum and elytra moderately to coarsely granulate; punctures deep, larger than intervening spaces between punctures; basalmost punctures on elytra not deeper than other punctures; profemoral tooth simple, similar in size to teeth on meso- and metafemora; scutellum usually present (absent in 3 species); male rostrum lacking tooth-like processes near points of insertion of antennae.....*Asytesta sedis mutabilis*

***Asytesta doriae* species group**

Diagnosis. The two species in this group are unique among *Asytesta* in that their pronota and elytra are almost entirely glabrous and shiny; one species has short stripe of white scales on each elytron (Figures 107–110). They are among the smallest species of *Asytesta* (less than 4.6 mm in length). Their integument is dark black, nitid, and lacks granules on the pronotum and elytra, except for the prominences on the third elytral interval. Profemora in both sexes bear a large, multi-dentate tooth on the inner margin (Figures 42–44). The protibial flange is situated more towards the middle of the tibia than the base. The metathoracic wings are greatly reduced and the scutellum is not visible. The pronotal and elytral punctures are very shallow and smaller than the interspaces between the punctures except for the basal row of punctures along the anterior elytral margin, which are much deeper than all other punctures. Males of *A. doriae* also have the sides of the rostrum weakly produced, forming a small tooth-like process extending over the

insertion points of the antennae (Figure 103), much like those in male *Panopides* and *Nothotragopus* species. This character is probably diagnostic for the species group; however males of *A. albifrons* were not examined.

Remarks. Kirsch (1879:19) considered *A. doriae* distinctive but thought the characters of his new species were insufficient to warrant a new genus. However, Pascoe (1885: 288) removed *A. doriae* from *Asytesta* and made it the type species of a new monotypic genus, *Zygara*. He also removed *Zygara* from Cryptorhynchinae and placed it in Conoderinae. The presence of all of the synapomorphies for the crowned weevil group and for *Asytesta* in the members of this species group, however, leaves little doubt that they belong in *Asytesta*. Members of the *A. doriae* group closely, yet superficially resemble numerous other genera of small, glabrous, nitid, mostly black beetles that form a common and diverse element of the insect fauna in lowland rain forests of the Indo-Australian tropics. Other cryptorhynchine genera with a similar facies include the widely distributed and megadiverse genus *Trigonopterus* Fauvel and several others that are less well known, such as *Camia* Pascoe, *Pantiala* Pascoe, *Morrisella* Alonso-Zarazaga and Lyal, *Semiathe* Pascoe, *Telaugia* Pascoe, *Thyestestha* Pascoe, and *Xychusa* Pascoe. Weevil genera in different subfamilies include *Caenochira* Pascoe and *Idopelma* Faust (Conoderinae), *Centrinopsis* Roelofs (Baridinae), *Diomia* Pascoe (Molytinae), and *Imathia* Pascoe (Curculioninae). This suite of characters can also be found outside of the weevils in the eumolpine chrysomelid genus *Stethotes* Baly (see Gressitt and Hornabrook 1977), which is evident in the nomenclature of *S. cryptorhynchodes* Gressitt (1966). The remarkable degree of convergence across such a large number of unrelated taxa suggests an ecological significance associated with this particular set of characters.

Key to the species of the *doriae* species group

1. Profemoral tooth with 3–4 denticles on distal margin. Elytra with white humeral maculae and short, white vittae on sixth intervals at declivity; frons with white scales boarding eyes and brown scales in middle.....*Asytesta doriae* Kirsch **new status**

1’. Profemoral tooth with 2 denticles on distal margin. Elytra without white maculae or vittae; frons largely covered in white scales..... *Asytesta albifrons* Voss

Asytesta albifrons Voss
(Figures 44, 107–108, 189)

Asytesta albifrons Voss, 1960: 331

Diagnosis. This species belongs to the *doriae*-group, based on its small size, smooth and shiny, subglabrous dorsum, serrate profemoral tooth and deep basal row of punctures on the elytra. In addition to these characters, it is unique among all *Asytesta* for the two small denticles on the distal edge of each profemoral tooth and entirely glabrous elytra. The species is most closely related to *A. doriae*, which differs in its three–four denticles on each profemoral tooth, white humeral maculae, and posterior vittae on the elytra.

Redescription. *Adult habitus* (Figures 107–108). Measurements (n = 2): length 3.4–4.0 mm (mean 3.7 mm), width 2.0–2.1 mm (mean 2.1 mm), pronotal length 1.6–1.8 mm (mean 1.7 mm), elytral length 1.8–2.2 mm (mean 2.0 mm), rostral length 0.9–1.0 mm (mean 1.0 mm). Body sub-globular, 1.7–1.8 times long as broad; integument black, antennae and tarsi light reddish-brown. Dorsum glabrous; head, pleura, venter, legs, and tarsi clothed in evenly distributed, appressed, brown scales, with sparse white scales on basal 1/3 of rostrum, dorsal portions of femora at base and apex, entire ventral portion of femora, apex of tibiae, and anapleural margin of mesosternum; V-shaped patch of densely distributed white scales on frons. Anterolateral region of the pronotum without pale scales. Scales course (individually distinct at low magnification). *Head*. Visible in dorsal view, with thin, subcordate to semicircular, crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum. Eyes small, subcordate, posterior margin truncate; interocular distance slightly narrower than or as wide as basal width of rostrum. Rostrum shorter than pronotum, parallel sided

to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of female rostrum rugose on sides, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.3 times broad as long, broadest at base; base truncate. Pronotal disk evenly convex at base, smooth, shiny, lacking setose granules, regularly punctate; punctures round, very shallow, each bearing one minute, hair-like seta, space between punctures greater than diameter of puncture. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum not visible. Elytra shorter than broad or length and width subequal, anterior margin truncate, steeply declivitous past midline; punctures smaller than on pronotum, very shallow, except basalmost punctures of each striae at anterior margin much deeper and larger than all remaining punctures. Elytral humeri not produced or flattened, subcontiguous with posterolateral margin of pronotum. Elytral intervals flat, smooth, shiny except for granulate prominence on third elytral intervals; prominence slightly elevated above adjacent intervals, not distorting outline of dorsal contour in lateral view (as in Figure 66). Hind wing vestigial. Legs relatively short, hind femora exceeding elytral apices by less than 1/3 their length; mesofemora reaching elytral apices (however, elytra are short). Profemora unidentate; profemoral teeth much larger than teeth on meso- and metafemora, bearing 2 denticles on distal margin (Figure 44). Protibia laterally compressed, ventral margin with thin flange near middle, tapering to apex, dorsal margin more or less straight or slightly sinuous (Figure 44). Dorsal and ventral margins of middle and hind tibia straight. Apex of protibia with perpendicular supra-uncal process distinct; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, weakly flattened. *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch obsolete, with two rows of 4–6 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Bursa more or less

indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible. Male not examined.

Material examined. Paratypes: 1 ♀, "Sattelberg, Huon-Golf./ N.Guinea, Biro 1899/ Paratypus 1968, *Asytesa albifrons*, Voss" (SMTD); 1 ♀, "N. Guinea, Biro 1899/ Sattelberg, Huon-Gulf./ Paratypus/ *Asytesta albifrons* m." (ZMUH).

Distribution. Papua New Guinea: Morobe Province: Sattelberg

Remarks. Voss (1960) reported 6 specimens in the type series. I was able to examine only two paratypes. I do not designate a lectotype from this material since I have not seen the holotype, which may be extant.

Asytesta doriae Kirsch **status resumed**
(Figures 42–43, 66, 103, 109–110, 189)

Asytesta doriae Kirsch, 1879: 19.
Zygara doriae (Kirsch) in Pascoe, 1885: 288

Diagnosis. The small size, smooth and shiny, subglabrous dorsum, serrate profemoral tooth and deep basal row of punctures on the elytra of this species serve to separate this species from all other *Asytesta* species except *A. albifrons*. *Asytesta doriae* is unique in the three to four small denticles present on the distal edge of each profemoral tooth and short and white vittae on the declivity of the sixth elytral interval. *Asytesta albifrons* has two denticles on each profemoral tooth and lacks white markings on the elytra.

Redescription. *Adult habitus* (Figures 109–110). Measurements (n = 13): length 3.4–4.6 mm (mean 3.9 mm), width 1.6–2.4 mm (mean 2.1 mm), pronotal length 1.5–2.2 mm (mean 1.9 mm), elytral length 1.8–2.5 mm (mean 2.1 mm), rostral length 1.1–1.4 mm (mean 1.2 mm). Body sub-globular, 1.7–1.9 times long as broad; integument black,

antennae and tarsi light reddish-brown. Dorsum glabrous, except for pair of square, white maculae on seventh and eighth intervals at elytral humeri and pair of short, white vittae on sixth intervals at elytral declivity; head, pleura, and legs clothed in evenly distributed, appressed, light brown scales; sparse white scales on basal 1/3 of rostrum, frons along inner margin of eyes, pleura, coxae, venter, dorsal and ventral portions of femora, tibiae, and tarsi; with short, white, transverse vittae on sides of pronotum from dorsolateral portion of pronotal disk to center of procoxae. Anterolateral region of the pronotum without pale scales. Scales course (individually distinct at low magnification). *Head* (Figure 103). Visible in dorsal view, with thin, subcordate to semicircular, crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum. Eyes small, subcordate, posterior margin truncate; interocular distance slightly narrower than or as wide as basal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose on sides, coarsely punctate to apex, with suprascrobal carinae on lateral margins produced laterally, forming tooth-like processes slightly basad of antennal insertions (Figure 103). Basal 1/3 of female rostrum similarly rugose as male, finely punctate to apex, lacking lateral processes near antennal insertions. Clypeus truncate. Antennal club elongate oval. *Thorax*. Pronotum 1.2–1.3 times broad as long, broadest at base; base truncate. Pronotal disk evenly convex at base, smooth, shiny, lacking setose granules, regularly punctate; punctures round, very shallow, each bearing one minute, hair-like seta, space between punctures greater than diameter of puncture. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum not visible. Elytra shorter than broad or length and width subequal, anterior margin truncate, steeply declivitous past midline; punctures smaller than on pronotum, very shallow, except basalmost punctures of each striae at anterior margin much deeper and larger than all remaining punctures. Elytral humeri not produced or flattened, subcontiguous with posterolateral margin of pronotum. Elytral intervals flat to weakly convex, smooth, shiny except for granulate prominence on third elytral intervals; prominence slightly elevated above adjacent intervals, not distorting

outline of dorsal contour in lateral view (Figure 66). Hind wing vestigial. Legs relatively short, hind femora exceeding elytral apices by less than 1/3 their length; mesofemora reaching elytral apices (however, elytra are short). Profemora unidentate; profemoral tooth much larger than teeth on meso- and metafemora, bearing 3–4 denticles on distal margin (Figures 42–43). Protibia laterally compressed, ventral margin with thin flange near middle, dorsal margin more or less straight or slightly sinuous. Male flange (Figure 44) terminating abruptly, female flange tapering to apex (Figure 43). Dorsal and ventral margins of middle and hind tibia straight. Apex of protibia with perpendicular supra-uncal process distinct; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, weakly flattened. *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, wing binding patch nearly obsolete, with two rows of 4–6 minute plectral tubercles reaching posterior margin; tubercles visible only under high magnification. Tergite VIII nearly as broad as long, posterior margin rounded. Sternite VIII, with very lightly sclerotized area, margin indistinct (= obsolescent hemisternites?). *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch nearly obsolete, with two rows of 4–6 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "N. Guinea, Isola Yule, T.F. V.1875, L. M. DAlbertis/ 2551/ Syntypus" (SMTD). Paralectotypes: 1 ♀, "N. Guinea, Isola Yule, T.F. V 1875, L. M. DAlbertis/ 2551/ Syntypus" (SMTD); 1 ♂, "2651/ New Guinea, Isola Yule/ L.M.D Albertis, T.F. V 1875/ Syntypus" (SMTD). Non-type material: 1 ♂, "N. Guinea, Doria/ *Asytesta doriae* Kirsch/ Coll. J. Faust, Ankauf 1900" (SMTD); 1 ♂, "N. Guinea, Doria/ *Asytesta doriae* Kirsch/ Coll. J. Faust, Ankauf 1900"

(SMTD); 2 ♀♀, "N. Guinea, Doria/ Coll. J. Faust, Ankauf 1900" (SMTD); 2 ♀♀, "Nouv. Guinea, Isola Yule" [2 specimens mounted on same pin] (MNHN); 4 ♀♀, "N. Guinea, Isola Yule, T.F. V 1875, L. M. D. Albertis" [4 specimens mounted on same pin] (MNHN).

Distribution. Papua New Guinea: Central Province: Yule Island

Remarks. Four specimens from Faust's collection in MNHN have the same labels as the type series; however they were not marked as syntypes and I have not designated these specimens as paralectotypes. Kirsch (1879: 19) mentions only Genoa and Dresden as type depositories. Thus, I have selected a syntype deposited in Dresden as the lectotype in order to fix the name to a specific specimen and to ensure nomenclatural stability.

Asytesta dorsalis species group

Diagnosis. The members of this species group have the granulate prominence on third elytral intervals abruptly and strongly elevated above the adjacent intervals and terminating abruptly at or sometimes before the elytral declivity (Figures 69–78). All but one species in this group have one conical tubercle on the third intervals near the elytral base. The seventh intervals and sometimes the fifth and sixth intervals are also strongly elevated and granulate or bear granulate prominences. The frons is usually very broad so that the eyes are separated by a greater distance than the subbasal width of the rostrum (Figure 105). The midline on the pronotal disk is slightly elevated at the posterior margin and the resulting depressions on either side of the medial swelling that are also characteristic of the members of this species group.

Key to the species of the *dorsalis* species group

1. Intervals 5 with 2 or more separate granulate prominences or large tubercles.....2
1'. Intervals 5 either lacking granulate prominences or with single contiguous granulate prominence present (usually an uninterrupted row of granules).....3

2(1’). Head at least partially visible in dorsal view. Intervals 6 bearing granulate prominence. New Guinea.....*Asytesta julieae* **new species**

2’. Head entirely concealed in dorsal view by weakly bifurcate process on anterior pronotal margin. Intervals 6 lacking granulate prominence. Louisiade Archipelago... .....*Asytesta frontalis* **new species**

3(1’). Prominence on intervals 3 elongate, apex flat; intervals 5 produced, granulate; intervals 7 weakly produced in basal half only.....4

3’. Prominence on intervals 3 short; obtuse, fin-like; intervals 5 not produced, intervals 7 strongly produced from humeri to beyond elytral declivity.....5

4(3). Vestiture light brown, with broad longitudinal stripe of paleer scales on dorsum from pronotal apex to elytral declivity.....*Asytesta dorsalis* Faust

4’. Vestiture dark brown, lacking broad longitudinal stripe of pale scales on dorsum..... .....*Asytesta sedlaceki* **new species**

5(3’). Third intervals with large conical tubercle near base and well developed, granulate prominence on elytra, situated near middle of elytra in lateral view..... .....*Asytesta tuberculata* **new species**

5’. Third intervals with well developed, granulate prominence on elytra only, situated in basal half of elytra in lateral view.....*Asytesta gressitti* **new species**

Asytesta dorsalis Faust
(Figures 69–70, 113–114, 189)

Asytesta dorsalis Faust, 1898: 165 [key], 170 [description]

Diagnosis. This species is unique among its congeners in having a broad dorsomedial stripe of pale scales along the entire dorsum. This character will distinguish *A. dorsalis* from its most closely related species, *A. sedlaceki* new species, which has a similar arrangement of granulate prominences on the elytra and maculae on the

pronotum. *Asytesta dorsalis* also differs from this species by having a somewhat shorter prominence on the third intervals and having the overall lighter colored vestiture.

Redescription. *Adult habitus* (Figures 113–114). Measurements (n = 4): body length 6.1–6.6 mm (mean 6.4 mm), body width 3.0–3.1 mm (mean 3.0 mm), pronotal length 2.5–2.8 mm (mean 2.7 mm), elytral length 3.6–3.8 mm (mean 3.7 mm), rostral length 2.0–2.1 mm (mean 2.1 mm). Body suboval, 2.0–2.2 times long as broad; integument dark reddish brown, antennae and tarsi light reddish-brown. Densely covered with suberect, brown scales, dark brown scales in poorly defined, irregular patches on dorsum, pair of larger dark patches at posterior margin of pronotal disk on either side of midline (best viewed without magnification), broad longitudinal stripe of pale yellowish-white scales along dorsal midline from pronotal apex to elytral declivity. Pronotum with 8 small, circular, whitish maculae arranged in two transverse rows of 4 maculae each, one row before middle, one row after; pair of similarly formed but smaller maculae at apical pronotal margin, sometimes absent. Vertex of head, pleura, legs, and venter similarly clothed in brown scales, pair of small whitish maculae on temples (as in Figure 104), vestiture of vertex interspersed with sparse yellowish-white scales. Anterolateral region of the pronotum without pale scales. Scales small, elliptical, fine (indistinct under low magnification). *Head*. Visible in dorsal view, with distinct, semicircular, crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes small, subcordate, posterior margin truncate; interocular distance wider than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.2 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of impunctate depressions

on either side of midline at posterior margin marked by transverse row of four granulate prominences apicad of midline, coarsely rugose with rasp-like setose granules visible through vestiture, regularly punctate; punctures shallow, evenly distributed, space between punctures subequal to diameter of puncture, each bearing one light brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, smaller than punctures at base of elytra. Elytra 1.2–1.3 times long as broad, anterior margin weakly sinuate, steeply declivitous past midline; punctures slightly larger than on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri flattened and produced anteriorly at base of intervals 7, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, rugose, granulate, large conical tubercle near base of third elytral interval, granulate prominence on third elytral intervals abruptly and strongly elevated behind basal tubercle; prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, flat along top, abruptly terminating at elytral declivity; fifth and seventh intervals distinctly granulate, produced, elevated above adjacent intervals, lacking prominences (Figures 69–70). Hind wing vestigial. Legs moderately long, hind femora exceeding elytral apices by less than 1/3 their length; mesofemora reaching elytral apices. Profemora unidentate; profemoral teeth slightly larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia laterally compressed, ventral margin with thin flange in basal half, tapering to apex, dorsal margin straight to weakly convex. Male flange terminating before tibial apex, female flange tapering to apex (as in Figures 47, 50). Dorsal and ventral margins of middle and hind tibia straight. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites. Intercoxal process on ventrite 1 very broad, much broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, wing

binding patch distinct, with two rows of 5 minute plectral tubercles reaching posterior margin; tubercles visible only under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 5–6 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "Mt. Alexander to Mt. Nisbet, Brit N.G., I.96/ *dorsalis* Faust/ Coll. J. Faust, Ankauf 1900/ type" (SMTD). Paralectotypes: 1 ♀, "Mt. Alexander to Mt. Nisbet, Brit N.G., 2.96/ *dorsalis* Faust/ Coll. J. Faust, Ankauf 1906/ type" (SMTD); 1 ♀, "Mt. Alexander to Mt. Nisbet, Brit N.G., 2.96, Anthony." (MNHN). Non-type material: 1 ♀, "Br. N. Guinea, Papua Golf, E. Weiske/ 14834" (SMTD).

Distribution. Papua New Guinea: Oro Province: between Mt. Alexander and Mt. Nisbet (= Mt. Kenevi).

Remarks. A single specimen of this species was collected in the Gulf region by E. Weiske. No further locality information is given. However, Weiske collected in the Astrolabe Mountains (Central Province) and the Gulf Province (Setliff 2007). I designated a lectotype for this species to promote nomenclatural stability. One specimen in MNHN collection was not marked as a syntype; however it bears the same labels as the type series and might be regarded as a paralectotype. The specimen selected as the lectotype is one of the two specimens (a male) in Faust's collection that have a small square piece of gold foil attached to the pin and Faust's handwritten determination labels and is illustrated in Figures 113 and 114.

Asytesta frontalis Setliff **new species**

(Figures 58–59, 71–72, 115–116, 105, 189)

Diagnosis. This species is unique among its congeners in having the anterior portion of the pronotum produced over the head, entirely obscuring the head in dorsal view. In all other known *Asytesta* species, the head is at least partially visible in dorsal view.

Description. *Adult habitus* (Figures 115–116). Measurements (n = 3): body length 5.4–5.8 mm (mean 5.6 mm), body width 3.0–3.1 mm (mean 3.0 mm), pronotal length 2.2–2.5 mm (mean 2.4 mm), elytral length 3.2–3.3 mm (mean 3.2 mm), rostral length 1.6–1.7 mm (mean 1.7 mm). Body suboval, 1.8–1.9 times long as broad; integument black, antennae and tarsi dark reddish-brown. Densely covered with suberect, yellowish-brown to green scales. Pronotum with lighter scales on sublateral margins, dark brown scales forming five large well defined, irregular patches on disk, arranged in transverse line slightly apicad of midline. Pleura, legs, and venter similarly clothed in darker brown scales, alternating bands of lighter scales on femora. Anterolateral region of pronotum with faint ring of pale scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center. Scales short, elliptical, course (individually distinct at low magnification). *Head*. Obscured in dorsal view by produced, weakly bifurcate, anterior margin of pronotum (Figure 116), with distinct, semicircular, crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum (Figure 105). Eyes, small, subcordate, posterior margin truncate, slightly bulging; interocular distance wider than subbasal width of rostrum (Fig 180). Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.4 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of weak, impunctate depressions on either side of midline at posterior margin marked by transverse row of four granulate prominences apicad of midline, coarsely rugose with rasp-like, setose granules visible through vestiture,

punctures mostly obscured by vestiture, shallow, evenly distributed, space between punctures subequal to diameter of puncture, each bearing one light to dark brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, smaller than punctures at base of elytra. Elytra 1.1 times long as broad, anterior margin weakly sinuate, steeply declivitous past midline; punctures slightly larger than on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri flattened and produced anteriorly at base of intervals 7, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, rugose, granulate, large conical tubercle near base of third elytral intervals, nearly as large as main prominence on third intervals. Granulate prominence on third elytral intervals abruptly and strongly elevated behind basal tubercle; prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, flat along top, abruptly terminating at elytral declivity; fifth and seventh intervals distinctly granulate, produced, elevated above adjacent intervals, fifth intervals with two distinct granulate prominences separated by conical tubercle, prominence on seventh intervals briefly interrupted behind humeri, then produced to elytral declivity (Figures 71–72). Hind wing vestigial. Legs moderately long, hind femora exceeding elytral apices by less than 1/3 their length; mesofemora reaching elytral apices. Profemora swollen near apex, unidentate; profemoral teeth slightly larger than teeth on meso- and metafemora; teeth simple, distal margin entire (Figures 58–59). Protibia laterally compressed, ventral margin with thin flange in basal half, tapering to apex, dorsal margin straight to weakly convex. Male flange obtuse, tooth-like, abruptly terminating near middle of tibia, female flange tapering to apex (Figures 58–59). Dorsal and ventral margins of middle and hind tibia straight. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites. Intercoxal process on ventrite 1 very broad, much broader than length of ventrite 1. *Male terminalia*. As in generic description.

Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, wing binding patch distinct, with two rows of 5–6 minute plectral tubercles reaching posterior margin; tubercles visible only under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 6 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Holotype: ♂, "Papua New Guinea., Louisiade Arch., Milne, Bay Prov., Misima Isl., Boma vill. 13.VII.2003/ 321m. a.s.l., 10° 4' S 152° 47' E, G. P. Setliff" (USNM). Paratypes: 1 ♀,"Papua New Guinea., Louisiade Arch., Milne, Bay Prov., Misima Isl., Boma vill. 13.VII.2003/ 321m. a.s.l., 10° 4' S 152° 47' E, G. P. Setliff" (USNM) 1 ♀, "Papua New Guinea., Louisiade Arch., Milne, Bay Prov., Misima Isl., Boma vill. 13.VII.2003/ 321m. a.s.l., 10° 4' S 152° 47' E, G. P. Setliff" (GPSC).

Distribution. Louisiade Archipelago: Misima Island

Etymology. The epithet means is from the Latin noun *fronto*, meaning “bulging forehead” and is used here as a noun in apposition to refer to the unique condition found in this species of the anteriorly produced apical portion of the pronotum drawn over the head.

Asytesta gressitti Setliff **new species**
(Figures 73–74, 117–118, 189)

Diagnosis. The large size (7.0–9.7 mm) and the short, obtuse, pair of fin-like projection in the basal half of the elytra on the third intervals will serve to separate this new species from its congeners. It is most closely related to *A. tuberculata* new species, which has a pair of basal conical tubercles on the third intervals that does not occur in this species and its fin-like prominences are situated further back on the elytra.

Redescription. *Adult habitus* (Figures 117–118). Measurements (*n* = 3): body length 7.0–9.7 mm (mean 8.2 mm), body width 3.8–5.0 mm (mean 4.3 mm), pronotal length 2.9–3.7 mm (mean 3.1 mm), elytral length 4.1–6.0 mm (mean 5.9 mm), rostral length 2.0–2.7 mm (mean 2.2 mm). Body suboval, 1.8–1.9 times long as broad; integument dark reddish-brown, antennae and tarsi light reddish-brown. Densely covered with suberect, evenly distributed light brown to brown scales. Head, pleura, legs, and venter similarly clothed in brown scales; legs with longer, lighter brown scales interspersed with brown scales. Anterolateral region of pronotum with faint ring of pale scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center. Scales small, elliptical, fine (indistinct under low magnification). *Head*. Visible in dorsal view, with crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes, small, subcordate, posterior margin truncate; interocular distance wider than subbasal width of rostrum (as in Figure 105). Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.3–1.5 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of weak impunctate depressions on either side of midline at posterior margin, with small, evenly distributed, rasp-like, granules visible through vestiture, punctures mostly obscured by vestiture, shallow, evenly distributed, space between punctures subequal to diameter of puncture, each bearing one light brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, smaller than punctures at base of elytra. Elytra 1.1–1.2 times long as broad, anterior margin sinuate, declivity gradually declining to apex; punctures as on pronotum,

basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri strongly flattened and produced anteriorly at base of intervals 7 and 8, subcontiguous with posterolateral margin of pronotum. Elytral intervals flat, weakly rugose, finely granulate, lacking conical tubercle near base of third elytral interval. Granulate prominence on third elytral intervals abruptly and dramatically elevated near middle of elytra; obtuse, fin-like prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, abruptly terminating before elytral declivity; fifth and sixth intervals not produced or bearing granulate prominences, seventh intervals distinctly granulate, elevated above well adjacent intervals, laterally produced, sinuate, terminating at elytral declivity (Figure 73–74). Hind wing vestigial. Legs moderately long, hind femora exceeding elytral apices by 1/4 their length; mesofemora reaching elytral apices (however elytral apex produced). Profemora broadened at apex, unidentate; profemoral teeth slightly larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia laterally compressed, ventral margin with thin flange in basal half, tapering to apex, dorsal margin more or less straight. Male and female protibial flanges similar. Dorsal and ventral margins of middle and hind tibia straight. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 elongate, clavate, strongly flattened (as in Figure 65). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, ventrite 2 folded into declivity of ventrite 1. Intercoxal process on ventrite 1 very broad, much broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, wing binding patch distinct, with two rows of 5–6 minute plectral tubercles reaching posterior margin; tubercles greatly reduced, barely visible even under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 4 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles greatly reduced, barely visible even under high magnification. Bursa more or less indistinct from vagina;

vaginal walls moderately sclerotized at junction with oviduct; no internal sclerites discernable.

Material examined. Holotype: ♀, "New Guinea NE, E, Highlands, Purosa, 1700m, 17–25.V.1966/ Gressitt & Tawl, Collectors Bishop" (BPBM); Paratypes: 1 ♂, "New Guinea NE, E, Highlands, Purosa, 1700m, 17–25.V.1966/ Gressitt & Tawl, Collectors Bishop" (BPBM); 1 ♀, "New Guinea: NE, E. Highlands, 10km, NE of Lufa, 1800–2100m, 21.I.1966/ J&M. Sedlacek Collectors, Bishop" (BPBM).

Distribution. Papua New Guinea: Eastern Highlands Province: Purosa, Lufa.

Etymology. This patronym is dedicated to the late J. Linsley Gressitt in recognition of the tremendous contribution he made to the study of the New Guinean biota. Gressitt made countless collections throughout the region, which provided much of the material described for this study.

Asytesta julieae Setliff **new species**
(Figures 60–61, 75–76, 119–120, 189)

Diagnosis. Intervals 6 on the elytra of this new species bears granulate prominences at the elytral declivity. This character along with the small body size (3.6–5.6 mm) will separate this species from all other *Asytesta* with strongly elevated prominences on intervals 3 (i.e., the *dorsalis* species group).

Description. *Adult habitus* (Figures 119–120). Measurements (n = 8): body length 3.6–5.6 mm (mean 4.7 mm), body width 2.0–3.0 mm (mean 2.5 mm), pronotal length 1.5–2.4 mm (mean 1.9 mm), elytral length 2.1–3.2 mm (mean 2.7 mm), rostral length 1.3–2.0 mm (mean 1.7 mm). Body oval, 1.2–1.4 times long as broad; integument dark reddish-brown, antennae and tarsi reddish-brown. Densely covered with suberect, yellowish-green to pale white scales, with oval gaps in squamae on edges of pronotal disk where granules protrude; gaps much larger than granule. Head, pleura, legs, and venter

similarly clothed in light brown scales, interspersed with longer pale white scales and alternating bands of darker and lighter scales on legs. Pronotum with pair of poorly defined, dark patches at posterior margin on either side of midline (best viewed without magnification), anterolateral region of the pronotum with faint, poorly defined ring of pale scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center. Center of ventrites 2–4 glabrous, ventrites 1 and 5 and lateral portions of 2–4 with scales as elsewhere. Scales fine (indistinct under low magnification), appressed, flocculent. *Head*. Just visible in dorsal view, with crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes, small, subcordate, posterior margin truncate; interocular distance as wide as or slightly narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.4 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of weak impunctate depressions on either side of midline at posterior margin marked by transverse row of four granulate prominences apicad of midline, coarsely rugose with rasp-like, setose granules visible through vestiture; granules crowded in some areas, absent from others; punctures mostly obscured by vestiture, shallow, evenly distributed, space between punctures subequal to diameter of puncture, each bearing one light to dark brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, minute, much smaller than punctures at base of elytra. Elytra 1.1–1.2 times long as broad, anterior margin weakly sinuate, steeply declivitous past midline; punctures slightly larger than on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri flattened and produced anteriorly at base of

intervals 7, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, rugose, granulate, small conical tubercle near base of third elytral interval. Granulate prominence on third elytral intervals abruptly and strongly elevated behind basal tubercle; prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, flat along top, abruptly terminating at elytral declivity; fifth, sixth and seventh intervals distinctly granulate, produced, elevated above adjacent intervals, intervals 5 with two distinct granulate prominences separated by gap, intervals 6 with elongate granulate prominence at elytral declivity, intervals 7 produced to middle of elytron (Figures 75–76). Hind wing vestigial. Legs moderately long, hind femora exceeding elytral apices by less than 1/3 their length; mesofemora reaching elytral apices. Profemora bidentate; apical profemoral teeth slightly larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia laterally compressed, ventral margin with thin flange in basal half, tapering to apex, dorsal margin weakly sinuate. Male and female protibial flanges similar (Figures 60–61). Dorsal and ventral margins of middle and hind tibia weakly sinuate. Apex of protibia with weak supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 trapezoidal, strongly flattened. *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites. Intercoxal process on ventrite 1 very broad, much broader than length of ventrite 1. Ventrites 2–4 in central glabrous area impunctate, smooth. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, wing binding patch distinct, with two rows of 7–8 minute plectral tubercles reaching posterior margin; tubercles visible only under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 6–7 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Bursa more or less indistinct from vagina; vaginal walls weakly sclerotized; no internal sclerites visible.

Material examined. Holotype: ♂, "New Guinea: (NW), Wisselmeren, Moanemani, Kamo V., 1500m, 13.VIII.'62/ J. Sedlacek Collector, Bishop" (BPBM). Paratypes: 1 ♂, 2 ♀♀, "New Guinea: (NW), Wisselmeren, Moanemani, Kamo V., 1500m, 13.VIII.'62/ J. Sedlacek Collector, Bishop" (BPBM). Non-type material: 1 ♂, "New Guinea: NE., Swart Val.: Karabuka, 1300 m., XI-7-1958/ J.L. Gressitt, Collector" (GPSC); 1 ♀, "New Guinea: NE., Swart Val.: Karabuka, 1300 m., XI-7-1958/ J.L. Gressitt, Collector" (USNM); 1 ♂, 1 ♀, "New Guinea: NE, Feramin, 10 km E. of Telefomin, 1450m., 30-31.VIII.1963/ R. Straatman, Collector, Bishop" (BPBM).

Distribution. West Papua: Paniai Province: Moanemani; Jayawijaya Province: Swart Valley; Papua New Guinea: Sandaun Province: Feramin.

Remarks. This enigmatic species has an unusual distribution. It occurs on three different mountain ranges, which leads me to suspect that it may be a species complex. I am presently unable to separate the specimens from the three localities from one another; however I exclude Feramin and Swart Valley specimens from the type series. Additional material and further study is required to sort out this putative species complex.

Etymology. I name this species after my wife, Julie in recognition of her support, and patience during the preparation of this manuscript.

Asytesta sedlaceki Setliff **new species**
(Figures 121–122, 189)

Diagnosis. This species is most like *A. dorsalis*, especially in the arrangement of elytral prominences (see Figures 71–72), specifically, the elevation on the third intervals are elongate with the apex flat. It differs from *A. dorsalis* in that it lacks the broad longitudinal pale stripe on the dorsum and the prominence on third intervals are longer than in *A. dorsalis*. This species also has a somewhat darker vestiture than *A. dorsalis*.

Description. *Adult habitus* (Figures 121–122). Measurements (n = 3): body length 5.9–6.2 mm (mean 6.0 mm), body width 3.1–3.9 mm (mean 3.4 mm), pronotal length 2.4–2.6 mm (mean 2.4 mm), elytral length 3.4–3.6 mm (mean 3.6 mm), rostral length 1.8–2.0 mm (mean 1.9 mm). Body oval, 1.6–1.9 times long as broad; integument dark reddish brown, antennae and tarsi light reddish-brown. Densely covered with suberect, brown scales, dark brown scales in poorly defined, irregular patches on dorsum, pair of larger, poorly defined, dark patches at posterior margin on either side of midline (best viewed without magnification). Pronotum with 8 small, circular, whitish maculae arranged in two transverse rows of 4 maculae each, one row before middle, one row after; 2 pairs of similarly formed but smaller maculae at apical pronotal margin; maculae sometimes absent. Vertex of head, pleura, legs, and venter similarly clothed in brown scales, pair of small whitish maculae on temples (as in Figure 104); vestiture of legs interspersed with longer, semi-erect, sparse, whitish scales. Anterolateral region of pronotum with faint ring of pale scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center. Scales small, elliptical, fine (indistinct under low magnification). *Head*. Visible in dorsal view, with distinct, semicircular, crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes small, subcordate, posterior margin truncate; interocular distance wider than subbasal width of rostrum (as in Figure 105). Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.5 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of distinct, deep impunctate depressions on either side of midline at posterior margin, with small, evenly distributed, rasp-like, granules visible through vestiture, punctures mostly obscured by vestiture, shallow, evenly distributed, space

between punctures subequal to diameter of puncture, each bearing one light brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, smaller than punctures at base of elytra. Elytra slightly broader than long to 1.1 times long as broad, anterior margin weakly sinuate, steeply declivitous past midline; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri strongly flattened and anteriorly produced at base of intervals 7 and 8, subcontiguous with posterolateral margin of pronotum. Elytral intervals flat, granulate, large conical tubercle near base of third elytral interval, granulate prominence on third elytral intervals abruptly and strongly elevated behind basal tubercle; prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, flat along top, abruptly terminating at elytral declivity; fifth and seventh intervals distinctly granulate, produced, elevated above adjacent intervals, lacking prominences (as in Figures 69–70). Hind wing vestigial. Legs moderately long, hind femora exceeding elytral apices by 1/4 their length; mesofemora just exceeding elytral apices. Profemora unidentate; profemoral teeth slightly larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia laterally compressed, ventral margin with thin flange in basal half, tapering to apex, dorsal margin straight to weakly convex. Male and female protibial flanges similar. Dorsal and ventral margins of middle and hind tibia straight. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 elongate, clavate, strongly flattened. *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, ventrite 2 folded into declivity of ventrite 1. Intercoxal process on ventrite 1 very broad, much broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, wing binding patch distinct, with two rows of 4–5 minute plectral tubercles reaching posterior margin; tubercles visible only under high magnification. Female terminalia not examined.

Material examined. Holotype: ♂, "New Guinea: SE, Woitape, 1550–1750m, 2–3.IX.65/ J. Sedlacek Collector, Bishop Mus." (BPBM). Paratypes: 1 ♀, "New Guinea: SE, Woitape, 1550–1750m, 2–3.IX.65/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: Paupa, Owen Stanley Range, Goilala: Bome, 1950m IV-16-30-1958/ W. W. Brandt, Collector, Bishop" (BPBM).

Distribution. Papua New Guinea: Central Province: Woitape, Goilala.

Etymology. This species is named for Josef Sedlacek who collected the holotype of this species and specimens of many other species that I examined for this study.

Asytesta tuberculata Setliff **new species**
(Figures 62–63, 65, 77–78, 123–124, 189)

Diagnosis. This species is similar to *A. gressitti* new species in that the prominences on elytral intervals 3 are short, obtuse and fin-like, intervals 5 and 6 are not produced and intervals 7 are strongly produced beyond the elytral declivity. Unlike *A. gressitti*, this species has a conical tubercle near the base of the third intervals and its fin-like prominence is situated further back on the elytra.

Description. *Adult habitus* (Figures 123–124). Measurements (n = 16): body length 5.1–8.3 mm (mean 6.6 mm), body width 2.6–4.4 mm (mean 3.3 mm), pronotal length 2.0–3.2 mm (mean 2.7 mm), elytral length 3.1–5.2 mm (mean 3.9 mm), rostral length 1.8–2.8 mm (mean 2.2 mm). Body oval, 1.7–2.2 times long as broad; integument dark reddish brown, antennae and tarsi light reddish-brown. Vestiture somewhat variable, densely to sparsely covered with suberect to decumbent, evenly distributed light brown to brown scales. Head, pleura, legs, and venter similarly clothed in brown scales. Pronotum with 0–12 small, circular, whitish maculae arranged in two transverse rows of 5–6 maculae each, one row before middle, one row after; 2 pairs of similarly formed but smaller maculae at apical pronotal margin; maculae sometimes absent. Vertex of head with pair of small whitish maculae on temples (as in Figure 104); vestiture of legs

interspersed with longer, semi-erect, sparse, light brown scales. Anterolateral region of pronotum with faint ring of pale scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center. Scales small, elliptical, fine (indistinct under low magnification). *Head*. Visible in dorsal view, with distinct, semicircular, crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes small, subcordate, posterior margin truncate; interocular distance wider than subbasal width of rostrum (as in Figure 105). Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.5 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of distinct, deep impunctate depressions on either side of midline at posterior margin with small, evenly distributed, rasp-like, granules visible through vestiture, punctures mostly obscured by vestiture, shallow, evenly distributed, space between punctures subequal to diameter of puncture, each bearing one light brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum depressed, visible, minute, much smaller than punctures at base of elytra. Elytra slightly broader than long to 1.3 times long as broad, anterior margin weakly sinuate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri strongly flattened and anteriorly produced at base of intervals 7 and 8, subcontiguous with posterolateral margin of pronotum. Elytral intervals flat, granulate, large conical tubercle near base of third elytral interval, granulate prominence on third elytral intervals abruptly and dramatically elevated near middle of elytra; obtuse, fin-like prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, abruptly

terminating before elytral declivity; fifth and sixth intervals not produced or bearing granulate prominences, fifth intervals sometimes weakly granulate, seventh intervals distinctly granulate, elevated above well adjacent intervals, laterally produced, not sinuate, terminating at elytral declivity (Figures 77–78). Hind wing vestigial. Legs moderately long, hind femora exceeding elytral apices by less than 1/3 their length; mesofemora reaching elytral apices. Profemora unidentate; profemoral teeth slightly larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia laterally compressed, ventral margin with thin flange in basal half, tapering to apex, dorsal margin straight to weakly convex. Male and female protibial flanges similar. Dorsal and ventral margins of middle and hind tibia straight. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 elongate, clavate, strongly flattened (Figure 65). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, ventrite 2 folded into declivity of ventrite 1. Intercoxal process on ventrite 1 very broad, much broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, wing binding patch distinct, with two rows of 7–8 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, barely visible even under high magnification. *Female terminalia* As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 7 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles greatly reduced, barely visible even under high magnification. Bursa more or less indistinct from vagina; vaginal walls moderately to strongly sclerotized at junction with oviduct; no internal sclerites discernable.

Material examined. Holotype: 1 ♂, "NE New Guinea:, Wau, Kaisenik, 1000m, 19.iv.65/ J & M. Sedlacek Collectors, Bishop Museum" (BPBM). Paratypes: 1 ♀, "New Guinea: (NE), Wau, Morobe Dist., 1700m, 7.II.1963/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "Wau 10.II., 1. 750m/ J & M. Sedlacek Collectors, Bishop" (BPBM); 1 ♀,

"New Guinea: NE, Wau, Nami Ck., 1700m, 22.V.1965/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea (NE), Wau, Morobe Distr., 1700–1800m., 7.X.1962/ J. Sedlacek Collector, Bishop" (BPBM); 4 ♀♀, "New Guinea: NE, Wau, Nami Ck., 1700–1800m, 17.IX.1965/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea, Wau 1800m, 14.II.1966/ J & M. Sedlacek Collectors, Bishop" (MNHN); 1 ♀, "New Guinea: NE, Wau, Nami Ck., 1700–1800m, 17.IX.1965/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: NE, Wau, Nami Ck., 1700–1850m, II.1966/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: (NE), Wau, Mt. Missim, 1700m, 7.III.1963/ J. Sedlacek Collector, Bishop" (MSNG); 1 ♂, "New Guinea: NE, Wau, 1700m, 8.8.1968/ J & M. Sedlacek Collectors, Bishop" (BPBM); 1 ♂, 1 ♀, "New Guinea: NE, Wau, Nami Ck., 1700–1850m, II.1966/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: NE, Wau, 1200–1300m, IX.1965/ J. Sedlacek Collector, Bishop Mus." (USNM); 1 ♀, "New Guinea, Wau 1800m, 14.II.1966/ J&M. Sedlacek Collectors, Bishop" (BPBM); 1 ♀, "New Guinea: NE, Wau, 1150–1250m, 17.II.1966/ J. Sedlacek Collector, Bishop Mus." (BPBM); 2 ♀♀, "New Guinea: NE, Wau, 1200 m, 23.II.1966/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♂, "New Guinea: (NE), 6 km W of Wau, Nami, Creek, 1700 m., 12.IV.1962/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr. 1250–1700m., 15–16.IV.1962/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), 6 km W of Wau, Nami, Creek, 1700m., 15.IV.1962/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: NE, Wau, Nami Ck., 1700–1800m, 17.IX.1965/ J. Sedlacek Collector, Bishop Mus." (GPSC); 1 ♂, "New Guinea: NE, Wau, 1200–1300m, 4.IX.1965/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: NE, Wau, 1750m, 5.II.1966/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: NE, Upper Biarn 1600-2200m 10.3.1971/ Gressitt & Tawl, Collectors " (BPBM); 1 ♀, "New Guinea: NE, Wau, Nami Ck., 1700–1800m, 17.IX.1965/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: NE, Wau, 1200–1300m, 4.IX.1965/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr. 1250–1700m., 15–16.IV.1962/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: NE, Wau, 1760m, 5.II.1966/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New

Guinea: Wau, Subdistr. 30–35 km ESE, Kaisenik 1600–2200 m, 5.X.1974/ J.L. Gressitt, Collector, Bishop Museum" (GPSC); 1 ♂, "NE New Guinea, Morobe Distr., Lake Trist 1600, m.21–26.XI.1966/ G.A. Samuelson, Collector" (BPBM); 1 ♀, "N. Guinea: NE, Kaindi-Nami, 1700m 22.8.68/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: NE, Wau, Nami Ck., 1700–1700m, 3.IX.1965/ J. Sedlacek Collector, Bishop Mus." (BMNH).

Distribution. Papua New Guinea: Morobe Province: Wau area.

Etymology. The specific epithet refers to the pair of large conical tubercles occurring near the base of the third elytral intervals anterior to the larger elytral prominence in this species.

Asytesta emarginata species group

Diagnosis. As in the *dorsalis* species group, the species in the *emarginata* species group have strongly elevated and granulate intervals 3, 5, 6, and 7 (Figures 79–80). The *emarginata* group differs in that these intervals are not abruptly elevated; rather they are continuously elevated (and granulate) from near the elytral base to beyond the declivity. Also, the basal margin of the elytra is emarginate at the scutellum. Unlike the *dorsalis* group, the frons is narrower than the subbasal width of rostrum in this group. The mesosternal receptacle is obsolete. The dorsal edge of all three tibia are weakly to strongly emarginate in the middle and the protibial flange on ventral margin of the protibia is reduced, sometimes absent (Figures 53–55). The supra-uncal projection near the tibial apex is likewise reduced or absent.

Remarks. This species group includes the two species that occur above 3400 m a.s.l., which is more than 1000 m higher than any other recorded species in the genus.

Key to the species of the *emarginata* species group

1. Vestiture on vertex of head same as on frons and basal 1/3 of rostrum; granulate prominence on third elytral intervals reaching anterior margin; elytral humeri and

intervals 5 and 7 weakly produced; profemoral teeth well developed, dorsal margin of tibia weakly emarginate.....*Asytesta vivienae* **new species**

1’. Vertex of head with distinct band of scales lighter in color than vestiture on frons and basal 1/3 of rostrum; granulate prominence on third elytral intervals abruptly elevated slightly before middle of elytra; elytral humeri strongly produced laterally, intervals 5 and 7 produced well above other intervals; profemoral teeth reduced or absent, dorsal margin of tibia strongly emarginate.....2

2(1’). Vertex of head with band of bright white scales; dorsal vestiture sparse, dark squamae, with evenly distributed pale patches; pronotum with dark basal maculae poorly defined.....*Asytesta alexriedeli* **new species**

2’. Vertex of head with band of tan scales; dorsal vestiture of densely distributed tan scales mottled with pronotum with dark basal maculae distinct.....
.....*Asytesta emarginata* **new species**

Asytesta alexriedeli Setliff **new species**
(Figures 53–54, 125–126, 106, 190)

Diagnosis. This species is very closely allied to *A. emarginata* new species, but has a different arrangement of the vestiture. The vertex of the head bears a bright white band of scales and the dorsal vestiture is comprised of sparse, dark background squamae with evenly distributed pale patches. The pronotum has a pair of dark basal maculae that are poorly defined.

Description. *Adult habitus* (Figures 125–126). Measurements (n = 5): body length 6.0–7.2 mm (mean 6.5 mm), body width 3.0–3.5 mm (mean 3.1 mm), pronotal length 2.0–2.5 mm (mean 2.3 mm), elytral length 3.7–4.7 mm (mean 4.2 mm), rostral length 2.2–2.4 mm (mean 2.3 mm). Body suboval, 2.0–2.2 times long as broad; integument dark reddish-brown to black, basal portions of legs and tibia red. Dorsum appears glabrate with scattered patches of dirty white scales, actually covered with very small, appressed,

dark brown (translucent?) scales. Vertex of head with bright white scales forming two distinct patches on either side of medial V-shaped glabrous area and pair of small whitish maculae on temples (Figure 106); tarsi and sometimes legs and venter with sparse, white, hair-like setae. Pronotum with pair of poorly defined, dark patches at posterior margin on either side of midline (best viewed without magnification), anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center; dorsal portion of ring not extending beyond middle of procoxa. Scales very fine (indistinct under low magnification), appressed. *Head*. Visible in dorsal view, with broad U-shaped, crown-like carinae on vertex above eyes (Figure 106), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes slightly bulging, small, semicircular, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum slightly shorter to slightly longer (in 1 female) than pronotal length, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club elongate-oval (Figure 106). *Thorax*. Pronotum 1.3–1.5 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of distinct, impunctate depressions on either side of midline and medial depression at posterior margin marked by transverse granulate prominences apicad of midline, coarsely rugose with large rasp-like, setose granules; granules crowded in some areas, absent from others; punctures not obscured by vestiture, shallow, distributed as granules, space between punctures subequal to diameter of puncture, each bearing one, minute, light to dark brown, hair-like seta. Prosternal canal shallow, lateral walls not vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins very weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.2–1.4 times long as broad, anterior margin emarginate at middle,

declivity gradually declining to apex; punctures larger than on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri flattened and produced anteriorly and laterally at base of intervals 7, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals abruptly and strongly elevated slightly before middle of elytra; prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, narrow, blade-like, longitudinally acute at apex, granules in single row at apex, terminating gradually past elytral declivity; fifth, sixth and seventh intervals distinctly granulate, produced, elevated above adjacent intervals, lacking granulate prominences, produced beyond elytral declivity (as in Figure 80). Hind wing vestigial. Legs relatively short, hind femora exceeding elytral apices by 1/4 their length; mesofemora slightly shorter than elytral apices. Profemora unidentate; profemoral teeth slightly larger than teeth on meso- and metafemora; teeth reduced to obsolescent, simple, distal margin entire, apex obtuse (Figures 53–54). Protibia laterally compressed, ventral margin with flange obsolete, dorsal margin strongly emarginate apicad of middle. Dorsal margin of middle and hind tibiae strongly emarginate, strongest development in hind tibia. Apex of protibia with supra-uncal process obsolete; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 trapezoidal, moderately flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, ventrite 2 not folded into declivity of ventrite 1, twice as long as ventrite 3 and 4. Intercoxal process on ventrite 1 broad, broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin weakly emarginate at middle, wing binding patch distinct, with two rows of 4–6 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, barely visible even under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 6–7 minute plectral tubercles; plectral rows not reaching posterior margin;

tubercles greatly reduced, barely visible even under high magnification. Bursa more or less indistinct from vagina; vaginal walls weakly sclerotized; no internal sclerites visible.

Material examined. Holotype: ♂, "Pass between L. Habbema, and Wamena-Riv-Valley, N. Mt. Wilhelmina, 3450m, 19–20.X/ IRIAN JAYA, Jayawijaya-Prov., leg. A Riedel, 1993" (MZB). Paratypes: 1 ♂, 1 ♀, "Pass between L. Habbema, and Wamena-Riv-Valley, N. Mt. Wilhelmina, 3450m, 19–20.X/ IRIAN JAYA, Jayawijaya-Prov., leg. A Riedel, 1993" (ARC); 1 ♂, 1 ♀, lable data the same as previous (SMNK).

Distribution. West Papua: Jayawijaya Province: Mt. Wilhelmina.

Etymology. This species epithet is named for Alexander Riedel in recognition of his contribution to this study and to the study of weevils in the Indo-Australian region in general. Riedel personally collected much of the material for this study. I am very grateful for the generous loan from his remarkable collection.

Asytesta emarginata Setliff **new species**
(Figures 55, 79–80, 127–128, 190)

Diagnosis. This species is very closely allied to *A. alexriedeli* new species, but has a different vestiture. The band of scales on vertex of head is tan and the dorsal vestiture is comprised of densely distributed tan scales mottled with irregular dark patches. The pronotum has a pair of very distinct, fuscous, basal maculae on either side of the midline.

Description. *Adult habitus* (Figures 127–128). Measurements (n = 1): body length 5.7 mm, body width 2.8 mm, pronotal length 2.1 mm, elytral length 3.6 mm, rostral length 1.9 mm. Body suboval, 2.0 times long as broad; integument burnt orange to dark reddish-brown, basal portions of legs and tibia red. Densely covered with small, appressed, tan, dark brown, and black scales. Vertex of head, pronotal disk, and dorsum of elytra to seventh intervals primarily clothed in tan scales, pair of small tan maculae on temples (as in Figure 106); sides of pronotum, pleura, and venter with darker scales; legs

with alternating bands of tan and dark brown scales, interspersed with long hair-like setae; tarsi with sparse, white, hair-like setae. Pronotum with pair of well defined, black patches at posterior margin on either side of midline (clearly visible without magnification), with small, circular, tan maculae inside black patch near anterior margin; anterolateral region of pronotum with distinct, well defined ring of tan scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center; dorsal portion of ring not extending beyond middle of procoxa. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with broad U-shaped, crown-like carinae on vertex above eyes (as in Figure 106), apex of carinae acute, interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae weakly developed, with 6 shiny granules within crown. Eyes slightly bulging, small, semicircular, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum slightly shorter than pronotal length, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club elongate-oval (as in Figure 106). *Thorax*. Pronotum 1.3 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of distinct, impunctate depressions on either side of midline and medial depression at posterior margin marked by transverse granulate prominences apicad of midline, coarsely rugose with large rasp-like, setose granules; granules crowded in some areas, absent from others; punctures obscured by vestiture, shallow, distributed as granules, space between punctures subequal to diameter of puncture, each bearing one light to dark brown, hair-like seta. Prosternal canal shallow, lateral walls not vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins very weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.3 times long as broad, anterior margin emarginate at middle, basal portion at scutellum rounded, at declivity gradually declining to apex;

punctures larger than on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri flattened and produced anteriorly and laterally at base of intervals 7, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals abruptly and strongly elevated slightly before middle of elytra; prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, narrow, blade-like, longitudinally acute at apex, granules in single row at apex, terminating gradually past elytral declivity; fifth, sixth and seventh intervals distinctly granulate, produced, elevated above adjacent intervals, lacking granulate prominences, produced beyond elytral declivity (Figure 80). Hind wing vestigial. Legs relatively short, hind femora exceeding elytral apices by 1/4 their length; mesofemora slightly shorter than elytral apices. Profemora edentate (Figure 55). Protibia laterally compressed, ventral margin with flange obsolete, dorsal margin strongly emarginate apicad of middle. Dorsal margin of middle and hind tibiae strongly emarginate. Apex of protibia with supra-uncal process obsolete; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 trapezoidal, moderately flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, ventrite 2 not folded into declivity of ventrite 1, twice as long as ventrite 3 and 4. Intercoxal process on ventrite 1 broad, broader than length of ventrite 1. *Male terminalia*. As in generic description. Female not known.

Material examined. Holotype: ♂, "Upper Yem Valley, NW. Mt. Juliana, 3500m, 19.IX./ IRIAN JAYA, Jayawijaya-Prov., leg. A Riedel, 1993" (MZB).

Distribution. West Papua: Jayawijaya Province: Mt. Juliana.

Etymology. The species epithet is in reference to the distinctly emarginate dorsal edge of the tibia in this species.

Asytesta vivienae Setliff **new species**

(Figures 129–130, 190)

Diagnosis. The granulate prominences on intervals 3 extend past the elytral declivity, the protibial flange on the ventral margin is greatly reduced and the mesosternal canal is obsolete in this species. These characters group *A. vivienae* with *A. alexriedeli* new species and *A. emarginata* new species. This species, however, has the vestiture on vertex of the head the same as on the frons and basal 1/3 of the rostrum. Also, the prominences on intervals 3 reach the basal margin of the elytra. The elytral humeri and intervals 5 and 7 are only weakly produced and the dorsal margin of the tibia are weakly emarginate compared to the other two species in the group. The profemoral teeth are also well developed in this species.

Description. *Adult habitus* (Figures 129–130). Measurements (n = 3): body length 3.9–5.4 mm (mean 4.9 mm), body width 2.0–2.9 mm (mean 2.6 mm), pronotal length 1.5–2.3 mm (mean 2.0 mm), elytral length 2.4–3.2 mm (mean 2.9 mm), rostral length 1.3–1.8 mm (mean 1.6 mm). Body suboval, 1.9–2.0 times long as broad; integument dark reddish-brown, antennae and tarsi light reddish-brown. Densely covered with small, mottled, light tan to dark brown scales. Vertex of head, frons, and basal 1.3 of rostrum primarily clothed in tan scales, pair of small lighter tan maculae on temples (as in Figure 104); sides of pronotum, pleura, and venter with darker scales; legs with alternating bands of light tan and brown scales, interspersed with long hair-like setae; tarsi with sparse, white, hair-like setae; apex of dorsal flange on tibia glabrous. Pronotum with pair of well defined, black patches at posterior margin on either side of midline (clearly visible without magnification), pair of faint, sublateral, pale lines, terminating at middle of pronotal disk, 8 small, circular, whitish maculae arranged in two transverse rows of 4 maculae each, one row before middle, one row after; anterolateral region of pronotum with distinct, well defined ring of tan scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal

view, with broad U-shaped, crown-like carinae on vertex above eyes (as in Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae weakly developed. Eyes slightly bulging, small, semicircular, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum slightly shorter than pronotal length, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.3 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk with pair of distinct, impunctate depressions on either side of midline and medial depression at posterior margin marked by transverse granulate prominences apicad of midline, coarsely rugose with large rasp-like, setose granules; granules crowded in some areas, absent from others; punctures obscured by vestiture, shallow, distributed as granules, space between punctures subequal to diameter of puncture, each bearing one light to dark brown, hair-like seta. Prosternal canal shallow, lateral walls not vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins very weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.1–1.2 times long as broad, anterior margin emarginate at middle, steeply declivitous to apex; punctures larger than on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri flattened, weakly produced anteriorly and laterally at base of intervals 7, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals reaching anterior margin, continuously granulate to beyond elytral declivity; prominence raised well above adjacent intervals, distorting outline of dorsal contour in lateral view, narrow, blade-like, longitudinally acute at apex, granules in two rows at apex, terminating gradually past elytral declivity; fifth, sixth and seventh intervals granulate, weakly produced, slightly elevated above adjacent intervals, lacking granulate prominences, produced beyond elytral declivity (as in Figure 80). Hind wing vestigial.

Legs relatively short, hind femora exceeding elytral apices by 1/4 their length; mesofemora slightly shorter than elytral apices. Profemora unidentate. Protibia laterally compressed, ventral margin with flange obsolete, dorsal margin strongly emarginate apicad of middle (as in Figure 53). Dorsal margin of middle and hind tibiae weakly emarginate. Apex of protibia with supra-uncal process obsolete; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, moderately flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, ventrite 2 not folded into declivity of ventrite 1, twice as long as ventrite 3 and 4. Intercoxal process on ventrite 1 broad, broader than length of ventrite 1. *Male terminalia*. As in generic description. Female not known.

Material examined. Holotype: ♂, "New Guinea: Neth., Wamena, 1700m., II.10–25.1960/ T.C. Maa, Collector" (BPBM). Paratypes: 2 ♂♂, "New Guinea: Neth., Wamena, 1700m., II.10–25.1960/ T.C. Maa, Collector, Bishop" (BPBM).

Distribution. West Papua: Jayawijaya Province: Wamena.

Etymology. This species is named for my daughter, Vivien, who was born during the course of this study.

Asytesta sedis mutablis

The remaining 30 species of *Asytesta* that could not be assigned to a monophyletic species group based on the phylogenetic analyses presented here are treated as *Asytesta sedis mutablis*. This group of convenience contains the greatest species diversity and morphological variation in the genus. Most of the most commonly encountered species including the type species for the genus, *A. humeralis* are included here. In addition to the species described here, I know of at least a dozen putative new species with insufficient material to allow their description. I have not described these species in the hope that further material will become available that will provide a better picture of inter- and

intraspecific diversity of these species. Clearly, our knowledge of *Asytesta*, especially within this "group" is incomplete. I estimate that the 41 species included in this revision may represent less than half of the actual species diversity of the genus. Large areas of the region (e.g. parts of West Papua) remain poorly sampled and collections from these areas will certainly provide material for other new species.

Key to *Asytesta* species not placed to species group

1. Body elongate oval; pronotum longer than broad; elytra twice as long as high or longer in lateral view; legs long; hind femora exceeding elytral apices by more than 1/3 to nearly half total length; tibia strongly compressed, flange on ventral margin weakly developed, occasionally absent; dorsal margin blade-like; mesosternal receptacle shallow, nearly obliterated, lateral margins not or only weakly produced, posterior margin broadly open; vestiture typically sparse except in vittae and maculae when present; scales small.....2

1'. Body broadly oval; pronotum broader than long to slightly longer than broad; elytra less than twice as long as high in lateral view; legs moderately long; hind femora exceeding elytral apices by 1/3 total length or less; tibia, mesosternal receptacle and vestiture variable 12

2(1'). Pronotum entirely lacking vittae or maculae.....3

2'. Pronotum bearing distinct white vittae or maculae.....4

3(2). Elytral humeri with two small, white, rectangular maculae on intervals 5–7.....
.....*Asytesta eudyasmoides* Heller

3'. Dorsum immaculate.....*Asytesta concolora* **new species**

4(2'). Background vestiture brown; pronotum with broad dorsomedial longitudinal vitta, lacking all other lateral, sublateral and anterolateral maculae and/or vittae; elytral suture without vittae; pair of broad longitudinal vittae on the fifth intervals from humeri to near apex.....*Asytesta compressipes* (Chevrolat)

4'. Background vestiture fuscous; pronotum with dorsomedial longitudinal vitta of variable size, sometimes incomplete; always with other sublateral or lateral maculae

and/or vittae on disk; anterolateral region of the pronotum (anterior to the procoxae) with ring or vittae of white scales; elytral suture marked with thin vittae of pale, usually white scales, occasionally tan or orange; vittae usually in sharp contrast to background squamae; vittae rarely faint, complete or restricted to elytral declivity (incomplete); other elytral markings variable.....5

5(4). Dorsum densely mottled with small, randomly distributed, irregular, white maculae; maculae less densely arranged on sides; elytra with thin, white fascia spanning base and short rectangular maculae on fifth intervals; humeral maculae faint, confused with other maculae on elytra.....6

5'. Dorsum without white mottling, mostly dark brown to fuscous except in sharply contrasting white, tan, or orange vittae.....7

6(5). Background vestiture dark brown; pronotal disk with 2 pairss of irregular maculae on either side of medial vitta, anterior pair at cervical constriction smaller, sublateral, posterior pair behind middle larger, transverse, anterior and posterior maculae joined by faint scales, roughly forming L-shaped marks on either side of longitudinal line; mottling comprised of relatively small maculae, mostly on elytral disk in apical half; tibia covered with long white hair-like setae..... .....*Asytesta alexanderiae* **new species**

6'. Background vestiture nearly black; pronotal disk with broken transverse line at middle, transecting dorsomedial vitta; mottling comprised of relatively large white maculae irregularly distributed on entire dorsum; tibia entirely black except for a few white scales at extreme base..... *Asytesta woodlarkiana* **new species**

7(5'). Pronotal disk with pair of divergent sublateral vittae on either side of faint dorsomedial vitta; sublateral vittae not reaching pronotal base, inline with (but not adjacent to) vittae on fifth intervals on elytra.....8

7'. Pronotal disk with pair of evenly curved, lateral vittae on either side of distinct dorsomedial vitta; lateral vittae reaching pronotal base, adjacent to intervals 7 on elytra, not inline with vittae on fifth intervals.....9

8(7). Vittae on fifth intervals expanded at humeri into large, irregular, humeral maculae spanning intervals 3–7..... *Asytesta gestroi* Heller

8’. Vittae on fifth intervals not reaching humeri or very faint at humeri, never expanded beyond fifth intervals.....*Asytesta arachnopus* Heller

9(8). Vittae on pronotum and elytra comprised of white to burnt-orange scales; with pair of large, white, oblong humeral maculae spanning intervals 3–6 in basal ¼, not connected to vittae on fifth intervals.....*Asytesta cheesmanae* **new species**

9’. Vittae on pronotum and elytra comprised entirely of dirty to bright white scales; vittae on fifth intervals complete.....10

10(8’). Sides of pronotum with irregular patch of white scales from the anterior margin to base, convergent towards pronotal base, adjoining ninth intervals on elytra, ninth intervals also with broad white vittae from the elytral base to near the apex; male lacks flanges on the ventral margin of protibia.....*Asytesta fayae* **new species**

10’. Lateral vittae on pronotum not expanded into irregular patch of white scales; ninth intervals of elytra without vittae; male with distinct, tooth-like flanges on subbasal portion of ventral margin of protibia.....11

11(10’). Background vestiture mottled with dense patches of brown scales; lateral vittae on pronotum broken, faint.....*Asytesta sejuncta* Faust

11’. Background vestiture immaculate; lateral vittae on pronotum not broken, in sharp contrast to background squamae.....*Asytesta versuta* Faust

12(1’). Pronotum coarsely granulate with large, approximate granules; pronotum and elytra foveate; punctures closely approximate, much larger than interspaces between punctures; dorsum nearly glabrous, scutellum absent, wings vestigial.....
.....*A. dubia* Faust

12’. Pronotum moderately granulate with small, evenly distributed, rasp-like granules; punctures on pronotum and elytra shallow, not closely approximate; dorsum variously clothed in fine to coarse scales; scutellum usually present (absent in 2 species), wings fully developed.....13

13(1’). Dorsal vestiture comprised primarily of solid, dark, fuscous background scales, always with sharply contrasting white vittae, maculae, or fasciae present; mottling when present not distinct, comprised of whitish scales.....14

13’. Dorsal vestiture light to dark brown with considerable mottling of patchy to almost uniformly distributed light tan to brown scales, vittae, maculae, or fasciae present or absent, sharply contrasting to concolorous with background scales and indistinct.....19

14(13). Lacking maculae or vittae except large irregular patch of white scales almost entirely covering cervical region of pronotum from anterior margin to about middle, terminating on sides, small medial patch of background colored scales at apical margin.....*Asytesta antica* Pascoe (dark color form)

14’. Cervical region of pronotum not covered in solid patch of white scales; pronotum variously marked with maculae or vittae or not.....15

15(14’). Pronotal disk bearing distinct sublateral or lateral vittae.....16

15’. Pronotal disk without distinct sublateral or lateral vittae.....17

16(15). Pronotum lacking dorsomedial longitudinal vitta; disk with pair of white sublateral vittae adjoining vittae on fifth elytral intervals; sides with pair of white lateral longitudinal vittae and short transverse vittae from center of dorsal margin of procoxae intersecting lateral longitudinal vittae, not reaching sublateral vittae; background vestiture immaculate and dark; vittae not broken, distinct.....
.....*Asytesta gazella* (Olivier)

16’. Pronotum with white dorsomedial longitudinal vitta; disk with sublateral vittae only in posterior half; sides with pair of white lateral longitudinal vittae and short transverse vittae on the sides of pronotum from center of dorsal margin of procoxae intersecting lateral longitudinal vittae, meeting anterior end of sublateral vittae at a right angle; background vestiture dark, mottled with irregular patches of white scales; vittae broken, less distinct.....*Asytesta vittata* Pascoe

17(15’). Scutellum not visible; profemora unidentate; elytra with very small, evenly distributed, white maculae.....*Asytesta biakana* **new species**

17’. Scutellum very small but visible; profemora bidentate; elytra uniformly dark except for white humeral maculae and/or fasciae.....18

18(17’). Scales on dorsum sparsely distributed; humeral maculae well developed, distinct; fasciae variously developed, basal margin between intervals 5 bare in

most specimens; occasionally with very faint dorsomedial longitudinal vitta on pronotal disk and pair of small dirty white maculae near cervical constriction at either side of midline.....*Asytesta humeralis* Pascoe (dark color form)

18’ Scales on dorsum densely and uniformly distributed; humeral maculae usually reduced or absent; with thin, white fasciae on basal margin of elytra; occasionally with very faint dorsomedial longitudinal vitta on pronotal disk and rarely with patch of light brown scales near apical margin.....
.....*Asytesta marginalis* **new species** (dark color form)

19(13’). Lacking maculae or vittae except large irregular patch of white scales almost entirely covering cervical region of pronotum from anterior margin to about middle, terminating on sides, small medial patch of background colored scales at apical margin.....*Asytesta antica* Pascoe (light color form)

19’. Cervical region of pronotum not covered in solid patch of white scales; background vestiture variable, marked with maculae or vittae or not.....20

20(19’). Elytral humeri with pair of distinct rectangular maculae on intervals 5 and 6 or vittae on fifth intervals.....21

20’ Elytral humeri without distinct vittae or maculae.....28

21(20). Elytral humeri with pair of distinct rectangular maculae on fifth and sixth intervals.....22

21’. Elytral humeri with pair of distinct longitudinal vittae on fifth intervals.....31

22(21). Body less than 4.8 mm long; vestiture more or less uniformly brown with poorly defined, irregular patches of darker brown scales; pronotal disk with pair of large dark patches at posterior margin of on either side of midline and 10–14 small, circular, whitish maculae arranged in three transverse rows of 2–6 maculae each; scutellum absent or visible only under high magnification.....
.....*Asytesta signata* Faust

22’. Body more than 4.8 mm long; vestiture variable; scutellum small but visible.....23

23(22’). Pair of distinct, broad, white sublateral vittae on pronotal disk, strongly divergent, adjoining humeral maculae on elytral intervals 5 and 6; humeral

maculae terminating before middle of elytra, strongly bifurcated at posterior end... .....*Asytesta bivirgata* Pascoe

23'. Lacking broad, white sublateral vittae on pronotum; humeral maculae not bifurcate.....24

24(23'). Pair of small whitish maculae on vertex of head above eyes, adjacent to crown; profemora unidentate; profemoral tooth slightly larger than teeth on meso- and metafemora.....25

24'. Lacking small whitish maculae on vertex of head above eyes; profemora bidentate; apical profemoral tooth not larger than teeth on meso- and metafemora 26

25(24). Light scales on vertex of head; dorsal vestiture primarily comprised of light yellowish-white to tan colored scales heavily mottled with dark brown to fuscous patches; femora with alternating bands of light and dark scales; pronotum with; sometimes with rectangular maculae on fifth elytral intervals only..... .....*Asytesta rata* Heller

25'. Dark scales on vertex of head; dorsal vestiture primarily comprised of dark brown to fuscous scales with light mottling of brown scales; femora not banded..... .....*Asytesta thompsoni* **new species**

26(24'). Dorsal vestiture light tan to light brown with large dark brown patches; pair of distinct dark patches at pronotal base 6 irregular dark maculae in transverse band slightly in front of midline; femora with alternating bands of light and dark scales .....*Asytesta bidentata* Voss **new status**

26'. Dorsal vestiture dark with faint mottling of lighter scales; more or less uniform not patchy; femora not banded with light and dark scales.....27

27(26'). Scales on dorsum dark brown, sparsely distributed; humeral maculae well developed, distinct; fasciae variously developed, basal margin between intervals 5 bare in most specimens; occasionally with very faint dorsomedial longitudinal vitta on pronotal disk and pair of small dirty white maculae near cervical constriction at either side of midline..... .....*Asytesta humeralis* Pascoe (light color form)

27’ Scales on dorsum tan, densely and uniformly distributed; humeral maculae usually reduced or absent; with thin, white fasciae on basal margin of elytra; occasionally with very faint dorsomedial longitudinal vitta on pronotal disk and rarely with patch of light brown scales near apical margin.....
.....*Asytesta marginalis* **new species** (light color form)

28(20’). Anterolateral region of pronotum in front of procoxae with solid patch of densely distributed white scales that encompass entire area from prosternal canal to anterior margin of procoxae; large black sutural spot near base of the elytra.....
.....*Asytesta allisoni* **new species**

28’. Anterolateral region of pronotum in front of procoxae with ring of whitish scales with darker background scales in the center; subbasal region of elytral disk without large patch of black scales.....29

29(28’). Scutellum absent in most specimens, visible under high magnification in one specimen.....*Asytesta brevipennis* Faust

29’. Scutellum small but visible.....30

30(29’). Vestiture dark brown to gray; appears uniformly clothed, actually with very faint dorsomedial longitudinal vitta on pronotum reaching base; indistinct, short vittae on fifth intervals of elytra; vittae concolorous with background scales.....
..... *Asytesta lugubris* Heller

30’. Vestiture light tan to brown with olive green highlights; whitish scales on the vertex of the head; with faint dorsomedial longitudinal vitta on pronotum restricted to apex only, not exceeding middle; lacking short vittae on fifth elytral intervals.....*Asytesta morobeana* **new species**

31(21’). Clothed primarily in dark brown scales, lightly mottled with occasional patches of light tan scales. Whitish fasciae at elytral margin and short humeral vittae distinct from dark brown background scales. Pronotum uniformly dark with dorsomedial vitta from apex to base and 12–14 evenly distributed, small, circular maculae arranged in 2 transverse rows and one pair at apex behind head; vitta and maculae in sharp contrast to background squamae; profemora distinctly bidentate, second denticle well developed.....*Asytesta propinqua* Faust

31’. Clothed primarily in sparse to densely distributed light tan scales lightly mottled with occasional patches of darker brown scales; tan fasciae at elytral margin and tan humeral maculae or vittae on fifth intervals, nearly indistinct from tan scales on elytra; pronotum clothed in light scales with large dark patches on disk at base, behind cervical constriction, and on sides; with dorsomedial longitudinal vitta from apex to base with pair of small, circular maculae on either side of midline behind cervical constriction (sometimes absent), vitta and maculae confused with tan mottling.....31

32(31’). Mottling at elytral base more completely covering humeral area, vittae on fifth intervals indistinct from tan scales; second denticle on profemora greatly reduced, nearly obsolete.....*Asytesta aucta* Faust

32’. Mottling at elytral base sparse, interrupted by dark blotches; vittae on fifth intervals more distinct from tan scales; second denticle on profemora small but visible..... *Asytesta verecunda* Faust

Asytesta alexanderiae Setliff **new species**
(Figures 131–132, 191)

Diagnosis. The unique L-shaped arrangement of the maculae on either side of the dorsomedial vitta on the pronotal disk will distinguish this species from its congeners. This species may be confused with *A. woodlarkiana* new species, which has a broken transverse line at the middle of the pronotal disk that transects the dorsomedial vitta, but has large irregularly distributed white maculae covering its dorsum and has a darker background color.

Description. *Adult habitus* (Figures 131–132). Measurements (n = 4): body length 7.1–7.8 mm (mean 7.5 mm), body width 3.2–3.5 mm (mean 3.3 mm), pronotal length 2.8–3.0 mm (mean 3.0 mm), elytral length 4.3–4.8 mm (mean 4.5 mm), rostral length 2.1–3.0 mm (mean 3.0 mm). Body elongate-oval, 2.1–2.3 times long as broad;

integument dark reddish-brown, antennae and tarsi light reddish-brown. Sparsely covered with small, light tan to dark brown scales, with more densely distributed white scales in vittae and maculae. Vertex of head, pleura, legs, and venter more densely clothed in white to tan scales, white scales denser on tibia; vestiture on legs interspersed with dense, white, hair-like setae; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on tibia; tarsi clothed with sparse, white, hair-like setae. Pronotum uniformly dark; disk with dorsolongitudinal vitta from apex to base, 2 pairs of irregular maculae on either side of medial vitta, anterior pair at cervical constriction smaller, sublateral, posterior pair behind middle larger, transverse, anterior and posterior maculae joined by faint scales, forming L-shaped marks; anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending slightly beyond middle of procoxa. Elytra with patchy white scales evenly distributed on disk, entire anterior margin with fascia of white scales, reaching epipleural margin; epipleural margin lined with dense white scales from base to slightly past middle; intervals 5 with broken, longitudinal vittae on declivity. Mesosternum and metasternum covered with dense white scales except transverse glabrous line at suture between sclerites, ventrites without scales except for sparse, evenly distributed, hair-like setae on ventrite 1 and 5 and lateral margins of 2–4, glabrous in middle. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum slightly shorter than or subequal to pronotal length, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.2 times

broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.3–1.4 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, obtuse, tooth-like in male, broader, gradually tapering to apex in female (as in Figures 48–49); dorsal margin strongly convex (as in Figures 51–52). Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding

patch distinct, with two rows of 7–8 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. As in generic description.

Material examined. Holotype ♂, "New Guinea: NE, Feramin; 150–120 m, May 23–31, 1959/ W. W. Brandt, Collector, Bishop" (BPBM). Paratypes: 1 ♂, 1 ♀, "New Guinea: NE, Feramin; 150–120m, June 15–18, 1959/ W. W. Brandt, Collector, Bishop" (BPBM); 1 ♀, "New Guinea: NE, Feramin; 150–120m, June 7–14, 1959/ W. W. Brandt, Collector, Bishop" (BPBM).

Distribution. Papua New Guinea: Sandaun Province: Feramin.

Etymology. This species is named for my daughter, Alexandria, who was born during the course of this study.

Asytesta allisoni Setliff **new species**
(Figures 133–134, 193)

Diagnosis. The anterolateral region of pronotum in front of the procoxae is uniquely clothed in this species with a solid patch of densely distributed white scales that encompasses the entire area from the prosternal canal to the anterior margin of the procoxae. In all other species, these areas either bear a ring of whitish scales with darker background scales in the center or totally lack white scales. Another unique feature of the vestiture is the large black sutural spot near the base of the elytra. This character will separate *A. allisoni* from *A. lugubris* and *A. morobeana* new species that are otherwise similarly clothed dorsally.

Description. *Adult habitus* (Figures 133–134). Measurements (n = 2): body length 4.7–4.8 mm (mean 4.8 mm), body width 2.2–2.5 mm (mean 2.4 mm), pronotal length 1.8–1.9 mm (mean 1.9 mm), elytral length 2.9 mm, rostral length 1.4–1.5 mm (mean 1.5 mm). Body oval, 1.9–2.2 times long as broad; integument dark reddish-brown, antennae

and tarsi reddish-brown. Densely covered with creamy white (in maculae) to light brown to fuscous scales. Frons, pleura, coxae, and venter more densely clothed in light brown scales; pair of small yellowish-white maculae on temples (as in Figure 104). Legs with alternating bands of light and dark brown scales, background vestiture interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum not mottled or dappled with poorly defined, irregular white patches; pronotal disk with pair of large almost black patches at posterior margin on either side of midline, 4–6 irregular dark, almost black maculae in transverse band slightly in front of midline, reaching lateral margins in most specimens, maculae sometimes fused into transverse band (best viewed without magnification), 8–12 small, circular, whitish maculae arranged in three transverse rows of 2–4 maculae each, one row of 2–4 maculae before middle, one pair at middle, one row of 2–4 macular after middle; pair of similarly formed but smaller maculae at apical pronotal margin, sometimes absent; maculae not in sharp contrast to background squamae; anterolateral region of pronotum with very distinct, well defined, solid patch of densely distributed white scales encompassing entire area from lateral margin of prosternal canal to anterior margin of procoxae; dorsal portion of maculae not extending beyond middle of procoxa. Elytra with anterior margin bearing thin band of creamy white to light brown scales; large, irregular, patch of nearly black scales on elytral disk from just posteriad of anterior margin, to slightly before midline, spanning basal area between intervals 3. Scutellum clothed with creamy white scales. Dorsum lacking other vittae or maculae. Mesosternum and metasternum covered with sparse creamy white to tan scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed pale scales. Scales course (individually distinct under low magnification), appressed to suberect.

Head. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum,

parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.4 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one tan to dirty white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.2–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri slightly produced laterally, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before midline; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 47, 50); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or

longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male and female terminalia*. As in generic description.

Material examined. Holotype: ♂, "Tree #50, Tray #3, *Lithocarpus rufovillosus*, A. Allison, Coll., Bishop Museum/ Papua New Guinea: Morobe Prov.: Biaru Rd.;1970 m, 3.X.1988/ No. 43613, PNG Canopy, Bishop Museum" (BPBM). Paratypes: 1 ♀, "Tree #50, Tray #10, *Lithocarpus rufovillosus*, A. Allison, Coll., Bishop Museum/ Papua New Guinea: Morobe Prov.: Biaru Rd., 1970 m, 3.X.1988/ No. 43841, PNG Canopy, Bishop Museum" (BPBM); 1 ♂, "New Guinea: Wau, Edie Ck., 2000–2150 m. 6.IV.1965/ J. & M. Sedlacek Collectors Bishop Museum" (BPBM). 2 ♀♀, "Mt. Kaindi, N. Guinea II.13–III.12.1979, 2300m. J. Sedlacek" (CWOB).

Distribution. Papua New Guinea: Morobe Province: Wau area.

Hosts. Two specimens of this species were taken by kerosene fogging of *Lithocarpus rufo-villosus* (Markgr) Rehder (Fagaceae).

Etymology. This species is named for Allen Allison who collected the holotype and a paratype of this handsome weevil during canopy fogging studies at Wau Ecology Institute.

Asytesta antica Pascoe
(Figures 135–136, 194)

Asytesta antica Pascoe, 1883: 100

Diagnosis. This species is immediately recognizable by the uniform brown vestiture that lacks maculae or vittae except for the large irregular patch of white scales entirely covering the cervical region of the pronotal disk from the anterior margin to about the

midline and terminating on the sides. This species also has the protibial flange very weakly developed and bidentate profemora.

Redescription. *Adult habitus* (Figures 135–136). Measurements (n = 5): body length 5.0–5.6 mm (mean 5.2 mm), body width 2.3–3.0 mm (mean 2.6 mm), pronotal length 2.0–2.2 mm (mean 2.1 mm), elytral length 3.0–3.5 mm (mean 3.2 mm), rostral length 1.5–1.8 mm (mean 1.7 mm). Body oval, 1.9–2.1 times long as broad; integument reddish-brown to dark brown, antennae and tarsi reddish-brown. Densely covered with brown to fuscous scales, with more densely distributed dirty white scales in dorsal pronotal maculae; maculae in sharp contrast to background squamae. Frons, pleura, coxae, and venter more densely clothed in tan to brown scales; vestiture on femora and tibia interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum dark mottled with irregular, maculae of light brown; maculae less densely distributed on sides. Pronotum with large irregular patch of white scales from anterior margin to midline, reaching sides; anterolateral region of pronotum with poorly defined ring of denser brown scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with sparser background scales in center; dorsal portion of ring not extending beyond middle of procoxa. Elytra lacking vittae or maculae. Mesosternum and metasternum covered with sparse brown scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed pale scales. Scales course (individually distinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female

rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.4 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one light brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, minute, diameter subequal to punctures at base of elytra. Elytra 1.1–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct but weakly produced, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (Figures 45–46); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader

than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 5–6 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 5–8 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible, minute, distinct under high magnification. Bursa more or less indistinct from vagina; vagina with walls moderately sclerotized near junction with oviduct; no distinct internal sclerites visible.

Material examined. Holotype: ♀, "Type. H.T [on disk with red boarder]/ Kaioa [on blue oval-shaped disk]/ *A. antica*/ Pascoe Coll., 93-60" (BMNH); Paratype: 1 ♂, "Kaioa [on blue oval-shaped disk]/ Pascoe Coll. 93-60" (BMNH). Non-type material: 1 ♀, "Wallace/ Moluccas/ Fry coll., 1905.100/ *Asytesta* Id. By A.M. Lea, near if not *humeralis* Pasc." (BMNH); 1 ♂, "Kaioa" (BMNH); 1 ♂, "Kai Is. [= Kaioa], Coll. Jekel/ *A*. sp./ Museo Genova, coll. Angelo Solari, (acquisto 2000)" (MSNG).

Distribution. Indonesia: Kaioa Island [between Halmahera and Bacan].

Remarks. No other specimen in the BMNH or MSNG collections bear any indication of type status. The male specimen that I treat here as a paratype has identical labels as the holotype and is missing its abdomen (Figure 135).

Asytesta arachnopus Heller
(Figures 56–57, 137–138, 191)

Asytesta arachnopus Heller, 1895: 16

Diagnosis. *Asytesta arachnopus* is most closely allied with *A. gestroi* Heller in vestiture, markings (*viz*., a pair of diverging sublateral vittae that do not reach the posterior margin of the pronotum), size, and leg morphology. In *A. arachnopus*, however,

the pair of vittae on fifth elytral intervals do not reach the humeri and in *A. gestroi* the humeri are covered by large, irregular, humeral maculae spanning intervals 3–7.

Redescription. *Adult habitus* (Figures 137–138). Measurements (*n* =14): body length 6.6–9.1 mm (mean 7.8 mm), body width 3.1–4.0 mm (mean 3.6 mm), pronotal length 2.6–3.6 mm (mean 3.1 mm), elytral length 4.0–5.5 mm (mean 4.7 mm), rostral length 2.0–3.0 mm (mean 2.5 mm). Body elongate-oval, 2.0–2.4 times long as broad; integument dark brown to black, shiny, antennae and tarsi dark reddish-brown. Clothed in sparsely distributed, dark brown scales; integument not obscured by squamae except by more densely distributed white scales in vittae, in sharp contrast to dark background squamae. Pleura, legs, and venter more densely clothed in white to tan scales, white scales denser on tibia; rim of mesosternal receptacle sparsely covered with fine white scales; vestiture on legs interspersed with white, hair-like setae; dorsal edge of all tibiae lined with white scales; tarsi clothed with dense, white, hair-like setae. Pronotal disk with narrow dorsolongitudinal vitta from behind cervical constriction to base; pair of sublateral longitudinal vittae from anterior margin to just before base, slightly divergent past cervical constriction; sometimes with short, faint, longitudinal vittae on sides from anterior margin to midline, absent in most specimens; anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytra with broad sutural stripe of white scales from just posteriad of midline to apex; pair of similarly colored longitudinal vittae on fifth intervals from humeri or slightly behind humeri to subapex; epipleural margin with white scales from slightly behind base to apex. Mesosternum and metasternum clothed in sparse white to tan scales, ventrites mostly glabrous, with sparse light-brown squamae on ventrite 1 and 5, ventrites 2–4 more or less glabrous. All scales very fine to minute (indistinct under low magnification), appressed; white setae distinct, suberect to decumbent. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal

carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.3 times broad as long, broadest slightly before base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, minute, smaller than punctures at base of elytra. Elytra 1.2–1.5 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by about 1/2 their length; mesofemora exceeding elytral apices. Profemora bidentate or unidentate; profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange reduced in males, present, gradually tapering to apex in female; dorsal margin strongly convex (Figures 56–57). Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with reduced supra-uncal process; uncus and premucro well developed, broadly

separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin strongly emarginate at middle, wing binding patch distinct, with two rows of 6–7 minute plectral tubercles reaching posterior margin, tubercles distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 6–8 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Tergite VIII slightly longer and apex narrower than in *A. humeralis* (see Figure 89). Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "New Guinea, 8926/ Coll. J. Faust, Aukauf 1900/ Type/ Staatl., Museum fur, Tierkunde Dresden" (SMTD). Paralectotypes: 1 ♀, "Typus/ New Guinea 8926/ Staatl., Museum fur, Tierkunde Dresden" (SMTD); 2 ♂♂, 2 ♀♀, "New Guinea, 8926/ Paratype/ Staatl., Museum fur, Tierkunde Dresden" (SMTD); 1 ♀, "K. Wilhelmsland/ Cotypus/ *Asytesta arachnopus* m., Determined K. M. Heller" (SMTD); Non-type material: 1 ♀, "*Asytesta arachnopus* m., Det. K. M. Heller 1911/ D.N. Guinea/ Coll. Bennigsen/ Coll. DEI Mucheberg" (DEI); 1 ♂, "*Asytesta arachnopus* m., Det. K. M. Heller/ Coll. Kraatz/ Coll. DEI. Mucheberg" (DEI); 1 ♂, "*Asytesta arachnopus* m., Det. K. M. Heller 08/ Simbang, D. N. Guinea/ Coll. v. Bennigsen/ Coll. DEI. Mucheberg" (DEI); 1 ♂, "D. Neu-Guinea., Wahnes, Franklin Müller/ *Asytesta arachnopus* m 1895, K. M. Heller Det. 1920/ Coll. DEI. Mucheberg" (DEI); 1 ♀, "D. N. Guinea/ Coll.v. Bennigsen/ Coll. DEI. Mucheberg" (DEI).

Distribution. Papua New Guinea: Morobe Province: Huon Peninsula: Sattelberg [type locality], Simbang; Madang Province: Madang.

Remarks. Two additional cotypes with identical labels as the lectotype were also seen by me at MNHN but were not borrowed for examination. These specimens are also considered paralectotypes. I have selected a male specimen from Faust's collection residing at SMTD for the lectotype to fix the name to that specimen. It is one of two specimens that are labeled "type". All other paralectotypes have either cotype or paratype labels.

Asytesta aucta Faust
(Figures 48–49, 139–140, 192)

Asytesta aucta Faust, 1898: 164 [key], 168 [description]
Asytesta granulifera Lea, 1928: 75 **new synonymy**

Diagnosis. This species is very close to *A. verecunda* in general appearance, but is a slightly smaller species that has more uniform vestiture of light tan scales on the elytra at the humeri and the second profemoral tooth is very small. *Asytesta propinqua* is also similarly clothed, but has the pronotum and elytra are more uniformly dark and the vittae and maculae stand out in sharp contrast unlike the more muted vittae and maculae of *A. aucta* and *A. verecunda* that blend in with the lighter mottling.

Redescription. *Adult habitus* (Figures 139–140). Measurements (n = 19): body length 5.2–6.9 mm (mean 6.2 mm), body width 2.5–3.4 mm (mean 3.1 mm), pronotal length 2.2–3.0 mm (mean 2.7 mm), elytral length 2.8–4.3 mm (mean 3.6 mm), rostral length 1.3–2.5 mm (mean 2.7 mm).Body oval, 1.8–2.3 times long as broad; integument dark reddish-brown, antennae and tarsi light reddish-brown. Densely covered with patchy brown scales and dirty white to light tan scales, with more densely distributed whitish scales in vittae, not in sharp contrast to background squamae except apical portion of

dorsomedial vitta on pronotum. Vertex of head, pleura, coxae, basal portion of femora, and venter more densely clothed in dirty white to tan scales; vestiture on femora and tibia interspersed with evenly distributed, white, hair-like setae; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Pronotal disk with dorsolongitudinal vitta from apex to base; circular maculae indistinct; short, sublateral longitudinal vittae at anterior margin reduced, reaching middle of pronotum; lateral vittae present in some specimens, reaching middle of pronotum, parallel to sublateral vittae; faint transverse vittae from center of dorsal margin of procoxae to dorsolateral portion of pronotal disk. Anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending beyond procoxa to basal pronotal margin. Elytra with thin fascia spanning entire anterior margin of elytra in most specimens, margin between intervals 5 bare in some specimens, fasciae reaching epipleural margin; humeri with faint tan, longitudinal vittae on intervals 5 from humeri to subapex, vittae not broadened apically, restricted to intervals 5, often obscured by background scales; faint sutural stripe of tan scales from midline to near apex; epipleural margin with dirty white to tan scales from base to apex. Mesosternum and metasternum covered with dense white scales except transverse glabrous line at suture between sclerites, ventrites evenly covered in sparse, white, hair-like setae, ventrites 2–4 not glabrous in middle. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate to nearly circular, posterior margin weakly truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely

punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.4 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white to tan, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.0–1.4 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced in same region as third intervals, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire; secondary denticle greatly reduced, sometimes absent (not visible in Figures 48 and 49). Protibia strongly compressed laterally, ventral margin with flange distinct, obtuse, tooth-like in male, broader, gradually tapering to apex in female (Figures 48–49); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader

than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 6–7 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 5–6 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible minute, distinct under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "N. Guinea Ighibirei, Loria. VII–VIII 90/ *aucta* Faust/ Type" (SMTD). Paralectotypes: 1 ♂, "N. Guinea Ighibirei, Loria. VII–VIII 90/ *aucta* Faust/ Type" (SMTD); 1 ♂, 2 ♀, "N. Guinea Ighibirei, Loria. VII–VIII 90/ Syntypus, *Asytesta aucta* Faust 1989" (MSNG). Non-type material: 1 ♂, "Br. N. Guinea, Papua Golf, E. Weiske/ 14822" (SMTD); 1 ♂, "Neuguinea [illegible]/ *Asytesta auctella* [sic]" (SMTD); 1 ♂, "N. Guinea, Pt. Moresby 3322/ Laloki, Papua, F. Nuir, 1909" (SMTD); 3 ♂♂, 3 ♀♀, "New Guinea: Papua, Brown River, May.21.1965/ E. J. Ford, Junior, collector" (BPBM); 1 ♂, 1 ♀, "New Guinea: Papua, Brown River, May.21.1965/ E. J. Ford, Junior, collector" (GPSC); 2 ♂♂, "Victoria, N. Guinea Coll. Doherty/ *Asytesta propinqua* Faust, det. K. M. Heller 1912" (MSNG); 1 ♂, "N. Guinea S.E., Loria. II 93/ *Asytesta aucta* Faust 1990" (MSNG); 2 ♀♀, "N. Guinea S.E., Hughibagu, Loria, V-IX 93/ *Asytesta aucta* Faust" (MSNG); 1 ♂, "New Guinea, 76-32" (BMNH); 2 ♂♂, "Laloki, Papua, F. Muir, 1909/ G.A.K Marshall, Coll., B.M.1950-255." (BMNH); 2 ♀♀, "T. K. Scheibel, Rorona Papua, 22–6–23" [one with 29–6–23] (UMO); 1 ♂, "New Guinea: betw. Vanapa and Brown riv. ca. 28 mil. N. of Pt. Moreseby, 2.IV.1965./ Coll. Dr. J. Balogh et Dr. J. J. Szent-Ivany" (CWOB). Lectotype for *A. granulifera* Lea (**new lectotype designation**): ♀, "Kuranda, Dodd/ *granulifera*, Lea, Co-type/ *Asytesta granulifera*, Coll. on N. Guinea" (SAM).

Distribution. Papua New Guinea: Central Province: Ighibirei (Astrolabe Range). Faust (1899: 69) reported additional specimens from Ighibirei, Hughibagu, and the Astrolabe Mountains.

Remarks. Faust (1898: 164) cites the paired lateral vittae on the pronotum that run parallel to the sublateral vittae in separating this species from *A. verecunda* and *A. propinqua*, which entirely lack lateral vittae. However, this character is unstable even within Faust's type material for *A. aucta* as illustrated in Figure 139. I have selected one of the specimens labeled "type" from Faust's collection as the lectotype to fix the name to a single specimen. Lea (1928: 76) notes that the type locality for *A. granulifera* (Kuranda, in North Queensland, Australia) is in error, adding that the specimens are likely from the Astrolabe range in Papua New Guinea where F. P. Dodd (the collector of the type series) worked. I agree with Lea that his specimen most likely came from the Astrolabe range, not Australia. It is clear from examination of one of Lea's cotypes, that *A. granulifera* is conspecific with *A. aucta*. I have selected the cotype that was made available to me for examination (label data already provided) as the lectotype for *A. granulifera* in the case that the other cotypes that I was unable to examine are not conspecific.

Asytesta biakana Setliff **new species**
(Figures 141–142, 193)

Diagnosis. This species is most easily confused with *A. eudyasmoides*, *A. humeralis* and *A. marginalis* new species, which also have more or less solid, dark, almost black, background coloration and short, white, rectangular humeral maculae as the only significant dorsal markings. All of three of these species have a visible scutellum, which is lacking in *A. biakana*. This species has unidentate profemora and small white maculae evenly distributed on the elytra, which further distinguishes it from the latter two species. Several other species of *Asytesta* also have rectangular humeral maculae (e.g., *A. rata*, *A.*

signata, and *A. thompsoni* new species); however, these species all have the dorsal background vestiture strongly mottled with light and dark scales.

Description. *Adult habitus* (Figures 141–142). Measurements (n = 7): body length 4.8–6.3 mm (mean 5.6 mm), body width 2.8–3.2 mm (mean 3.0 mm), pronotal length 2.0–2.6 mm (mean 2.3 mm), elytral length 2.8–3.8 mm (mean 3.2 mm), rostral length 1.5–2.0 mm (mean 1.8 mm). Body oval, 1.7–2.0 times long as broad; integument dark reddish-brown to black, antennae and tarsi dark reddish-brown. Sparsely covered with small, brown to fuscous scales, with more densely distributed dirty white scales in maculae. Frons, pleura, coxae, basal portion of femora, and venter more densely clothed in brown to tan scales; pair of small whitish maculae on temples (as in Figure 104). Vestiture on femora and sometimes tibia interspersed with dirty white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum dark; with small, regularly distributed maculae of light brown to dirty white scales; maculae comprised of 3–5 scales, less densely distributed on sides, absent on pronotum in some specimens. Anterolateral region of pronotum with faint ring of light brown scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytral humeri with distinct, rectangular, maculae of bright white scales on intervals 5 and 6; macula on intervals 5 longer than macula on intervals 6, maculae often absent; elytra lacking other vittae. Mesosternum and metasternum covered with sparse brown to dirty white scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed brown to dirty white scales. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small

medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.4 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, closed to slightly open behind. Scutellum not visible. Elytra 1.0–1.2 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing vestigial. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before middle of tibia, female flange tapering to apex (Figures 47, 50); dorsal margin dorsal margin strongly convex (as in Figure 48–49). Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining

ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male and female terminalia*. As in generic description.

Material examined. Holotype: ♂, "New Guinea: Neth., Biak I.: Kampong, Landbouw, 50–100m. May 28, 1959/ J.L. Gressit, Collector/ T.C. Maa, Collector, Bishop" (BPBM). Paratypes: 1 ♀, "Biak Isl., Korim, Roidifu, ca. 100m., 2.II.2001/ Irian Jaya, leg. A. Riedel" (MZB); 1 ♂, "Biak Isl., Korim, Roidifu, ca. 100m., 2.II.2001/ Irian Jaya, leg. A. Riedel" (SMNK); 2 ♂♂, 2 ♀♀, "Irian Jaya, Biak Is., Umg. Sepse, leg. A. Riedel 3.X.1990" (ARC).

Distribution. Biak Island.

Etymology. The specific epithet refers to the species' type locality.

Asytesta bidentata Voss **new status**
(Figures 143–144, 193)

Asytesta lugubris ssp. *bidentatus* Voss,1958: 219

Diagnosis. This species was originally described as a subspecies of *A. lugubris* Heller. The two species are superficially similar; however, *A. bidentata* differs from *A. lugubris* by the distinctly bidentate profemora, lack of pale macula on the temples above the eyes, and more distinct humeral macula that stand out from the background vestiture, with part of the macula on the sixth elytral interval. The vestiture of *A. lugubris* is also much darker than in this species.

Redescription. *Adult habitus* (Figures 143–144). Measurements (n = 1): body length 5.1 mm, body width 2.7 mm), pronotal length 2.1vmm, elytral length 3.0 mm, rostral length 1.8 mm. Body oval, 1.9 times long as broad; integument dark reddish-brown, antennae and tarsi reddish-brown. Densely covered with tan to dark brown scales. Frons,

pleura, coxae, and venter more densely clothed in dirty white to tan scales; lacking maculae on temples. Legs with alternating bands of tan and dark brown scales, background vestiture interspersed with tan, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, tan, hair-like setae. Dorsum mottled with large, poorly defined, irregular patches of brown scales; pair of larger dark patches at posterior margin of pronotal disk on either side of midline; pronotal disk with faint dorsolongitudinal vitta of denser tan scales from apex to base; 6 irregular dark maculae in transverse band slightly in front of midline reaching sides (best viewed without magnification), 6 small, circular, whitish maculae arranged in two transverse rows of 4 maculae each, one row before middle, one row after; lacking pair of maculae at apical pronotal margin in single specimen examined, vitta and maculae not in sharp contrast to background squamae; anterolateral region of pronotum with poorly defined ring of denser dirty white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytral humeri with indistinct, rectangular, maculae of dense tan white scales on intervals 5 and 6; macula on intervals 5 longer than macula on intervals 6. Dorsum lacking other vittae or maculae. Mesosternum and metasternum covered with sparse tan scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed tan scales. Scales course (individually distinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus

truncate. Antennal club oval. *Thorax*. Pronotum 1.3 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, minute, diameter smaller than punctures at base of elytra. Elytra 1.1 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated near basal margin; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia weakly compressed laterally, ventral margin with flange weakly developed, tapering to apex, male flange terminating before middle of tibia (as in Figure 47); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding

patch distinct, with two rows of 5 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. Not examined.

Material examined. ♂, "I. Deslacs, Biro 1901/ Paratype, *Asytesta lugubris* ab. *bidentatus*, Voss" (SMTD).

Distribution. Vitu Islands (= Witu Islands and Deslacs Islands).

Remarks. Voss (1958: 219) mentions 10 specimens of this species in his description. I was only able to examine a single paratype. I have not designated this specimen as a lectotype since the holotype may still be located.

Asytesta bivirgata Pascoe
(Figures 145–146, 194)

Asytesta bivirgata Pascoe, 1885: 259

Diagnosis. *Asytesta bivirgata* belongs with *A. lugubris* and its allies. The broad, divergent, sublateral vittae on the pronotal disk that meet the short humeri maculae on elytral intervals 5 and 6, which are strongly bifurcated and terminate before the middle of the elytra will distinguish this species from its congeners.

Redescription. *Adult habitus* (Figures 145–146). Measurements (n = 15): body length 4.9–6.7 mm (mean 5.4 mm), body width 2.0–3.2 mm (mean 2.6 mm), pronotal length 1.6–2.9 mm (mean 2.2 mm), elytral length 2.3–3.8 mm (mean 3.1 mm), rostral length 1.3–2.4 mm (mean 1.8 mm). Body oval, 1.2–2.2 times long as broad; integument dark reddish-brown to black, antennae and tarsi reddish-brown. Sparsely covered with light brown to fuscous scales, with more densely distributed dirty white scales in pronotal maculae and vittae. Frons, pleura, coxae, and venter more densely clothed in tan to brown scales; pair of small whitish maculae on temples (as in Figure 104). Legs with alternating

bands of tan and dark brown scales, interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum mottled with irregular patches of light brown scales; patches less densely distributed on sides. Pronotal disk with pair of sublateral longitudinal vittae from anterior margin to base, strongly divergent past cervical constriction; 2–6 evenly distributed, small, circular maculae arranged in transverse rows; maculae in sharp contrast to background squamae; anterolateral region of pronotum with poorly defined ring of denser brown scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with sparser background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytral humeri with distinct, rectangular, maculae of bright white scales on intervals 5 and 6; macula on intervals 5 much longer than on intervals 6, terminating just before midline of elytra, strongly bifurcated at posterior end, with one tail continuing on fourth intervals and other tail continuing on fifth intervals; elytra lacking other vittae or maculae. Mesosternum and metasternum covered with sparse brown scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed brown scales. Scales course (individually distinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.3 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly

distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one light brown to dirty white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, minute, diameter subequal to punctures at base of elytra. Elytra 1.0–1.4 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated near basal margin; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 47, 50); dorsal margin moderately convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 6–7 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. As in

generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 9–10 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible, minute, distinct under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no distinct internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "N. Guinea, Hatam VI, Beccari 1875/ Typus/ *Asytesta bivirgata*, typus! Pasc./ *bivirgata*, Pasc." (MSNG). Paralectotype: 1 ♂, "N.G. Hatam/ *Asytesta bivirgata* Pasc." (BMNH). Non-type material: 1 ♂, "Testega, 1100–1200 m, 11.IV/ IRIAN JAYA, Manokwari-Prov., leg. A. Riedel, 1993" (ARC); 1 ♀, "Testega, 1100–1200 m, 11.IV/ IRIAN JAYA, Manokwari-Prov., leg. A. Riedel, 1993" (GPSC); 1 ♂, "Testega, 1100–1300m, 30.III–2.IV/ IRIAN JAYA, Manokwari-Prov., leg. A Riedel, 1993" (ARC); 1 ♂, "Tetaho-area, Kosmena, 1400–1750m, 26-28.III./ IRIAN JAYA, Manokwari-Prov., leg. A Riedel, 1993" (ARC); 1 ♂, "Epomani, Ugida, Km. 179, 1350-1400m, 19–20.I.1996/ IRIAN JAYA, Paniai-Prov., leg. A Riedel, " (GPSC); 3 ♂♂, 3 ♀♀, "Epomani, Ugida, Km. 179, 1350-1400m, 19–20.I.1996/ IRIAN JAYA, Paniai-Prov., leg. A Riedel, " (ARC); 1 ♂, "IRIAN JAYA, Manokwari-Prov. Ransiki, Membey 800–1200 m, leg. A. Riedel, 31.VIII.1991" (ARC); 1 ♀, "West New Guinea, Vogelkor; Kebar Val., W of Manokwari, 550m, 4–31.I.1962/ S. Quate, Collector" (BPBM).

Distribution. West Papua: Manokwari Province: Mokwam [type locality], Hatam, Kabar Valley, Kosmena, Memby, Ransiki, Testega; Paniai Province: Epomani.

Remarks. Pascoe (1885: 259) did not indicate how many specimens were in the type series. Thus a lectotype is selected for the purpose of fixing the name to a single specimen.

Asytesta brevipennis Faust
(Figures 147–148, 194)

Asytesta brevipennis Faust, 1898: 166 [key], 173 [description]

Diagnosis. This small species is more or less clothed uniformly in light brown to fuscous scales mottled with poorly defined, irregular patches of brown scales and lacks major maculae or vittae on the dorsum. There is a pair of larger dark patches at posterior margin of pronotal disk on either side of midline, 4–8 irregular dark maculae in transverse band slightly in front of midline and 6–8 small, circular, whitish maculae arranged in two transverse rows of 2–4 maculae each. The scutellum is absent in all but one specimen examined. It is most similar to *A. signata*, which also appears to lack a scutellum, however, this species is smaller, has 10–14 small, white maculae on the pronotal disk that are more distinct than in *A. brevipennis*, and has distinct, rectangular, maculae of dense white scales on intervals 5 and 6 at the elytral humeri.

Redescription. *Adult habitus* (Figures 147–148). Measurements (n = 5): body length 4.8–5.2 mm (mean 5.0 mm), body width 2.5–3.0 mm (mean 2.6 mm), pronotal length 2.1–2.2 mm (mean 2.1 mm), elytral length 2.7–3.0 mm (mean 2.8 mm), rostral length 1.5–1.7 mm (mean 1.6 mm).Body oval, 1.7–1.9 times long as broad; integument dark reddish-brown, antennae and tarsi reddish-brown. Densely covered with light brown to fuscous scales. Frons, pleura, coxae, and venter more densely clothed in tan to brown scales; pair of small yellowish-white maculae on temples (as in Figure 104). Legs with alternating bands of tan and dark brown scales, background vestiture interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum mottled with poorly defined, irregular patches of brown scales; pair of larger dark patches at posterior margin of pronotal disk on either side of midline, 4–8 irregular dark maculae in transverse band slightly in front of midline reaching sides in most specimens (best viewed without magnification), 6–8 small, circular, whitish maculae arranged in two transverse rows of 2–4 maculae each, one row before middle, one row after; pair of similarly formed but smaller maculae at apical pronotal margin, sometimes absent, maculae in sharp contrast to background squamae; anterolateral region

of pronotum with poorly defined ring of denser dirty white to tan scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa, absent in some specimens. Dorsum lacking other vittae or maculae. Mesosternum and metasternum covered with sparse tan scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed tan scales. Scales course (individually distinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.4 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one tan to dirty white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum not visible except very minute scutellum visible in single specimen, diameter smaller than punctures at base of elytra. Elytra 1.0–1.1 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated near basal margin; prominence

raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 47, 50); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 7–8 very minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct only under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 1–3 very minute plectral tubercles; plectral rows not reaching posterior margin; tubercles greatly reduced, distinct only under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no distinct internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂ "Mailu, Brit. N. G., July 95., (Anthony)/ *brevipennis*, Faust/ Coll. J. Faust, Ankauf 1900" (SMTD). Paralectotypes: 1 ♂,1 ♀, "Mailu, Brit. N. G., July 95., (Anthony)/ *brevipennis*, Faust/

Coll. J. Faust, Ankauf 1900" (SMTD); 1 ♂, "Mailu, Brit. N. G., July 95., (Anthony)/ Museum Paris, ex. Coll., R. Oberthur" (MNHN).

Distribution. Papua New Guinea: Mailu Island.

Remarks. Three additional specimens with identical label data as the lectotype were also examined by me in the MNHN collection but were not borrowed for further study. These specimens are also paralectotypes. Since the number of specimens in the type series is unknown, I select one of the three specimens in Faust's collection bearing a small square of gold foil as the lectotype in order to fix the name to that specimen.

Asytesta cheesmanae Setliff **new species**
(Figures 149–150, 191)

Diagnosis. This handsome species is includes some of the largest specimens (11.5 mm) recorded for the genus. It has an elongate form, dark background vestiture and distinct vittae on the dorsum. It is closely related to *A. compressipes* and *A. eudyasmoides*; however, neither of these species, nor any other *Asytesta* species except *A. gestroi* have the large oblong humeral maculae that occur in *A. cheesmanae*. *Asytesta gestroi* differs in having white sublateral vittae on the pronotum whereas *A. cheesmanae* has burnt-orange lateral vittae on the pronotum.

Description. *Adult habitus* (Figures 149–150). Measurements (*n* =9): body length 6.8–11.5 mm (mean 7.9 mm), body width 3.0–4.8 mm (mean 3.4 mm), pronotal length 2.8–4.8 mm (mean 3.2 mm), elytral length 4.0–6.7 mm (mean 4.8 mm), rostral length 2.0–4.4 mm (mean 2.3 mm). Body elongate-oval, 2.3–2.4 times long as broad; integument dark brown to black, antennae and tarsi dark reddish-brown. Sparsely covered with small, light tan to dark brown scales, with more densely distributed white to burnt-orange scales in vittae and maculae. Vertex of head, pleura, legs, and venter more densely clothed in white to tan scales, white scales denser on tibia; rim of mesosternal receptacle sparsely covered with fine white scales; vestiture on legs interspersed with white, hair-

like setae; dorsal edge of all tibiae lined with yellowish-white scales; tarsi clothed with sparse, white, hair-like setae. Pronotal disk with narrow dorsolongitudinal vitta from apex to base, pair of longitudinal vittae on sides, anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending beyond middle of procoxa to basal pronotal margin. Elytra with pair of large, white, oblong maculae between intervals 3–6 in basal ¼ of elytra; broad sutural stripe of tan to orange scales from just posteriad of scutellum to apex and pair of similarly colored longitudinal vittae on fifth intervals, joining with white humeral maculae; epipleural margin with dense tan to orange scales from base to slightly past middle. Mesosternum and metasternum covered with sparse white scales, ventrites clothed in sparse brown squamae on ventrite 1 and 5, ventrites 2–4 more or less glabrous. Scales very fine (indistinct under low magnification), appressed. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum slightly shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.1 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one yellowish-white to brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, minute, smaller than punctures at base of elytra. Elytra 1.3–1.5 times long as

broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by nearly 1/2 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange almost to completely obsolete in males, present, gradually tapering to apex in female; dorsal margin strongly convex (as in Figures 51–52). Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with reduced supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin strongly emarginate at middle, wing binding patch distinct, with two rows of 6–8 minute plectral tubercles reaching posterior margin, tubercles distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 8–11 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Tergite VIII slightly longer and apex narrower than in *A. humeralis* (see Figure 89). Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Holotype: ♂, "Dutch New Guinea:, Japen I., R. Manai–Undei, 500ft. x. 1938, L. E. Cheesman, B.M.1938-593" (BMNH). Paratypes: 1 ♂, label data same as holotype (GPSC); 1 ♂, label data same as holotype [specimen disarticulated] (UMSP); 4 ♂♂, 2 ♀♀, "Dutch New Guinea:, Japen I., Mt. Baduri, 1000ft. viii. 1938, L. E. Cheesman, B.M.1938-593" (BMNH).

Distribution. Indonesia: Yapen Island.

Etymology. This species is named in honor of L. E. Cheesman, intrepid explorer in the Papuan region and collector of the type series.

Asytesta compressipes (Chevrolat)
(Figures 51–52, 68, 151–152, 191)

Arachnopus compressipes Chevrolat 1877: 189 transferred to *Asytesta* by Heller, 1908: 23, see also Heller 1933: 19.

Cyamobolus trivittatus Pascoe 1885: 274, synonymy by Heller 1908: 23

Asytesta trivittata (Pascoe); transferred to *Asytesta* by Heller 1895: 15

Asytesta trivirgata Pascoe, error in Heller, 1933: 19

Diagnosis. This is a large species ranging up to 10.5 mm in length with an elongate body and immaculate, brown background vestiture. The only marking on the pronotum is a white dorsomedial longitudinal vitta. The elytra have similarly colored, complete, longitudinal vittae on the fifth intervals. It is closely related to *A. cheesmanae* new species and *A. eudyasmoides*. However, *A. cheesmanae* has large oblong humeral maculae that interrupt the vittae on the fifth intervals and (usually) sublateral vittae on the pronotal disk. *Asytesta eudyasmoides* lacks vittae on the pronotum and elytra and instead has small humeral rectangular maculae.

Redescription. (Based on type specimens of *Cyamobolus trivittatus*). *Adult habitus* (Figures 151–152). Measurements (*n* = 10): body length 7.3–10.5 mm (mean 9.0 mm), body width 3.0–4.4 mm (mean 3.8 mm), pronotal length 2.8–4.3 mm (mean 3.5 mm), elytral length 4.5–6.2 mm (mean 5.5mm), rostral length 2.7–3.6 mm (mean 3.2). Body elongate-oval, 2.2–2.5 times long as broad; integument dark reddish-brown, antennae and tarsi light reddish-brown. Densely covered with small, fuscous scales, becoming brown on elytral disk; white dorsomedial vittae on pronotal disk and vittae on elytral intervals 5 from humeri to apex in sharp contrast to background squamae. Frons, base of rostrum, pleura, meso- and metasternites clothed with dingy yellowish-white to tan scales; coxae and dorsal portion of middle and hind femora with yellowish-white to tan scales interspersed with tan, hair-like setae, dorsal edge of all tibiae lined with yellowish-white scales; tarsi covered with sparse, white, hair-like setae, rim of mesosternal receptacle sparsely covered with fine tan scales. Scales very fine (indistinct under low magnification), appressed. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum subequal in length to pronotum or slightly shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.2 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one yellowish-white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, minute, smaller than

punctures at base of elytra. Elytra 1.3–1.5 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity (Figure 68); fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by nearly 1/2 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange obsolete in males, present, gradually tapering to apex in female (Figures 51–52); dorsal margin strongly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with reduced supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 8 minute plectral tubercles reaching posterior margin, tubercles distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 7–9 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Tergite VIII slightly longer and apex narrower than in *A. humeralis* (see Figure 89). Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Holotype for *Cyamobolus trivittata* Pascoe: ♂, "N.G, Andai/ *Cyamobolus trivittatus*, det. Pasc/ Type, H.T" (BMNH). Paratype for *C. trivittatus*: 1 ♂, "Nuova Guinea, Andai, Ag. 79, L. M. D. Albertis/ typus/ *trivitattus*, Pascoe/ *Cyamobolus trivittatus* typus! Pascoe" (MSNG). Non-type material: 2 ♂♂, "N. Guinea, Andai XII, Coll. Bruijn 1875" (MSNG); 2 ♂♂, "Nuova Guinea, Andai, Ag. 79, L. M. D. Albertis" (MSNG); 2 ♂♂, "N. Guinea, Andai XII, Coll. Bruijn 1875" (MSNG); 1 ♂, "Andai, N. Guinea, Doherty/ *Asytesta trivittata*, Det. K. M. Heller 1912" (MSNG); 1 ♂, "N. Guinea, Coll. Heller/ *Asytesta trivittata*, Det. K. M. Heller 1912" (MSNG); 1 ♀, "[illgeible]/ Coll. J. Faust, Ankauf 1900" (MSNG);1 ♂, "[illegible]/ Coll. J. Faust, Ankauf 1900" (SMTD); 2 ♀♀, "Museum Paris, Nouv. Guinee, Baie de Geelvink, Rafray & Maindron, 1878" (MNHN); 1 ♀, "N. Guinea, Andai VI, Beccari 1875" (SMTD); 1 ♀, "N. Guinea, Badui/ [illegible]/ Coll. J. Faust, Ankauf 1900" (SMTD); 1 ♂, "Neu-Guinea, [illegible], ex coll. Fruhstorfer/ Coll. Kraatz/ *Asytesta trivittata*, det. K. M. Heller" (DEI); 2 ♂♂, "Nov. Guinee/ Heller/ *Asytesta trivittata*, det. K. M. Heller 1922" (USNM); 1 ♀, "Nov. Guinee/ Heller/ *Asytesta trivittata*, det. K. M. Heller 1922/ Collection Bovie, thru, Buchannan" (USNM); 1 ♂, "Wasior DMP logging, camp, Km 27, Wombu, S 03˚01' E 134˚28', 200 m, 10.I.2001/ Irian Jaya, Manokwari Prov., Wandammen Bay, leg. A. Riedel" (ARC); 1 ♂, "Salawatti Isl., Solol, 0–350m, 6-7.XI./ Irian Jaya, Sorong Prov., leg. A. Riedel" (ARC).

Distribution. West Papua: Manokwari Province: Andai [type locality], Wandammen Bay; Cenderawasih Bay (= Geelvink Bay); Sorong Province: Salawatti Island.

Remarks. Type material of *A. compressipes* was not seen. The following notes refer to "*Cyamobolus trivittata*" synonymized above. Pascoe (1885: 274) did not mention the number of specimens in the type series. Several other specimens with identical data labels as the paratype are in the MSNG collection and may also be paratypes. One additional specimen from Andai was also seen by me in the BMNH collection but was not borrowed for examination.

Asytesta concolora Setliff **new species**

(Figures 153–154, 191)

Diagnosis. This species is very closely related to *A. cheesmanae* new species, *A. compressipes*, and *A. eudyasmoides* in its elongate body and dark immaculate background vestiture. Unlike these three species, *A. concolora* lacks any indication of white maculae or vittae anywhere on the body.

Description. *Adult habitus* (Figures 153–154). Measurements (n = 3): body length 9.1–9.6 mm (mean 9.3 mm), body width 3.5–4.0 mm (mean 3.9 mm), pronotal length 3.7–3.8 mm (mean 3.8 mm), elytral length 5.3–5.8 mm (mean 5.6 mm), rostral length 3.0–3.2 mm (mean 3.1 mm). Body elongate-oval, 2.3–2.6 times long as broad; integument black, antennae and tarsi dark reddish-brown. Densely covered with small, fuscous scales, becoming brown on elytral disk; body lacking white vittae and maculae. Vertex of head, pleura, legs and venter similarly clothed with dense appressed fuscous, except frons and base of rostrum with pale scales; coxae and dorsal portion of middle and hind femora with white scales interspersed with white, hair-like setae, dorsal edge of all tibiae lined with bright white scales; tarsi covered with sparse, white, hair-like setae, rim of mesosternal receptacle covered with fine white scales. Scales very fine (indistinct under low magnification), appressed. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum slightly shorter than pronotal length, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum slightly longer than broad to 1.1 times broad as long, broadest at base; base nearly

truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.4–1.5 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by nearly 1/2 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange obsolete in males, present, gradually tapering to apex in female (as in Figures 51–52); dorsal margin strongly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with reduced supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1.

Material examined. Holotype: ♂, "Wandammen Bay, Wondiwoi Mts., Wasior, 250–600m, 4.I.2001/ Irian Jaya, Manokwari Prov., leg. A. Riedel" (MZB). Paratypes: 1 ♂, 1 ♀, label data same as holotype (ARC).

Distribution. West Papua: Manokwari Province: Wasior.

Etymology. The specific epithet refers to the uniformly dark body without white maculae or vittae on the pronotum and elytra in this species that occur in all of its close congeners.

Asytesta dubia Faust
(Figures 111–112, 190)

Asytesta dubia Faust 1898: 166 [key], 174 [description]

Diagnosis. This species can be distinguished from its congeners by its coarsely granulate pronotum and deep elytral punctures that are densely distributed and closely approximate. Like the species in the *A. doriae* species group, *A. dubia* is relatively small (4.9–5.3 mm), lacks a scutellum, and has vestigial wings. However species of the *A. doriae* group differ in their smooth, nitid elytra and pronota with granules entirely restricted to the prominence on the third elytral interval, with the first row of punctures along the anterior elytral margin is much deeper than the remaining punctures, profemoral teeth are multidentate, and males have the suprascrobal carinae produced into tooth-like processes. Additionally, *A. dubia* has the humeri depressed at intervals 7 and the lateral declivities (intervals 8 to epipleural margin) are slightly rounded at the base. In all other *Asytesta* species, the humeri at intervals 7 mark the broadest part of the elytra in dorsal view. The lateral declivities of the elytra at the base are distinctly truncate, and fall flat to the sides.

Redescription. *Adult habitus* (Figures 111–112). Measurements (n = 2): body length 4.9–5.3 mm (mean 5.1 mm), body width 2.7–3.0 mm (mean 2.9 mm), pronotal length

2.0–2.3 mm (mean 2.2 mm), elytral length 2.9–3.0 mm (mean 3.0 mm), rostral length 1.7–1.8 mm (mean 1.8 mm). Body sub-globular, 1.8 times long as broad; integument black, antennae and tarsi light reddish-brown. Dorsum and legs with sparsely distributed, appressed brown to light tan scales, forming poorly defined, irregular patches, scales more densely and evenly distributed on vertex of head, pleuron, and venter. Scales course (individually distinct at low magnification). *Head*. Visible in dorsal view, with distinct, semicircular, crown-like carinae on vertex above eyes, interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes small, subcordate, posterior margin truncate; interocular distance as wide as basal width of rostrum or slightly wider. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum similarly rugose as male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennomere 1 of funicle short, only slightly longer than antennomere 3; club oval. *Thorax*. Pronotum 1.3 times broad as long, broadest subbasally; base truncate, lacking produced medial area. Pronotal disk evenly convex at base, coarsely rugose with rasp-like, setose granules, irregularly punctate; punctures very deep, closely approximate, space between punctures less than diameter of puncture, each bearing one dark brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum not visible. Elytra 1.0–1.2 times long as broad, anterior margin sinuate, steeply declivitous past midline; punctures similar to punctures on pronotum but less densely distributed, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri depressed beyond fifth interval, subcontiguous with posterolateral margin of pronotum; lateral declivity somewhat rounded. Elytral intervals convex, rugose, granulate, prominence on third elytral intervals elevated slightly behind anterior margin; raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, slightly higher at caudal end, tapering to elytral declivity; fifth and seventh

intervals distinctly granulate, not produced, lacking prominences. Hind wing vestigial. Legs moderately long, hind femora exceeding elytral apices by less than 1/3 their length; mesofemora reaching elytral apices. Profemora bidentate; apical profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia weakly compressed laterally, ventral margin with poorly developed, flange near middle, dorsal margin more or less straight. Male and female protibial flanges similar. Dorsal and ventral margins of middle and hind tibia straight. Apex of protibia with weak supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, weakly flattened. *Abdomen*. Ventrite 1 rugose, distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch nearly obsolete, with two rows of 4–6 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Holotype: ♂, "Amboina, Staudin. [= Staudinger]./ [illegible] *maura* [illegible]/ *dubia*, Faust/ Coll. J. Faust, Ankauf 1900" (SMTD). Non-type material: 1 ♀, "Piroe, Ceram, F. Muir. Jan.1909" (BPBM).

Distribution. Indonesia: Ambon Island, Seram Island.

Remarks. Faust (1898: 174) indicated that this species was described from a unique specimen. Thus designation of a lectotype in unnecessary. Faust described a keel occupying 1/3 of the prothorax, however, this appears to be nothing more than an unfortunate confluence of the intervening areas between four punctures. No such “carinae” was present on the second specimen I examined. This species is geographically isolated from the rest of the genus on Seram and Amboin Islands, an area that has been poorly sampled. I expect that further examination of collections from these islands will reveal related species that share the unusual and unique characters of *A. dubia*, warranting the description of another species group.

Asytesta eudyasmoides Heller
(Figures 155–156, 191)

Asytesta eudyasmoides Heller, 1914: 655

Diagnosis. This species is closely related to *A. cheesmanae* new species, *A. compressipes*, and *A. concolora* new species in its elongate body and dark immaculate background vestiture. Unlike these three species, *A. eudyasmoides* has small, white, rectangular maculae on the elytral humeri. This species also superficially resembles *A. humeralis* due to its dark background squamae and white humeral maculae; however, *A. eudyasmoides* has a more elongate narrow body and unidentate profemora (bidentate in *A. humeralis*).

Redescription. *Adult habitus* (Figures 155–156). Measurements (n = 2): body length 8.1–8.7 mm (mean 8.4 mm), body width 3.8–3.9 mm (mean 3.9 mm), pronotal length 3.1–3.5 mm (mean 3.3 mm), elytral length 5.0–5.2 mm (mean 5.1 mm), rostral length 3 mm. Body elongate-oval, 2.1–2.2 times long as broad; integument dark reddish-brown, antennae and tarsi light reddish-brown. Densely covered with small, fuscous scales, becoming brown on elytral disk; elytral humeri with narrow rectangular maculae of yellowish-white scales on intervals 5–7, maculae extends posteriad a short distance in some specimens on fifth intervals, thin line of yellowish-white scales on sides connecting humeral maculae to epipleural margin, in sharp contrast to dark background squamae. Head, including base of rostrum, pleura, meso- and metasternites clothed with dingy yellowish-white to tan scales; coxae and dorsal portion of middle and hind femora with yellowish-white to tan scales interspersed with white, hair-like setae, dorsal edge of all tibiae lined with yellowish-white scales; tarsi covered with sparse, white, hair-like setae, rim of mesosternal receptacle covered with fine white scales. Scales very fine (indistinct under low magnification), appressed. *Head*. Visible in dorsal view, with semicircular,

crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum subequal in length to pronotum or slightly shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Clypeus emarginate. Antennal club oval. *Thorax*. Pronotum 1.1–1.2 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, minute, smaller than punctures at base of elytra. Elytra 1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by nearly 1/2 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange obsolete in males (as in Figure 51–52); dorsal margin strongly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with reduced supra-uncal

process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 8 minute plectral tubercles reaching posterior margin, tubercles distinct under high magnification. Female not known.

Material examined. Lectotype (**new lectotype designation**): ♂, "Z. Neiuw Guinea, Lorantz 1909-10, Bivak eiland, I.10/ Typus!, A.eudyasmoides" (SMTD). Non-type material: 1 ♂, "Z. Neiuw Guinea, Lorantz 1909-10, Bivak, XI.09.750 m" (ZMAN).

Distribution. Indonseia: Biak Island.

Remarks. A lectotype is selected here from Heller's collection to fix the name to a single specimen to ensure stability of nomenclature.

Asytesta fayae Setliff **new species**
(Figures 157–158, 192)

Diagnosis. This species is most similar to *A. versuta* but differs by the irregular patch of white scales on the sides of the pronotum from the anterior margin to the base that is broader near the head and convergent towards the pronotal base, meeting ninth intervals the of elytra, which also bears a broad white vittae from the elytral base to near the apex. Additionally, the male holotype lacks tooth-like flanges on the ventral margin of the protibia that are always present in *A. versuta* and its allies.

Description. *Adult habitus* (Figures 157–158). Measurements (n = 1): body length 7.1 mm, body width 3.1 mm, pronotal length 3.0 mm, elytral length 4.1 mm, rostral

length 2.5 mm. Body elongate-oval, 2.3 times long as broad; integument reddish-brown to dark brown, antennae and tarsi light reddish-brown. Clothed in densely distributed, patchy, tan to dark brown scales; integument not obscured by squamae except in patches on elytra and pronotum and by more densely distributed yellowish-white scales in vittae, in sharp contrast to dark background squamae. Vertex of head, frons, base of rostrum, legs, and pleura more densely clothed in cream to brown scales; rim of mesosternal receptacle lined with fine yellowish-white scales; vestiture on legs evenly interspersed with white, hair-like setae, slightly denser along dorsal edge; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on tibia; tarsi clothed with dense, white, hair-like setae. Pronotal disk with dorsolongitudinal vitta from apex to base; sides with large irregular patch of white scales from anterior margin to base, broader at apex, convergent towards base, meeting intervals 9 of elytra; anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending beyond middle of procoxa to basal pronotal margin. Elytra with faint sutural stripe of yellowish-white scales from midline to apex; pair of white, longitudinal vittae on intervals 5 and 9 originating at humeri, two vittae joining at subapex, vittae not broadened apically, restricted to intervals; epipleural margin with white scales from base to slightly before apex; humeral and epipleural vittae connected by short fasciae along elytral base, fascia not reaching dorsum. Mesosternum and metasternum clothed in tan to brown scales, ventrites mostly without squamae, sparsely distributed light-brown squamae on ventrite 1 and 5, ventrites 2–4 more or less glabrous. Scales fine to (indistinct under low magnification), appressed; white setae distinct, suberect to decumbent. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose,

coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Clypeus truncate. Antennal club oval. *Thorax*. pronotum as broad as long, broadest slightly before base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one yellowish-white to brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, minute, smaller than punctures at base of elytra. Elytra 1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by about 1/2 their length; mesofemora exceeding elytral apices. Protibia strongly compressed laterally, ventral margin with flange obsolete in male (as in Figure 51); dorsal margin moderately convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Female is not known.

Material examined. Holotype: ♂, "H.C. Siebers, Kei Eil. 1922, Gn. Daab IV, ± 300 m/ *Asytesta* sp." (DEI).

Distribution. Indonesia: Maluku province. Kei Islands.

Remarks. The unique male specimen lacks any indication of a protibial flange. Females may possess protibial flanges similar to *A. compressipes*, where flanges are present in females but not males.

Etymology. This epithet is dedicated to the memory of Faye R. Setliff.

Asytesta gazella (Olivier)
(Figures 159–160, 192)

Rhynchaenus gazella Olivier, 1807: 175, pl. xxii Figure 303

Tragopus gazella (Olivier); transferred Lacordaire, 1866: 160

Asytesta gazella (Olivier); transferred Dorn, 1879: 364

Arachnopus roundipennis Chevrolat 1877: 189 synonymy by Heller, 1908: 23, also see Heller, 1933: 19.

Diagnosis. This species lack any indication of a dorsomedial longitudinal vitta on the pronotum and the background vestiture is immaculate and dark. There are several other species of *Asytesta* that are primarily covered in dark background scales with sharply contrasting white longitudinal vittae as in *A. gazella* (*viz.*, *A. arachnopus*, *A. fayae* new species, *A. gestroi*, *A. versuta*, *A. vittae*). However, all of these species either have the dorsum mottled with whitish maculae (as in *A. vittata*) and/or has a dorsomedial longitudinal vitta on the pronotum. *Asytesta gazella* is also the only species in the genus that has both sublateral and lateral longitudinal vittae and short transverse vittae on the sides of the pronotum.

Redescription. *Adult habitus* (Figures 159–160). Measurements (*n* = 6): body length 5.4–6.5 mm (mean 6.1 mm), body width 2.5–3.0 mm (mean 2.9 mm), pronotal length 2.2–2.9 mm (mean 2.7 mm), elytral length 3.2–4.0 mm (mean 3.5 mm), rostral length 1.9–2.2 mm (mean 2.0 mm). Body oval, 1.9–2.2 times long as broad; integument dark brown to black, antennae and tarsi light reddish-brown. Sparsely covered with dark brown scales, with densely distributed bright white scales in vittae, in sharp contrast to background squamae. Vertex of head, base of rostrum, pleura, coxae, basal portion of femora, and venter more densely clothed in brown to whitish scales; vestiture on femora and tibia interspersed with evenly distributed, white, hair-like setae; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on legs; dorsal edge of all tibiae lined with white scales; tarsi clothed with sparse, white, hair-like setae. Pronotal disk with pair of sublateral longitudinal vittae from anterior margin to base, slightly divergent past cervical constriction; pair of lateral longitudinal vittae at anterior margin entire; distinct transverse vittae from center of dorsal margin of procoxae intersecting lateral longitudinal vittae, not reaching sublateral vittae. Anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending beyond procoxa to basal pronotal margin. Elytra with fascia spanning entire anterior margin, fasciae reaching epipleural margin; humeri with pair of white, longitudinal vittae on intervals 5 from humeri to subapex, vittae not broadened apically, restricted to fifth interval; distinct sutural stripe of white scales from base to apex; epipleural margin with white scales from base to apex; dark areas without mottling. Mesosternum and metasternum and ventrites covered with sparse brown scales, ventrites 2–4 glabrous in middle. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate to nearly circular, posterior margin weakly truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial

interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.3 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white to dark brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.1–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 45–46); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites

combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male and female terminalia*. As in generic description.

Material examined. Type material was not seen for *A. gazella* or *Ar. roundipennis*. 3 ♀♀, "Nuova Guinea, Ramoi Giug, 72, L. M. D. Albertis/ *Asytesta gazella* Ol., det. Pascoe" (MSNG); 1 ♂, 2 ♀♀, "New Guinea, Ramoi II, Beccari 1873/ *Asytesta gazella* Ol. det. Pascoe" (MSNG); 1 ♂♂, 1 ♀, Irian Jaya, Sorong Prov., leg. A. Riedel/ road to Makbon, near Warsamsom Bridge, 100 m. 30.I.2001 (ARC).

Distribution. West Papua: Manokwari Province: Ramoi.

Remarks. This species is part of a complex of similarly marked species that includes *A. vittata* and other undescribed species. The unavailability of Olivier's type material impedes the resolution of this species complex. My redescription is based only on a series of specimens from the MSNG that were identified by Pascoe and that closely match the illustration accompanying Olivier's original description (Olivier 1807: pl. xxii Figure 303) and three specimens collected by Alexander Riedel. As in Olivier's figure (reproduced in Figure 2), these specimens lack a dorsomedial longitudinal vitta on the pronotum and the dark areas of the vestiture are not mottled with lighter scales. Although I am reasonably confident in Pascoe's determination, I do not designate a neotype here based on his material in the hope that the original type material will be located. All other members of this complex have mottled elytra and a dorsomedial vita. Pascoe (1885: 259) reported additional specimens of *A. gazella* from Aru Island, Batchian (= Bacan Island), and Ramoi (West Papua), and Marshall (1915: 521) reported four specimens from Utakwa River (West Papua). Some of these specimens are likely not conspecific with *A. gazella* and these range extensions require verification. Additional study is required to sort out the species included in this complex.

Asytesta gestroi Heller
(Figures 161–162, 191)

Asytesta gestroi Heller, 1895: 15

Diagnosis. *Asytesta gestroi* is most closely allied with *A. arachnopus* Heller in vestiture, markings, size, and leg morphology. *Asytesta arachnopus*, however, differs from this species in lacking large, irregular, humeral maculae spanning intervals 3–7 and the dorsolongitudinal vitta on the pronotum of *A. arachnopus* is nearly obsolete. *Asytesta cheesmanae* new species also has large oblong humeral maculae but these are not connected to the vittae on intervals 5 as in *A. gestroi*. This species further differs from *A. gestroi* by the lateral pronotal vittae and elytral vittae comprised of burnt orange scales. In contrast, *A. gestroi* has bright white vittae and sublateral vittae on the pronotum.

Redescription. *Adult habitus* (Figures 161–162). Measurements (n =6): body length 7.0–8.5 mm (mean 7.8 mm), body width 3.1–3.9 mm (mean 3.5 mm), pronotal length 2.9–3.5 mm (mean 3.1 mm), elytral length 4.1–5.0 mm (mean 4.7 mm), rostral length 2.5–2.8 mm (mean 2.6 mm). Body elongate-oval, 2.1–2.4 times long as broad; integument dark brown to black, shiny, antennae and tarsi dark reddish-brown. Clothed in sparsely distributed, dark brown scales; integument not obscured by squamae except by more densely distributed white scales in vittae, in sharp contrast to dark background squamae. Frons, base of rostrum, pleura, scutellum, and legs more densely clothed in white scales, white scales denser on tibia; rim of mesosternal receptacle with fine white scales on inner margin; vestiture on legs interspersed with white, hair-like setae; dorsal edge of all tibiae lined with white scales; tarsi clothed with dense, white, hair-like setae. Pronotal disk with faint, very narrow dorsolongitudinal vitta from behind cervical constriction to base, not more than 2–3 scales wide; pair of broader sublateral longitudinal vittae from anterior margin to just before base, slightly divergent past cervical constriction; sometimes with short, faint, lateral longitudinal vittae from anterior margin to midline, absent in most specimens; anterolateral region of pronotum with

distinct, well defined, oblique, vittae from lower margin of postocular lobe to just above middle of procoxae (Figure 161); dorsal portion of ring not extending beyond middle of procoxa. Elytra with broad sutural stripe of white scales from midline to apex; pair of similarly colored longitudinal vittae on intervals 5 from humeri or slightly behind humeri to subapex; epipleural margin with white scales from slightly behind base to apex; humeri with large patch of white scales covering space between intervals 3–7; epipleural margin with dense white scales from base to slightly before apex. Mesosternum and metasternum clothed in sparse white to tan scales, ventrites mostly without squamae, sparsely distributed light-brown squamae on ventrite 1 and 5, ventrites 2–4 more or less glabrous. Scales very fine to minute (indistinct under low magnification), appressed; white setae distinct, suberect to decumbent. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.2 times broad as long, broadest slightly before base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, minute, smaller than punctures at base of elytra. Elytra 1.3–1.4 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or

produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by about 1/2 their length; mesofemora exceeding elytral apices. Profemora bidentate or unidentate; profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange reduced in males, present, gradually tapering to apex in female; dorsal margin strongly convex (as in Figures 56–57). Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with reduced supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male and female terminalia*. As in generic description.

Material examined. Lectotype (**new lectotype designation**): 1 ♀, "K. Wilhelmland, 8576/ Type" (SMTD). Paralectotypes: 2 ♂♂, "K. Wilhelmland, 8576/ Paratype" (SMTD); 1 ♂, "K. Wilhelmland, 8576/ Cotypus/ *Gestroi*, Hell./ D. Heller, 1895" (MSNG); 1 ♀, "K. Wilhelmland, 8576/ *gestroi*, Heller/ Coll. J. Faust, Ankauf 1900/ typus" (SMTD); 1 ♀, "K. Wilhelmland, 8576/ Paratype" (SMTD). Non-type material: 1 ♂, 1 ♀, "D. Neu-Guinea, Wahnes Franklin-Müller/ Heller det." (DEI).

Distribution. Papua New Guinea: Morobe Province: Sattleberg.

Remarks. Two additional cotypes with the same label data as the lectotype were also seen by me in the MNHN collection but were not borrowed for examination. These

specimens are also paralectotypes. The lectotype serves to fix the species name to a single specimen to ensure the stability of nomenclature.

Asytesta humeralis Pascoe
(Figures 3–8, 23, 30, 37, 45–46, 64, 81–92, 163–164, 193)

Asytesta humeralis Pascoe 1865: 426, pl. xvii: Figure13
Asytesta definita Faust 1898: 166 [key], 172 [description] **new synonym**

Diagnosis. *Asytesta humeralis* may be confused with a few other similarly clothed species (*viz*., *A. eudyasmoides*, *A. biakana* new species, *A. marginalis* new species), which have more or less solid, dark, almost black, background coloration and short, white, rectangular humeral maculae as the only significant dorsal markings. It differs from *A. eudyasmoides* by its bidentate profemora and shorter form. *Asytesta biakana* and *A. marginalis* are more similar in shape to *A. humeralis* than the previous species; however, *A. biakana* lacks a visible scutellum, has unidentate profemora, and small white maculae that are evenly distributed on the elytra. *Asytesta marginalis* is the most closely related species to *A. humeralis*. In addition to the similarity in shape and vestiture, already discussed, both species have a visible scutellum and bidentate profemora and have similar protibial shape as well. *Asytesta humeralis* is distinguished from *A. marginalis* by the more sparsely distributed, darker brown (fuscous) scales on the dorsum and the distinct and strongly contrasting humeral maculae. *Asytesta marginalis* has more densely and uniformly distributed light brown to tan scales on the dorsum and greatly reduced or absent humeral maculae. Several other species of *Asytesta* also have rectangular humeral maculae (e.g., *A. rata*, *A. signata*, and *A. thompsoni* new species); however, these species all have the dorsal background vestiture strongly mottled with light and dark scales.

Redescription. *Adult habitus* (Figures 3–5, 163–164). Measurements (*n* = 15): body length 5.0–7.1 mm (mean 5.9 mm), body width 2.2–3.1 mm (mean 2.8 mm), pronotal length 2.1–3.5 mm (mean 2.4 mm), elytral length 2.9–4.5 mm (mean 3.5 mm), rostral length 1.6–2.0 mm (mean 1.9 mm). Body oval, 1.9–2.3 times long as broad; integument dark reddish-brown to black, antennae and tarsi reddish-brown. Sparsely covered with small, brown to fuscous scales, with more densely distributed dirty white scales in vittae and maculae, in sharp contrast to background squamae. Frons, pleura, coxae, basal portion of femora, and venter more densely clothed in white to tan scales; vestiture on femora and tibia interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum dark; occasionally with small, irregular, maculae of light brown to dirty white scales; maculae less densely distributed on sides. Pronotal disk usually with pair of small dirty white maculae on cervical constriction at either side of midline. Anterolateral region of pronotum with well defined ring of dirty white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytra with thin fascia spanning entire anterior margin in some specimens, margin between intervals 5 bare in most specimens, fasciae reaching epipleural margin when present; humeri with distinct, rectangular, maculae of bright white scales on intervals 5 and 6; macula on intervals 5 longer than macula on intervals 6; elytra lacking other vittae. Mesosternum and metasternum covered with dense brown to dirty white scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed pale scales. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose,

coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.2 times broad as long, broadest subbasally; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white, hair-like seta (Figure 3). Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, minute, diameter subequal to punctures at base of elytra. Elytra 1.1–1.5 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before middle of tibia, female flange tapering to apex (Figures 45–46); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite

2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia* (Figures 81–87). As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 5–8 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia* (Figures 88–92). As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 5–8 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible, minute, distinct under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly to moderately sclerotized; no distinct internal sclerites visible.

Material examined. Holotype: ♂, "Type, H.T/ Batchian/ *Asytesta humeralis*, Pasc" (BMNH). Paratypes: 1 ♂, "Batchian/ *Asytesta humeralis*, Batchian" (UMO); 1 ♀, "Batch., Wall./ Coll., Roelofs/ *A. humeralis*, Pascoe, D. Mollucas/ Type" (ISNB). Non-type material: 2 ♂♂, "Wallace/ Moluccas, Gilolo" (BMNH); 1 ♀, "*Asytesta humeralis*" (ZMUC); 1 ♀, "Moluccas/ *Asytesta* I.D. by A.M.Lea" (BMNH); 1 ♂, "Batchian/ Bowring 6347" (BMNH); 1 ♂, "Batchian, Coll. Jekel/ *Asytesta humeralis*, [illegible]" (MSNG); 1 ♂, "19991/ Wallace/ Moluccas, Batchian/ *Asytesta humeralis*, Moluccas" (MSNG); 1 ♂, "Molueche, Coll. Jekel/ Moluccas, Wallace/ *Asytesta humeralis* Pascoe, Ent.II, 426" (MSNG); 1 ♂, "Moluccan, 5801" (SMTD); 1 ♂, "Gorham, Collection, acc. 68498/ *Asytesta humeralis* Pasc., [illegible] Archipel. " (USNM); 1 ♂, "Bacan, 6 km N. Labuha/ Maluku, leg. R. Gerstmeier, 4.IV.1998" (ARC); 1 ♀, "Batchian/ Coll. Castelnau, Coll. Roelofs/ G: *Asytesta humeralis*" (ISNB); 1 ♀, "44464/ Wallace/ Moluccas, Bachian" (BMNH). Material examined of *A. definita* syn. nov.: Lectotype for *A. definita* Faust **(new lectotype designation)**: 1 ♀, "Maliase, Boucard/ *definita*, Faust/ Coll. J. Faust, Ankauf 1900" (SMTD). Paralectotypes: 2 ♂♂, "*Asytesta definita*, Faust/ Coll. J. Faust, Ankauf 1900" (SMTD). Non-type material: 1 ♂, "Batch./ *Asytesta definita* Pasc., Det. K. M. Heller 07." (BMNH); 2 ♀♀, "Museum Paris, Moloque, Gilolo, Rafray Maindron, 1878" (MNHN); 1 ♂, "Dodinga, Halmeheira, Doherty VIII/ G.A.K Marshall, Coll.,

B.M.1950-255." (BMNH); 2 ♂♂, 2 ♀♀, "Halmahera, Telago paca (sw), Tobelo, 27.3.1955, leg. R. Gerstmeier" (ARC); 1 ♂, "Halmahera, Telago paca (sw), Tobelo, 27.3.1955, leg. R. Gerstmeier" (GPSC); 1 ♂, "Museum Paris, Moloque, Gilolo, Rafray Maindron, 1878" (MNHN); 1 ♂, "Ternate/ Museum Paris, 1955, coll. A. Clerc" (MNHN); 1 ♂, "Indoneisa: Halmahera, Is., Jailolo Dist., Kampung Pasir Putih, 53'N, 127 41' E/ Ruben Tatu, S. Sasamulore, Paul Taylor, 4-17 Dec. 1984" (USNM); 1 ♀, "[label illegible]" (MNHN); 1 ♀, "Aru Is., Ville Pol/ *Asytesta definita* Faust, Det. K. M. Heller 1912" (MSNG); 1 ♀, "Halmahera, Bruijn, 75/ 63/ *Asytesta humeralis*, Pasc" (MSNG); 1 ♀, "Halmahera, Bruijn, 75/ 154/ *Asytesta humeralis* Pasc., det. Pascoe 1881" (MSNG).

Distribution. Bacan Island [type locality], Moluccas. Pascoe (1885: 259) reported additional specimens of *A. humeralis* from Ternate and Bacan. Faust (1898: 173) reported *A. definita* from Halmahera, Andai, and the Moluccas but see my remarks below.

Remarks. *Asytesta humeralis* was not seen by Faust at the time he described *A. definita*. The characters he cites in his diagnosis of the two species are the relatively larger prothorax compared elytra and the deeper elytral punctures of *A. humeralis*. I can find no appreciable difference in these characters between them. Several specimens in the type series of *A. definita* Faust from Andai (West Papua) belong to an undescribed species that poorly agrees with Faust's description. I have selected a specimen from Faust's type series that more closely agrees with his description as the lectotype for *A. definita* syn. n. in order to fix the name to that specimen. Only specimens that are conspecific with the lectotype (and *A. humeralis*) are designated as paralectoypes.

Asytesta lugubris Heller
(Figures 165–166,193)

Asytesta lugubris Heller, 1895: 15
Asytesta setipes Lea, 1928: 76 **new synonym**

Diagnosis. The dark brown vestiture that is not marked with distinct contrasting vittae or maculae will separate *A. lugubris* from most other species except *A. allisoni* new species and *A. morobeana* new species. The vestiture in *A. lugubris* is typically darker than in these two species and has a faint dorsolongitudinal vitta that reaches the base and indistinct, rectangular, maculae of dense brown scales on intervals 5 of the elytra. Neither *A. allisoni* nor *A. morobeana* have entire dorsolongitudinal vittae (restricted to the anterior half in *A. morobeana*) or humeral maculae.

Redescription. *Adult habitus* (Figures 165–166). Measurements (n = 9): body length 5.7–7.1 mm (mean 6.4 mm), body width 3.0–3.5 mm (mean 3.1 mm), pronotal length 2.4–3.1 mm (mean 2.7 mm), elytral length 3.2–4.0 mm (mean 3.7 mm), rostral length 1.8–2.3 mm (mean 1.9 mm). Body oval, 1.9–2.2 times long as broad; integument dark reddish-brown, antennae and tarsi reddish-brown. Sparsely covered with brown to fuscous scales. Frons, mesepisternum, coxae, and basal portions of femora more densely clothed in yellowish-white to light brown scales; pair of small yellowish-white maculae on temples (as in Figure 104). Femora and tibia with background vestiture interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum mottled with poorly defined, faint, irregular dark patches; pronotal disk with faint, dorsolongitudinal vitta of dense brown scales from apical margin to base, pair of small dark patches at posterior margin on either side of midline, 4–6 irregular dark, maculae in transverse band slightly in front of midline, reaching lateral margins in most specimens, maculae sometimes fused into transverse band, often very faint (best viewed without magnification), 6–8 small, circular, whitish maculae arranged in two transverse rows of 2–4 maculae each, one row of 2–4 maculae before middle, one row of 2–4 maculae after middle; pair of similarly formed but smaller maculae at apical pronotal margin, sometimes absent, vitta and maculae not in sharp contrast to background squamae, pronotal maculae barely perceptible; anterolateral region of pronotum with poorly defined ring of denser dirty white to light brown scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales

in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytral humeri with indistinct, rectangular, maculae of dense brown scales on intervals 5, not in sharp contrast to background squamae. Dorsum lacking other vittae or maculae. Mesosternum and metasternum covered with dense white to tan scales except transverse glabrous line at suture between sclerites, ventrites darker, with sparse, evenly distributed pale scales. Scales course (individually distinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.4 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one tan to dirty white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible diameter subequal to punctures at base of elytra. Elytra 1.1–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before midline; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral

declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate or very rarely bidentate; apical profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire; when present, secondary profemoral tooth minute. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 47, 50); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin strongly emarginate at middle, wing binding patch distinct, with two rows of 5–6 minute plectral tubercles reaching posterior margin, tubercles minute, distinct only under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 3–5 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized near junction with oviduct; no internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "*lugubris*, Heller/ K. Wilhelmland, 8577/ Coll. J. Faust, Ankauf 1900/ Syntypus" (SMTD). Paralectotypes: 2 ♂♂, "K. Wilhelmland, 8577/ *lugubris*, Heller/ Coll. J. Faust, Ankauf 1900/ Syntypus" (SMTD); 2 ♂♂, "K. Wilhelmland, 8577/ Typus" (SMTD); 1 ♀, "K. Wilhelmland, 8577/

Syntypus" (SMTD); 1 ♀, "K. Wilhelmland, 8577/ Syntypus/ *Asytesta lugubris*, Det. K. M. Heller" (DEI) 1 ♀, "K. Wilhelmland, 8577/ Cotypus/ *Asytesta lugubris*, Det. K. M. Heller" (MSNG). Non-type material: 1 ♂, "New Guinea: Huon, Peninsula, 1 mi. N., of Finschhafen, 18-11-1969, James E, Tobler, Cal.Acad.Sci.Coll." (CASC); 1 ♀, "Finschhafen, New Guinea, 18-21-44, E. S. Ross" (CASC); 1 ♂, "Fr. Wilhshafen, N. Guinea" (MNHN); 3 ♂♂, 2 ♀♀,"Papua New Guinea, Morobe Prov. Surim, Vill. 4-6 JAN.2003, Coll. G. P. Setliff/ Finnistere Survey II, Hand collected, 1282m, Huon Penninsula, 146° 42' E, 05° 52' S" (GPSC); 1 ♀, "Papua New Guinea, Morobe Prov. Surim, Vill. 4-6 JAN.2003, Coll. G. P. Setliff, 1282 m, Huon Penninsula, 146° 42' E, 05° 52' S" (UMSP); 1 ♂, "D.N.G./ Coll. V. Bennigsen/ *Asytesta lugubris*, Det. K. M. Heller" (DEI); 2 ♂♂, "D.N.G./ Coll. V. Bennigsen" (DEI); 1 ♂, "New Guinea/ 543/ Coll. Pape/ *Asytesta lugubris*" (DEI); 1 ♂, "New Guinea (NE), Huon Peninsula, Finschhafen, 80-200m, 13.IV.1963/ J.&M.Sedlacek Collectors, Bishop" (BPBM); 2 ♂♂, "New Guinea: NE, Zenag-Lae Road, 200m, 17.I.1965/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "Sattelberg., Deutsch-Neu Guinea, H. Rolle, Berlin. W. Museum Paris, 1965, Coll. A. CLERC" (MNHN); 1 ♂, "Sattelberg, N. Guinea, Museum Paris, 1949, Col. A. Hustache" (MNHN); 1 ♂, "Lae N. Guinea, July 1944, F. E. Skinner/ Purdue University, Collection" (BPBM); 1 ♀, "N. Guinea [illegible]/ *Asytesta lugubris* Hell./ Samml. K. F. Hartmann, Ankauf 1941.I" (SMTD); 1 ♀, "Tree #32, Tray #5, *Anisoptera thurifera*, A. Allison & P. Swift, Colls., Bishop Museum/ Papua New Guinea: Morobe Prov.: Oomsis, 530m, 11.IX.1988/ NO. 26569, PNG Canopy, Bishop Museum" (BPBM); 1 ♀, "D.N. Guinea/ Coll. Bennigsen" (DEI); 1 ♀, "D.N.G./ Coll. Bennigsen/ *Asytesta lugubris*, Det. K. M. Heller 1913" (DEI); 1 ♀, "*Asytesta lugubris*, Det. K. M. Heller" (DEI); 1 ♀, "N. Guinea, Sattelberg, v. Bennigsen/ *Asytesta lugubris*, Det. K. M. Heller 1913" (DEI); 1 ♀, "D.N.G/ Coll. v. Bennigsen/ *Asytesta lugubris*, Det. K. M. Heller 1912" (DEI); 1 ♀, "Sattelberg., Wahnes. Franklin, Muller/ Heller det." (DEI); 1 ♀, "New Guinea, Lae, 16 III: 1964/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "Morobe, AGR. Station, Bubia, N. Guinea, 29-3-1955/ Ex. Coll. Aus., Pt. Moresby, N: 356./ On the DBR., cacao/ Coll. J.J.H., 3 Szent-Ivany" (BMNH); 1 ♀, "Morobe, AGR. Station, Bubia, N. Guinea, 29-3-1955/ Ex. Coll. Aus., Pt. Moresby, N: 356./ Coll. J.J.H., 3 Szent-Ivany/ COM./INST. ENT., Coll.

NO. 14276" (BMNH). Lectotype for *A. setipes* Lea (**new lectotype designation**): ♂, "Finschhaven, N. E. New Guinea/ *Asytesta setipes* Lea, N. Guinea, type" (SAM).

Distribution. Papua New Guinea: Morobe Province, Huon Peninsula.

Hosts. A female specimen was collected on *Anisoptera thurifera* Blume (Dipterocarpaceae) by A. Alison and P. Swift during their canopy fogging studies in Papua New Guinea. Two specimens were also collected on cacao (*Theobroma cacao* L. Malvaceae).

Remarks. I select one of Heller's syntypes as the lectotype for *A. lugubris* to ensure nomenclatural stability. Lea (1928: 77) reports the type locality for *A. setipes* as the junction of Wau Creek and the Bulolo River; however the type specimen is from Finschhafen according to its label. I designate this specimen as the lectotype for *A. setipes* to fix the name to that specimen.

Asytesta marginalis Setliff **new species**
(Figures 167–168, 193)

Diagnosis. This species may be confused with a few other similarly clothed species (*viz*., *A. eudyasmoides*, *A. biakana* new species, *A. humeralis*), which have more or less solid, dark, almost black, background coloration and short, white, rectangular humeral maculae as the only significant dorsal markings. It differs from *A. eudyasmoides* by its bidentate profemora and shorter form. *Asytesta biakana* and *A. humeralis* are more similar in shape to *A. marginalis* than the previous species; however, *A. biakana* lacks a visible scutellum, has unidentate profemora, and has small white maculae that are evenly distributed on the elytra. *Asytesta humeralis* is the most closely related species to *A. marginalis* based on the similarity in body shape and vestiture, the visible scutellum, bidentate profemora, and similar protibial shape. *Asytesta marginalis* differs from *A. humeralis* in its more densely and uniformly distributed, light brown to tan scales on the dorsum and the much more faint and reduced (usually absent) humeral maculae. Several other species of *Asytesta* also have rectangular humeral maculae (e.g., *A. rata*, *A. signata*,

and *A. thompsoni* new species); however, these species all have the dorsal background vestiture strongly mottled with light and dark scales.

Description. *Adult habitus* (Figures 167–168). Measurements (n = 16): body length 5.9–7.3 mm (mean 6.4 mm), body width 2.9–3.8 mm (mean 3.1 mm), pronotal length 2.4–3.0 mm (mean 2.6 mm), elytral length 3.4–4.3 mm (mean 3.9 mm), rostral length 1.7–2.5 mm (mean 2.1 mm). Body oval, 1.9–2.2 times long as broad; integument dark reddish-brown to black, antennae and tarsi reddish-brown. Densely and evenly covered with small, tan to brown scales, with more densely distributed dirty white scales in elytral fascia. Frons, pleura, coxae, basal portion of femora, and venter more densely clothed in tan to brown scales; vestiture on femora and tibia interspersed with tan, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum in dark color form occasionally with small, irregular, maculae of tan scales; maculae less densely distributed on sides. Pronotum occasionally with pair of sublateral vittae of denser tan scales from anterior margin to cervical constriction, sublateral vittae absent in some specimens; anterolateral region of pronotum with poorly defined ring of tan scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytra with thin distinct fascia spanning entire anterior margin, margin between intervals 5 never bare, reaching epipleural margin; humeri rarely with faint, rectangular, maculae of tan scales on intervals 5, usually absent; elytra lacking other vittae. Mesosternum and metasternum covered with dense tan scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed tan scales. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with

small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.3 times broad as long, broadest subbasally; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one tan, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, minute, diameter subequal to punctures at base of elytra. Elytra 1.1–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before middle of tibia, female flange tapering to apex (as in Figures 45–46); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites

combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 5–8 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 5–8 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible, minute, distinct under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly to moderately sclerotized; no distinct internal sclerites visible.

Material examined. Holotype: ♂ "Marikurubu, 700–1500 m, 29.X.1999/ N. Moluccas, Ternate, leg. A. Riedel" (MZB). Paratypes: 1 ♂, 1 ♀, "Marikurubu, 700–1500 m, 29.X.1999/ N. Moluccas, Ternate, leg. A. Riedel" (MZB); 1 ♂, 1 ♀,"Marikurubu, 700–1500 m, 29.X.1999/ N. Moluccas, Ternate, leg. A. Riedel" (SMNK); 7 ♂♂, 6 ♀♀, "Marikurubu, 700–1500 m, 29.X.1999/ N. Moluccas, Ternate, leg. A. Riedel" (ARC); 1 ♀,"Marikurubu, 700–1500 m, 29.X.1999/ N. Moluccas, Ternate, leg. A. Riedel" (GPSC); 1 ♀,"Marikurubu, 700–1500 m, 29.X.1999/ N. Moluccas, Ternate, leg. A. Riedel" (BMNH).1 ♂, "Ternate, Aequi Conora, Beccari 1874. XI/ *Asytesta humeralis* Psc., det. Pascoe 1885" (MSNG); 1 ♂, "Moluche, Ternate, coll. Bruyn 1875/ *Asytesta humeralis* Psc., det. Pascoe 1885" (MSNG); 1 ♀, "Ternate, Aequi Conora, Beccari 1874. XI/ *Asytesta humeralis* Psc., det. Pascoe 1885" (MSNG); 15 ♂♂, 10 ♀♀, "Ternate, coll Bruijn 1877" (MNHN); 1 ♀, "Ternate" (MNHN);

Distribution. Indonesia: Ternate Island.

Etymology. The specific epithet refers to the distinct white fascia that spans the anterior margin of the elytra in this species.

Remarks. Figures 167–168 show the dark color form of this species.

Asytesta morobeana Setliff **new species**
(Figures 169–170, 193)

Diagnosis. The solid brown to olive dorsal vestiture that is not marked with distinct contrasting vittae or maculae and whitish scales on the vertex of the head will separate this species from most other species except *A. allisoni* new species and *A. lugubris*. The vestiture in *A. lugubris* is typically darker and it has a faint brown dorsolongitudinal vitta that reaches the base and indistinct, rectangular, maculae of dense brown scales on intervals 5 of the elytra. *Asytesta allisoni* has the anterolateral region of the pronotum in front of the procoxae bearing solid cream colored scales it also has the small pale maculae on the pronotal disk more distinct and a large, black medial spot near the base of the elytra.

Description. *Adult habitus* (Figures 169–170). Measurements (n = 20): body length 4.4–6.9 mm (mean 5.7 mm), body width 2.2–3.6 mm (mean 2.9 mm), pronotal length 2.0–2.9 mm (mean 2.4 mm), elytral length 2.5–4.0 mm (mean 3.3 mm), rostral length 1.5–2.0 mm (mean 1.8 mm). Body oval, 1.7–2.2 times long as broad; integument dark reddish-brown, antennae and tarsi reddish-brown. Densely covered with creamy white to light brown to fuscous scales. Frons, pleura, coxae, and basal portions of femora more densely clothed in yellowish-white to light brown scales; vertex of head with white scales; pair of small yellowish-white maculae on temples (as in Figure 104). Legs with alternating bands of light and dark brown scales, background vestiture interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum not mottled or dappled with poorly defined, irregular yellowish-white patches; pronotal disk with faint, dorsolongitudinal vitta on cervical constriction from apical margin to about midline; vitta same color as background vestiture; pair of small dark patches at posterior margin on either side of midline, 4–6 irregular dark, maculae in transverse band slightly in front of midline, reaching lateral margins in most specimens, maculae sometimes fused into transverse band, often very faint (best viewed

without magnification), 8–12 small, circular, whitish maculae arranged in three transverse rows of 2–4 maculae each, one row of 2–4 maculae before middle, one pair at middle, one row of 2–4 macular after middle; pair of similarly formed but smaller maculae at apical pronotal margin, sometimes absent, vitta and maculae not in sharp contrast to background squamae; anterolateral region of pronotum with poorly defined ring of denser yellowish-white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Dorsum lacking other vittae or maculae. Mesosternum and metasternum covered with dense white to tan scales except transverse glabrous line at suture between sclerites, ventrites darker, with sparse, evenly distributed pale scales. Scales course (individually distinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate to slightly convex. Antennal club oval. *Thorax*. Pronotum 1.0–1.5 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one tan to dirty white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible diameter subequal to punctures at base of elytra. Elytra 1.1–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum,

basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before midline; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 47, 50); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Paired apodeme-like basal sclerites of endophallus with narrow, curved, projection; originating laterally from about middle of dorsal surface, curved toward base of endophallus. Tergite VII broader than long, anterior margin convex, posterior margin strongly emarginate at middle, wing binding patch distinct, with two rows of 5–8 minute plectral tubercles reaching posterior margin, tubercles minute, distinct only under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 5–6 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Apodeme of

sternite VIII narrow, apex Y-shaped. Bursa more or less indistinct from vagina; vagina with walls moderately sclerotized near junction with oviduct; no internal sclerites visible.

Material examined. Holotype: ♂, "New Guinea: NE, Wau, 21.IV.1962/ J. Sedlacek Collector Bishop" (BPBM). Paratypes: 1 ♂, 4 ♀♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 5–6.VII.'61/ J.H. Sedlacek Collector Bishop" (BPBM); 1 ♀, "New Guinea: (NE), 6km W of Wau, Nami, Creek, 1700 m., 12.VI.1962/ J. Sedlacek Collector Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 15–30.IX.1962, J. Sedlacek" (MNHN); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 15–22.XI.'61/ J. Sedlacek Collector Bishop" (MSNG); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200–1300m, 25.II.1962/ J. Sedlacek Collector Bishop" (BPBM); 1 ♂, "New Guinea: NE, Wau, 1150–1600m., 9.II.1968/ J. Sedlacek Collector Bishop" (SMTD); 1 ♀, "New Guinea: NE, Wau, 1700m, 12.III.1969/ J. Sedlacek Collector Bishop" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 5.VIII.1961/ J. Sedlacek Collector Bishop" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200–1300m., 5.VI.1963/ J. Sedlacek Collector Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1180–1300m., 11.IX.1964/ J. Sedlacek Collector Bishop" (BPBM); 1 ♂, 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m.1–15.V.1962/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m., 6–7.XI.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200 m.1–15.V.1966/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m., 19.X.1961/ J. Sedlacek Collector, Bishop" (GPSC); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 27.X.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 19.XI.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 15–22.XI.'61/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 15–24.XI.61/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: NE, Wau, Hospital Ck., 1200 m, 12.I.1965/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m,17.IX.1961/ J. Sedlacek Collector, Bishop" (BPBM);

1 ♂, 3 ♀♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 15–22.XI.'61/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: NE, Wau, 1200–1300m, 4.IX.1965/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: NE: Wau; 1220m, 9.11.1964, W. A. Steffan. coll., Bishop Museum" (UMSP); 1 ♀, "New Guinea: NE: Wau; 1220m, 9.11.1964, W. A. Steffan. coll., Bishop Museum" (USNM); 1 ♂, 1 ♀, "New Guinea: NE, Wau, 1200–1450m, 18.VI.1968/ N. L. H. Krauss, Collector" (USNM); 1 ♀, "New Guinea: NE, Wau, 1200–1450m, 18.VI.1968/ N. L. H. Krauss, Collector" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1300 m, 12.VII.1961/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200–1300m., 14.III.1963/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 23.VII.1961/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 15–30.9.1962, J. Sedlacek" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 15.VII.1961, J. Sedlacek/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 30.VII.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1300 m, 22.VII.1961/ J. Sedlacek Collector, Bishop/ J. Sedlacek Collector, Bishop" (BPBM); 2 ♀♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 25.VII.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1300 m, 12.VII.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 10.IX.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, 2 ♀♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 15.VII.1961, J. Sedlacek/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1700–1800m., 17.IX.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea, Wau 1200 m, 28.XII.1965/ Malaise Trap, J. & M. Sedlacek, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 7.IX.1961/ J. Sedlacek Collector, Bishop" (BPBM); 2 ♀♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 11.IX.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 6–7.XI.1961/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1270 m, 7.V.1962/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♀, "New Guinea: NE Wau 1200 m, 18.IV.1965/ J. Sedlacek

Collector, Bishop Museum" (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 17.IX.1961/ J. Sedlacek Collector, Bishop " (BPBM); 1 ♂, 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 2.VI.1962/ J. Sedlacek Collector, Bishop " (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200–1300m., 31.III.1963/ J. Sedlacek Collector, Bishop " (BPBM); 1 ♂, "New Guinea: NE, Bulolo R. 680 m, 4.VI.1969/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♂, "New Guinea: (NE), Wau, Morobe Distr., 1200–1250m., 15–16.VIII.1964/ J. Sedlacek Collector, Bishop " (BPBM); 2 ♀♀, "New Guinea: NE, Wau, Nami Ck., 1700–1850m, 7.II.1966/ J. Sedlacek Collector, Bishop " (BPBM); 1 ♂, "New Guinea: NE, Wau, Hospital Ck., 1200 m, I.1965/ J. Sedlacek Collector, Bishop " (BPBM); 1 ♂, "New Guinea: NE, Wau, 1200 m, 23.II.1966/ J. Sedlacek Collector, Bishop " (BPBM); 1 ♂, "New GUINEA: NE, Wau, 1200 m, 18.4.1965/ J. Sedlacek Collector, Bishop " (BPBM); 1 ♀, "Wau, 14.3.250m./ J. Sedlacek Collector, Bishop " (BPBM); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1050–1100m., 15.VII.1961/ J., J. & M. Sedlacek, G.Monteith & Native Collectors, Bishop Museum" (SMTD); 1 ♀, "New Guinea: (NE), Wau, Morobe Distr., 1200 m, 5–6.VII.'61/ J. Sedlacek Collector, Bishop " (BPBM); 1 ♀, "New Guinea: NE, Wau, Nami Ck., 1700–1850m, II.1966/ J. Sedlacek Collector, Bishop Mus." (BPBM); 1 ♂, "New Guinea: NE, Wau, 1700–1800m, 27.IX.1965/ J. Sedlacek Collector, Bishop Mus." (GPSC); 1 ♀, "New Guinea: NE, Wau, 1200–1250 m., 15–16.VIII.1964/ J. Sedlacek, Bishop" (BPBM); 1 ♀, 1 ♂, "New Guinea: NE, Wau, 1790m, 5.II.1966/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: NE, Mt. Missim, 1600–2000m., 21–24.IX.'64/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "New Guinea: NE, Mt.Kaindi, 2200–2350m, 25.III.1965/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, "Papua N.G., Bulolo, 14.IX.1981/ *Prunus* sp. billet, H. Roberts coll., C.I.E. A13485/ 1564" (BMNH); 1 ♂, "New Guinea: NE, Wau, 1790m, 5.II.1966/ J. Sedlacek Collector, Bishop" (BPBM). 1 ♂, "New Guinea: Morobe, District, Wau, 2–3.X.1969, James E. Tobler, Cal. Acad. Sci. Coll." (CASC); 1 ♂, "Papua New Guinea: Morobe, Wau Ecology Institute, 1200 m, 5.II.2000, 7° 20'24" S 146° 42'17" E, R.S. Anderson, misc. collns, RSA2000-034X " (CMNC).

Distribution. Papua New Guinea: Morobe Province, Wau area.

Hosts. This species has been collected on *Prunus* (Rosaceae) and *Theobroma cacao* L. (Malvaceae).

Etymology. This species is named for the Morobe Province of Papua New Guinea where the species occurs.

Asytesta propinqua Faust
(Figures 171–172, 192)

Asytesta propinqua Faust, 1898: 165 [key], 170 [description]

Diagnosis. The pronotum in this species is uniformly dark with a dorsomedial longitudinal vitta from apex to base and 12–14 evenly distributed, small, circular maculae arranged in 2 transverse rows and one pair at apex behind head. The vitta and maculae are in sharp contrast to the background squamae. The elytra are primarily clothed in dark brown scales with light mottling by patchy light tan scales. There is a whitish fascia at the elytral margin and short humeral vittae that stand out from dark brown scales on elytra. Two species, *A. aucta* and *A. verecunda*, are similarly clothed; however the vestiture in both of these species is much lighter in color and the vittae and maculae do not stand out against the background scales. There are usually only two small maculae visible on the pronotal disk of these species probably due to the concolorous light mottling covering most of the pronotal disk. Additionally, the profemora in this species are clearly bidentate, whereas in *A. aucta* and *A. verecunda*, which also have bidentate profemora, the second profemoral tooth is greatly reduced and is barely visible in some specimens.

Redescription. *Adult habitus* (Figures 171–172). Measurements (n = 4): body length 6.6–7.4 mm (mean 7.1 mm), body width 3.2–3.9 mm (mean 3.4 mm), pronotal length 2.7–3.1 mm (mean 2.9 mm), elytral length 3.9–4.4 mm (mean 4.1 mm), rostral length 2.1–2.7 mm (mean 2.5 mm). Body oval, 1.9–2.3 times long as broad; integument dark reddish-brown, antennae and tarsi light reddish-brown. Densely covered with dark brown

scales interspersed with large patches of tan scales, with more densely distributed dirty white to tan scales in vittae and maculae, not in sharp contrast to background squamae except on dark pronotal disk. Vertex of head, pleura, coxae, basal portion of femora, and venter more densely clothed in tan to brown scales; vestiture on femora and base of tibia interspersed with evenly distributed, white, hair-like setae; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Pronotal disk with dorsolongitudinal vitta from apex to base; 12–14 evenly distributed, small, circular maculae arranged in transverse rows; one pair at apex behind head, one row of 4–6 maculae just before midline, one pair at midline very close to medial vitta, and one row of 4–6 just behind midline; maculae in sharp contrast to background squamae; short, sublateral longitudinal vittae reduced to small, circular, maculae at anterior margin; anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending beyond middle of procoxa to basal pronotal margin. Elytra with thin fascia spanning entire anterior margin in most specimens, margin between intervals 5 bare in some specimens, fasciae reaching epipleural margin; humeri with pair of white, longitudinal vittae on intervals 5 from humeri to subapex, vittae not broadened apically, restricted to intervals 5; faint sutural stripe of yellowish-white scales from midline to apex; epipleural margin with white scales from base to apex. Mesosternum and metasternum covered with dense white scales except transverse glabrous line at suture between sclerites, ventrites evenly covered in evenly distributed, hair-like setae, ventrites 2–4 not glabrous in middle. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate to nearly circular, posterior margin weakly truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose,

coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.3 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one tan to brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.1–1.4 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, obtuse, tooth-like in male, broader, gradually tapering to apex in female (as in Figures 48–49); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2

partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 5–6 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 6–7 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible minute, distinct under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♀, "Fergusson I., ix.x.xi.xii.94, (A.S. Meek)/ *propinqua*, Faust/ type" (SMTD). Paralectotypes: 1 ♂, "Fergusson I., ix.x.xi.xii.94, (A.S. Meek)/ *propinqua*, Faust/ type" (SMTD); 1 ♂, "IS. Goodenough, Gennaio 1899, L.Loria/ Coll. J. Faust, Ankauf 1900" (SMTD); 1 ♀, "IS. Goodenough, Gennaio 1890, L.Loria/ Coll. J. Faust, Ankauf 1900/ 217" (MSNG). Non-type material: 1 ♂, "Fergusson Is., A.S. Meek 1894/ Museum Paris, ex. Coll., R. Oberthur" (MNHN); 1 ♀, "Fergusson I. IX.X.XI.XII.94, (A.S. Meek)" (MNHN).

Distribution. Papua New Guinea: D'Entrecasteaux Islands: Fergusson Island, Goodenough Island.

Remarks. I have selected one of Faust's specimens labeled "type" as the lectotype for the species to ensure nomenclatural stability. Faust (1899: 69) reported additional specimens from Goodenough Island. The specimen shown in figures 171–172 is the darker form of this species. In other specimens, the dark scales of the dorsal vestiture are infused with many more light tan scales. Commonly, there are two faint transverse bands of diffused tan scales on the pronotal disk. One across the apical portion at the cervical constriction and another across the midline that is often somewhat M-shaped with the lateral arms reaching the posterior margin. Dark scales on the dorsum are then most visible as two irregular patches on either side of the medial vitta, extending from the

posterior margin or base to the midline and a distinct dark band anterior of the midline and behind the cervical constriction.

Asytesta rata Heller
(Figures 47, 50, 67, 104, 173–174, 194)

Asytesta rata Heller, 1910: 29
Asytesta circulifera Lea, 1928: 75 **new synonym**

Diagnosis. This species has a strongly mottled pattern of dark scales against yellowish-white background squamae and with a somewhat variable arrangement of white maculae on the elytral humeri. It is closely allied with *A. thompsoni* new species, from which it can be differentiated by the lighter scales on the vertex of the head, base of pronotal disk, and legs and the more mottled appearance from the light yellowish-white to tan colored scales nearly covering its dorsum. Also, the dorsomedial longitudinal vitta on the pronotum is more distinct, usually exceeding the midline or reaching the posterior margin.

Redescription. *Adult habitus* (Figures 173–174, 104). Measurements (n = 10): body length 4.8–6.9 mm (mean 5.6 mm), body width 2.5–3.5 mm (mean 3.0 mm), pronotal length 2.0–3.0 mm (mean 2.5 mm), elytral length 2.8–3.9 mm (mean 3.2 mm), rostral length 1.4–2.0 mm (mean 1.9 mm). Body oval, 1.8–2.1 times long as broad; integument dark reddish-brown to black, antennae and tarsi reddish-brown. Densely covered with yellowish-white to fuscous scales. Frons, pleura, and coxae similarly clothed as dorsum; pair of small white maculae on temples (Figure 104). Femora with alternating bands of yellowish-white, tan, and brown scales, tibia more or less uniformly light brown; legs with background vestiture interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum mottled with

poorly to well defined, irregular dark patches; pronotal disk with faint to well defined, dorsolongitudinal vitta of dense white scales from apical margin to base, pair of small dark patches at posterior margin on either side of midline, 4–6 irregular dark, maculae in transverse band slightly in front of midline, reaching lateral margins in most specimens, maculae sometimes fused into transverse band (best viewed without magnification), 6–8 small, circular, whitish maculae arranged in two transverse rows of 2–4 maculae each, one row of 2–4 maculae before middle, one row of 2–4 maculae after middle; pair of similarly formed but smaller maculae at apical pronotal margin, sometimes absent, vitta and maculae in sharp contrast to background squamae, anterolateral region of pronotum with well defined ring of denser dirty white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytra usually with thin distinct fascia of yellowish-white scales spanning entire anterior margin, fascia sometimes absent (as in Figure 174), usually reaching epipleural margin; humeri with distinct, rectangular, maculae of dense white scales on intervals 5 and 6; macula on intervals 5 longer than macula on intervals 6; maculae in sharp contrast to background squamae; maculae often reduced to thin rectangular maculae on fifth intervals only. Dorsum lacking other vittae or maculae. Mesosternum and metasternum covered with dense yellowish-white scales except transverse glabrous line at suture between sclerites, ventrites darker, with sparse, evenly distributed pale scales (Figure 104). Scales course (individually distinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely

punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.3 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white to brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, minute, diameter smaller than punctures at base of elytra. Elytra 1.0–1.2 times long as broad, anterior margin truncate, declivity gradually declining to apex (Figure 67); punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated near base; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral tooth slightly larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (Figures 47, 50); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male and female terminalia*. As in generic description.

Material examined. Lectotype (**new lectotype designation**): 1 ♂, "Kais Wilhelmsland, Paup, Dr. Schlaginhaufen/ 1900/ type" (SMTD). Paralectotypes: 1 ♂, "N. Guinea, [illegible]/ Coll. J. Faust, Ankauf 1900/ Syntypus" (SMTD); 1 ♀, "N. Guinea, [illegible]/ Coll. J. Faust, Ankauf 1900/ Syntypus/ *Asytesta* Heller, det." (SMTD); 1 ♀, "Neu Guinea 76593/ Syntypus" (SMTD). Non-type material: 1 ♂, "27400/ Sorovi, Northern Dist., Papua: 25.9.73, B. Keoro" (BMNH); 1 ♂, "Bongu, Moluc./ [illegible]/ *Asytesta* Heller/ Samml. K. F. Hartmann, Ankauf 1941.1" (SMTD); 1 ♂, "D. Neu-Guinea, Wahnes Franklin-Muller/ C. F. Baker, collection, 1927" (USNM); 1 ♂, "D. Neu-Guinea, Wahnes Franklin-Muller/ C. F. Baker, collection, 1927/ *Asytesta* Heller/ *Asytesta rata*, DEM Heller" (USNM); 1 ♂, "D.N.G/ Coll. Bennigsen/ *Asytesta rata* 10., Det. K. M. Heller" (DEI); 3 ♂♂, "D. Neu-Guinea, Wahnes Franklin-Muller/ Heller det." (DEI); 1 ♂, "D.N. Guinea, Rattalberg/ Coll. V. Bennigsen" (DEI); 2 ♂♂, "D.N.G/ Coll. V. Bennigsen" (DEI); 1 ♂, "D.N.G/ Coll. V. Bennigsen/ *Asytesta rata* 10., Det. K. M. Heller" (DEI); 1 ♂, "Papua New Guinea, Madang Prov. Ohu Vill., 200m 11-Oct-2002, Coll. G. P. Setliff/ 145˚ 41' E 5˚ 14' S" (GPSC); 1 ♂, "Papua New Guinea, Madang Prov. Ohu Vill., 200m 07-NOV-2002, Coll. J. Hulcr/ on dead, *Myristica* sp., 145˚ 41' E 5˚ 14' S" (GPSC); 1 ♂, "Papua New Guinea, Madang Prov. Ohu Vill., 200m 30-Jan-2001, Coll. M.Janda/ hand collected, 145˚ 41' E 5˚ 14' S" (GPSC); 3 ♂♂, 6 ♀♀ "Papua New Guinea, Madang Prov. Ohu Vill., exposed 29-Jan-2002, 200m. 145˚ 41' E 5˚ 14' S/ L.Cizek, B.Isua, & J.Auga coll., reared from wood of *Ficus wassa*" (GPSC); 1 ♂, "Papua New Guinea, Madang Prov. Ohu Vill., exposed 10 Jan 2003, 200m. 145˚ 41' E 5˚ 14' S/ L.Cizek, B.Isua, & J.Auga coll., reared from wood of *Ficus wassa* WAS" (GPSC); 3 ♂♂, 1 ♀, "Papua New Guinea, Madang Prov. Ohu Vill., exposed 20 March 2003, 200m. 145˚ 41' E 5˚ 14' S/ L.Cizek, B.Isua, & J.Auga coll., reared from wood of *Syzigium* SY2" (GPSC); 1 ♀, "Papua New Guinea, Madang Prov. Ohu Vill. 12 vi. 2003. G.P. Setliff, on dead *Ficus nodosa*" (GPSC); 1 ♀, "Papua New Guinea, Madang Prov. Ohu Vill., 200m. 09 May 2003, Coll. G. P. Setliff/ hand collected, prim & sec. forest, 145˚ 41' E 5˚ 14' S" (GPSC); 7 ♀♀, "Papua New Guinea, Madang Prov. Ohu Vill., exposed. 29-JAN-2002, 200m. 145˚ 41' E 5˚ 14' S/ G.P.Setliff, M.Mogia & M.Andress coll., reared from branches

of *Mystica* sp. MYR" (GPSC); 1 ♀, "Papua New Guinea, Madang Prov. Ohu Vill., exposed 07 May 2003 200m. 145˚ 41' E 5˚ 14' S/ L.Cizek, B.Isua, & J.Auga coll., reared from wood of *Ficus wassa* WAS" (GPSC); 2 ♀♀, "Papua New Guinea, Madang Prov. Ohu Vill., 200m. 09 May 2003, Coll. G. P. Setliff, 145˚ 41' E 5˚ 14' S" (GPSC); 1 ♀, "Papua New Guinea, Madang Prov. Ohu Vill., exposed 17 Feb. 2003, 200m. 145˚ 41' E 5˚ 14' S/ G. P. Setliff, M. Mogia & M. Andress coll., reared from branches of *Mystica* sp. (MYR)" (MSNG); 1 ♂, "Papua New Guinea, Madang Prov. Ohu Vill., exposed 21 April 2002 200m. 145˚ 41' E 5˚ 14' S/ L.Cizek, B.Isua, & J.Auga coll., reared from wood of *Sterculia schumanniana*" (GPSC); 1 ♂, 1 ♀, "Papua New Guinea, Madang Prov. Ohu Vill., exposed 29-Jan-2002, 200m. 145˚ 41' E 5˚ 14' S/ L.Cizek, B.Isua, & J.Auga coll., reared from wood of *Ficus wassa*" (UMSP); 4 ♂♂, "Papua New Guinea:Madang, Baitabag, Madang (8km N.W) 100m, 31.1.2000, 5 08'19"S 145˚ 46'34"E, R.S.Anderson rainforest, RSA2000-028X" (CMNC); 1 ♂, "Gauli m/ J. & M. Sedlacek Collectors, Bishop" (BPBM); 1 ♀, "New Guinea: NE, Madang District, Wanuma 600–720m, VIII.1968/ N.L.H. Krauss, Collector, Bishop Museum" (BPBM); 4 ♀♀, "Coll. R. I. Sc. N. B., Papua New Guinea, Madang Prov., Baiteta 11-V-1994, leg.Olivier Missa" (ISNB); 1 ♀, "FOG XL-A2, CCL-3824" (ISNB); 1 ♀, "FOG M8-7, SP40A, CCL-8582" (ISNB); 1 ♀, "FOG M8-6, CCL-3622" (ISNB); 2 ♀♀, "D.N.G/ Coll. V. Bennigsen" (DEI); 1 ♀, "D.N.G/ *Asytesta rata*, det. K. M. Heller 1912" (DEI); 1 ♀, "D. Neu-Guinea, Wahnes Franklin-Muller/ *Asytesta rata*, det. K. M. Heller 1912" (DEI); 4 ♀♀, "D.N.G/ Coll. v. Bennigsen" (DEI); 1 ♀, "D. Neu-Guinea, Wahnes Franklin-Muller/ Heller det." (DEI); 1 ♀, "D.N.G/ Coll. n. Bennigsen/ *Asytesta rata*, det. K. M. Heller 1912" (DEI); 1 ♀, "Sattelberg, D.N. Guinea/ Coll. v. Bennigsen/ *Asytesta rata* det. K. M. Heller 1913" (DEI); 1 ♀, "Coll. V. Bennigsen" (DEI); 1 ♀, "D.N.G/ Coll. v. Bennigsen/ *Asytesta rata* m.'10, det. K. M. Heller 1912" (DEI); 1 ♀, "New Guinea: NE, Finistere Range, Saidor: Gabumi, Vill. VI-24-30-'58/ W. W. Brandt, Collector, Bishop" (BPBM); 1 ♀, "New Guinea (NE), Huon Peninsula, Finschhafen, 200m, 10.IV.1963/ W. W. Brandt, Collector, Bishop" (BPBM); 1 ♂, 1 ♀, "Papua New Guinea, Madang, Province, Sapi Forest Reserve, Sapi River at confluence with Gogol River, 50 m, 15 March 1989 Stop# 89-26A/ D.H. Kavanaugh, G.E. Ball, N.D. Penny, & P.A. Meyer collectors, Cal. Acad. Sci.

Coll./ Papua New Guinea Expedition, 1989" (CASC); 1 ♀, "Papua New Guinea, Madang, Province, Baiteta Road, 2.5 km W of North Coast, Road, 60 m, 2 March 1989, Stop#89-7/ D.H. Kavanaugh, G.E. Ball, N.D. Penny, & P.A. Meyer collectors, Cal. Acad. Sci. Coll./ Papua New Guinea Expedition, 1989" (CASC); 3 ♂♂, "Coll. R. I. Sc. N. B., Papua New Guinea, Madang Prov., Baiteta 23-VI-1994, leg.Olivier Missa" (ISNB); 2 ♂♂, "FOG AR 57-6, CCL-A5264" (ISNB). Lectotype for *A. circulifera* Lea (**new lectotype designation**): 1 ♂, "*Asytesta circulifera*, N. Guinea/ TY [handwritten on card beneath specimen]" (SAM). Paralectotypes for *A. circulifera*: 2 ♀♀, [mounted on either side of Lectotype on same card] (SAM).

Distribution. Papua New Guinea: Madang Province: Bongu [type locality], Madang area; Morobe Province. I examined two specimens of this species in the SMTD collection that were collected on New Britain. Additional material from the Bismarck Archipelago is needed to confirm this locality.

Hosts. See Table 1 for list of putative adult and larval host plants.

Remarks. I have selected the specimen labeled “type” from Heller’s collection to be the lectotype for the *A. rata* to fix the name to that single specimen. The remaining types were labeled as syntypes and are designated here as paralectotypes. I also designate a lectotype for Lea’s *A. circulifera* as identified in material examined to ensure the stability of nomenclature.

Asytesta sejuncta Faust
(Figures 175–176, 192)

Asytesta sejuncta Faust, 1898: 164 [key], 167 [description]

Diagnosis. The pronotal disk in this species has a dorsolongitudinal vitta, faint and incomplete pair of longitudinal vittae on the sides that do not reach the base. The elytra have a faint sutural stripe from slightly behind the midline to the apex and a pair of white, longitudinal vittae on intervals 5. It is closely most related to *A. versuta* and *A. fayae* new species. *Asytesta versuta* differs in the immaculate background vestiture and sharply

contrasting and unbroken dorsal and lateral vittae. *Asytesta fayae* differs by the broad irregular patch of white scales on the sides of the pronotum from the anterior margin to the base that is broader near the head and convergent towards the pronotal base, meeting intervals 9 of elytra, which also bears a broad white vitta from the elytral base to near the apex and males apparently lack a tooth-like flange on the ventral margin of the protibia.

Redescription. *Adult habitus* (Figures 175–176). Measurements (*n* =2): body length 5.7–5.8 mm (mean 5.8 mm), body width 2.8–3.0 mm (mean 2.9 mm), pronotal length 2.5 mm, elytral length 3.2–3.3 mm (mean 3.3 mm), rostral length 2.2–2.3 mm (mean 2.3 mm).Body elongate-oval, 2.0 times long as broad; integument reddish-brown to dark brown, antennae and tarsi light reddish-brown. Clothed in densely distributed, patchy, tan to dark brown scales; integument not obscured by squamae except in patches on elytra and pronotum and by more densely distributed yellowish-white scales in vittae, in sharp contrast to dark background squamae. Vertex of head, frons, base of rostrum, legs, and pleura more densely clothed in cream to tan scales; rim of mesosternal receptacle lined with fine yellowish-white scales; vestiture on legs evenly interspersed with white, hair-like setae, slightly denser along dorsal edge; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on tibia; tarsi clothed with dense, white, hair-like setae. Pronotal disk with dorsolongitudinal vitta from apex to base; pair of incomplete, lateral, longitudinal vittae from near anterior margin terminating before base, with small, irregular patches or maculae of cream to tan scales dispersed on sublateral and lateral margins; anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending beyond middle of procoxa to basal pronotal margin. Elytra with faint sutural stripe of yellowish-white scales from midline to apex; pair of white, longitudinal vittae on intervals 5 from humeri to subapex, vittae not broadened apically, restricted to intervals 5; epipleural margin with white scales from base to apex; humeral and epipleural vittae connected by short fasciae along elytral base, fascia not reaching dorsum. Mesosternum and metasternum clothed in white to tan scales, ventrites

mostly without squamae, sparsely distributed light-brown squamae on ventrite 1 and 5, ventrites 2–4 more or less glabrous. Scales fine (indistinct under low magnification), appressed; white setae distinct, suberect to decumbent. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1 times broad as long, broadest slightly before base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one yellowish-white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, minute, smaller than punctures at base of elytra. Elytra 1.1 –1.2 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by about 1/2 their length; mesofemora exceeding elytral apices. Protibia strongly compressed laterally, ventral margin with flange distinct, obtuse, tooth-like in male, broader, gradually tapering

to apex in female (as in Figures 48–49); dorsal margin strongly convex (as in Figure 51–52). Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin strongly emarginate at middle, wing binding patch distinct, with two rows of 6–7 minute plectral tubercles reaching posterior margin, tubercles distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 7–8 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible only under high magnification. Tergite VIII slightly longer and apex narrower than in *A. humeralis* (see Figure 89). Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "N. Guinea S.E., Moroka,1300m., Loria VII-IX 93/ *sejuncta*, Faust/ Coll. J. Faust Ankauf 1900/ Type" (SMTD). Paralectotype: 1 ♀, "N. Guinea S.E., Moroka,1300m., Loria VII-IX 93/ 216/ *Asytesta sejuncta*, type" (MSNG).

Distribution. Papua New Guinea: Central Province: Moroka. Faust (1899: 69) reported additional specimens from Moroka.

Remarks. A lectotype is designated for this species to ensure stability of nomenclature. One additional specimen was also seen by me in the MNHN collection with the same data labels as the lectotype but not borrowed for examination. This specimen may also belong to the original type series.

Asytesta signata Faust
(Figures 177–178, 194)

Asytesta signata Faust, 1898: 165 [key], 171 [description]

Diagnosis. This is one of the smallest species (4.1–4.8 mm) in the genus aside from the two species in the *A. doriae* species group. The vestiture is more or less uniformly brown to fuscous in color and weakly mottled with poorly defined, irregular patches of dark brown scales. There is a pair of larger dark patches at posterior margin of pronotal disk on either side of midline, 4 irregular dark maculae in transverse band slightly in front of midline, and 10–14 small, circular, whitish maculae arranged in three transverse rows of 2–4 maculae each. The elytral humeri bear distinct, rectangular, maculae of dense white scales on intervals 5 and 6. The scutellum is extremely minute but visible (under magnification) in all specimens examined. It is most similar to *A. brevipennis*, which is larger, has fewer small maculae on the pronotal disk (6–8) and lacks humeral maculae.

Redescription. *Adult habitus* (Figures177–178). Measurements (n = 5): body length 4.1–4.8 mm (mean 4.5 mm), body width 2.0–2.5 mm (mean 2.3 mm), pronotal length 1.8–2.0 mm (mean 2.0 mm), elytral length 2.3–2.8 mm (mean 2.5 mm), rostral length 1.3–1.6 mm (mean 1.4 mm). Body oval, 1.8–2.1 times long as broad; integument dark reddish-brown, antennae and tarsi reddish-brown. Densely covered with brown to fuscous scales. Frons, pleura, coxae, basal portions of femora, and venter more densely clothed in dirty white to light brown scales; pair of small yellowish-white maculae on temples (as in Figure 104). Legs with background vestiture interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum mottled with faint, dark brown areas; pronotal disk with pair of faint, dark patches at posterior margin on either side of midline, 4 irregular dark maculae in transverse band slightly in front of midline not reaching sides in most specimens (best viewed without

magnification), 10–14 small, circular, whitish maculae arranged in three transverse rows of 2–4 maculae each, one row of 2–4 maculae before middle, one pair at middle, one row of 2–4 macular after middle; 2–4 similarly formed but smaller maculae at apical pronotal margin, sometimes absent; maculae in sharp contrast to background squamae; anterolateral region of pronotum with poorly defined ring of denser dirty white to tan scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center, absent in some specimens. Elytral humeri with distinct, rectangular, maculae of dense white scales on intervals 5 and 6; macula on intervals 5 longer than macula on intervals 6. Dorsum lacking other vittae or maculae. Mesosternum and metasternum covered with sparse brown scales except transverse glabrous line at suture between sclerites, ventrites with sparse, evenly distributed paler scales. Scales course (individually distinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, lacking medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.3 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one tan to dirty white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, very minute, diameter smaller than punctures at base of elytra. Elytra 1.0–1.2 times long as broad, anterior

margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before midline; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral tooth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 47, 50); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 6–8 very minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct only under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 8 very minute plectral tubercles; plectral rows not reaching posterior margin; tubercles greatly reduced, distinct only under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no distinct internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "Kiriwini, Trobriand Is., III. IV. X. 95, (A.S. Meek)/ *signata*, Faust/ Coll. J. Faust, Ankauf 1900/ Type" (SMTD). Paralectotypes: 1 ♀, "Kiriwini, Trobriand Is., III. IV. X. 95, (A.S. Meek)/ *signata*, Faust/ Coll. J. Faust, Ankauf 1900/ Type" (SMTD); 1 ♂, "Fergusson I., X.X.XI.XI.96, (A.S. Meek)/ *signata*, Faust/ Coll. J. Faust, Ankauf 1900/ Type" (SMTD). Non-type material: 1 ♂, "New Guinea SE, Popondetta, Buka-Bara, 23.IX.1963/ P.S." (BPBM); 1 ♂, "Kiriwini, Trobriand Is., III. IV. X. 95, (A.S. Meek)" (MNHN); 1 ♀, "Trobriand Is./ Samml. K. F. Hartmann, Ankauf 1941.1/ *Asytesta humeralis*?, Pasc." (SMTD); 4 ♀♀, "Kiriwini, Trobriand Is., A.S. Meek 1984" (MNHN).

Distribution. Papua New Guinea: D'Entrecasteaux Islands: Fergusson Islands; Trobriand Islands.

Remarks. A lectotype is designated from the type series to ensure stability of nomenclature and fix the name to a single specimen. I selected the specimen in the best condition from those specimens that were labeled with Faust's "type" label.

Asytesta thompsoni Setliff **new species**
(Figures 179–180, 194)

Diagnosis. This species is very close to *A. rata*, from which it can be differentiated by the darker scales on the vertex of the head, base of pronotal disk, and legs and the less mottled appearance on its dorsum. Legs are not banded and the transverse band of small white maculae on the pronotal disk behind the midline is absent or indistinct. Also, the dorsomedial longitudinal vitta on the pronotum is fainter behind the midline and is often restricted to the area before the cervical constriction.

Description. *Adult habitus* (Figures 179–180). Measurements (n = 16): body length 5.4–7.7 mm (mean 6.0 mm), body width 2.8–4.0 mm (mean 3.3 mm), pronotal length 2.2–3.3 mm (mean 2.5 mm), elytral length 3.2–4.4 mm (mean 3.7 mm), rostral length

1.8–2.5 mm (mean 2.1 mm). Body oval, 1.9–2.1 times long as broad; integument dark reddish-brown to black, antennae and tarsi reddish-brown. Densely covered with brown to fuscous scales. Frons, pleura, and coxae similarly clothed as dorsum; pair of small yellowish-white maculae on temples (as in Figure 104). Legs uniformly dark brown, with background vestiture interspersed with white, hair-like setae; male with short, suberect, hair-like setae along ventral margin of protibia near apex, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum mottled with poorly to well defined, irregular yellowish patches on apical portion of pronotum and after base of elytra; pronotal disk with dorsolongitudinal vitta of dense yellowish-white scales from apical margin to base; vitta well defined apically, faint to absent from middle to base. Pair of small dark patches at posterior pronotal margin on either side of midline, 4–6 irregular dark, maculae in transverse band slightly in front of midline, reaching lateral margins in most specimens, maculae sometimes fused into transverse band (best viewed without magnification), 4 small, circular, whitish maculae arranged in transverse row before middle; maculae after middle indistinct; 2 pairs of similarly formed but smaller maculae at apical pronotal margin, apical vitta and maculae in sharp contrast to background squamae, anterolateral region of pronotum with well defined ring of denser yellowish-white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytra without thin distinct fascia on anterior margin; humeri with distinct, rectangular, maculae of dense white scales on intervals 5 and 6; macula on intervals 5 longer than macula on intervals 6; maculae in sharp contrast to background squamae. Dorsum lacking other vittae or maculae. Mesosternum and metasternum covered with dense brown scales except transverse glabrous line at suture between sclerites, ventrites similarly clothed as metasternum. Scales course (individually distinct under low magnification), appressed to suberect.

Head. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, thin, medial longitudinal carinae within crown from apex of V-shaped area to center of crown. Eyes flat, large, subcordate, posterior margin truncate; interocular

distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.2–1.3 times broad as long, broadest at base; base nearly truncate, medial area only weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one dirty white to brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, minute, diameter smaller than punctures at base of elytra. Elytra 1.1–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated near base; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral tooth slightly larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 47, 50); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere

2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male and female terminalia*. As in generic description.

Material examined. ♂ Holotype: "Solomon Is., Bougainville, Kokure nr. Crown Prince Ra. 900 m., VI-11-1956/ E. J. Ford, Jr., Collector" (BPBM). Paratypes: 2 ♂♂, "Solomon Is., Bougainville, Kokure nr. Crown, Prince Ra. 900 m., VI-11-1956/ E. J. Ford Jr., Collector" (BPBM); 2 ♂♂, 3 ♀♀, "Solomon Is., Bougainville, Guata, 720 m., VI-19–21-1956/ E. J. Ford, Jr., Collector" (BPBM); 5 ♂♂, 5 ♀♀, "Solomon Is., Bougainville, Kokure nr. Crown Prince Ra. 900 m., VI-10-1956/ E. J. Ford, Jr., Collector" (BPBM); 2 ♀♀, "Solomon Is., Bougainville, Kokure nr. Crown Prince Ra. 900 m., VI-11-1956/ E. J. Ford, Jr., Collector" (BPBM); 1 ♂, "Bougainville: NE, Mutahi. 700 m, 18km S.E. Tinputz/ 8–14.III.1968/ Tawi, Collector, Bishop" (MNHN); 1 ♀, "Bougainville: NE, Mutahi. 700 m, 18km S.E. Tinputz/ 8–14.III.1968/ Tawi, Collector, Bishop" (UMSP); 1 ♂, "Bougainville, Togerao 600 m, 15–21. 4, 1968/ R. Straatman, collectors, Bishop" (MSNG); 1 ♂, 1 ♀, "Solomon Is., Bougainville, Kokure nr. Crown, Prince Ra. 900 m., VI-10-1956/ E. J. Ford, Jr., Collector" (BPBM); 2 ♂♂, "Solomon Is., Bougainville, Kokure nr. Crown, Prince Ra. 900 m., VI-9-1956/ E. J. Ford, Jr., Collector" (BPBM); 1 ♂, "Bougainville: NE, Mutahi. 700 m, 18 km S.E. Tinputz/ 15–21.III.1968/ & R. Straatman, Collectors, Bishop Museum" (BPBM); 1 ♂, "Bougainville: NE, Mutahi. 700 m, 18 km S.E. Tinputz/ 1–7.III.1968/ Tawi, Collector, Bishop" (SMTD); 1 ♀, "Solomon Is., Bougainville, Kukugai vill., 150 m, X.1960/ W. W. Brandt, Collector, Bishop" (BPBM); 1 ♂, 1 ♀, "Solomon Is., Bougainville, Kokure nr. Crown, Prince Ra. 900 m., VI-10-1956/ E. J. Ford, Jr., Collector" (USNM); 1 ♂, 1 ♀, "Solomon Is., Bougainville, Kokure, 690 m., VI-8–13-1956/ E. J. Ford, Jr., Collector" (GPSC); 1 ♂, "Solomon Is., Bougainville, Kokure, 690 m., VI-8–13-1956/ E. J. Ford, Jr., Collector/ *Asytesta* not in keys det. R. T. Thompson, 1993/ Crypt. 314" (BMNH); 1 ♀, "Solomon

Is., Bougainville, Kokure nr. Crown, Prince Ra. 900m., VI-8-1956/ E. J. Ford, Jr., Collector" (BMNH).

Distribution. North Solomon Islands: Bouganville Island (= Papua New Guinea: North Solomon Province).

Etymology. This species is dedicated to R. T. Thompson, who first recognized this species as belonging to *Asytesta* and as new to science.

Asytesta verecunda Faust
(Figures 181–182, 192)

Asytesta verecunda Faust, 1898: 164 [key], 169 [description]

Diagnosis. This species is very close to *A. aucta* in general appearance, but is a slightly larger species that has considerably more dark scales or breaks in the tan mottling on the elytra. The second profemoral tooth is small but visible, unlike *A. aucta*. *Asytesta propinqua* is also similarly clothed, but has the pronotum and elytra are more uniformly dark and the vittae and maculae stand out in sharp contrast unlike the more muted vittae and maculae of *A. verecunda* and *A. aucta* that blend in with the lighter background scales.

Redescription. *Adult habitus* (Figures 181–182). Measurements (n = 16): body length 5.5–7.6 mm (mean 6.4 mm), body width 2.8–3.5 mm (mean 3.1 mm), pronotal length 2.5–3.4 mm (mean 2.8 mm), elytral length 3.0–4.2 mm (mean 3.6 mm), rostral length 1.9–2.7 mm (mean 2.2 mm). Body oval, 1.8–2.3 times long as broad; integument dark reddish-brown, antennae and tarsi light reddish-brown. Densely covered with patchy dark brown scales and light tan scales, with more densely distributed tan scales in vittae, not in sharp contrast to background squamae except apical portion of dorsomedial vitta on pronotum. Vertex of head, pleura, coxae, basal portion of femora, and venter more densely clothed in dirty white to tan scales; vestiture on femora and tibia interspersed

with evenly distributed, white, hair-like setae; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Pronotal disk with dorsolongitudinal vitta from apex to base; circular maculae indistinct; short, sublateral longitudinal vittae at anterior margin reduced, reaching middle of pronotum; faint transverse vittae from center of dorsal margin of procoxae to dorsolateral portion of pronotal disk. Anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending beyond procoxa to basal pronotal margin. Elytra with thin fascia spanning entire anterior margin of elytra in most specimens, margin between intervals 5 bare in some specimens, fasciae reaching epipleural margin; humeri with faint pair of tan, longitudinal vittae on intervals 5 from humeri to subapex, vittae not broadened apically, restricted to intervals 5; faint sutural stripe of tan scales from midline to near apex; epipleural margin with dirty white to tan scales from base to apex. Mesosternum and metasternum covered with dense white scales except transverse glabrous line at suture between sclerites, ventrites evenly covered in sparse, white, hair-like setae, ventrites 2–4 not glabrous in middle. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate to nearly circular, posterior margin weakly truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.3 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not

obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white to tan, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.0–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire; secondary denticle greatly reduced, sometimes absent. Protibia strongly compressed laterally, ventral margin with flange distinct, obtuse, tooth-like in male, broader, gradually tapering to apex in female (as in Figures 48–49); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 8–9 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. As in

generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 6–8 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible minute, distinct under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Lectotype (**new lectotype designation**): ♂, "Milne Bay, Staudgr./ *Asytesta verecunda*, Faust/ Coll. J. Faust, Ankauf 1900/ Type" (SMTD). Paralectotypes: 1 ♂, 1 ♀, " Milne Bay, Staudgr./ *Asytesta verecunda*, Faust/ Coll. J. Faust, Ankauf 1900/ Type" (SMTD); 1 ♀, "Mailu, Brit. N. G., July 95., (Anthony)/ Coll. J. Faust, Ankauf 1900/ Type" (SMTD);1 ♂, "Mailu, Brit. N. G., July 95., (Anthony)/ 721/ Syntypus/ *Asytesta verecunda*" (DEI). Non-type material: 2 ♂♂, "Milne Bay, Brit N.G XII. 98, (A.S. Meek)" (MNHN); 8 ♂♂, 5 ♀♀, "N. Guinea SE, Milne Bay, 14.28.2.69/ J. Sedlacek Collector, Bishop" (BPBM); 1 ♂, 1 ♀, "N. Guinea SE, Milne Bay, 14.28.2.69/ J. Sedlacek Collector, Bishop" (GPSC); 2 ♂♂, "Neuguinea/ Coll. Kraatz" (DEI); 1 ♂, "Milne Bay, N. Guinea, II.D.Poll/ *Asytesta milneana* m.i.l., Det. K. M. Heller 1912" (MSNG); 1 ♂, "Papua New Guinea, Milne Bay Province, Maura Village 19.11.80, Alotau, Coll. Esc. Smith/ K-1798/ 34052" (BMNH); 1 ♂, "New Guinea: Papua, Normanby I., Wakaiuna Sewa Bay, Dec. 11-20-1956/ W. W. Brandt, Collector, Bishop" (BPBM); 1 ♂, "N. Guinea/ 633/ *Asytesta*" (DEI); 1 ♀, "Mailu, Brit. N. G., July 95., (Anthony) " (MNHN); 1 ♀, "Nov. Guinea, Milne Bay." (MNHN); 6 ♀♀, "Milne Bay, Brit N.G., II.99., (A.S. Meek)" (MNHN); 1 ♀, "Milne Bay, N Guinea/ 943/ Buchannan, Collection/ *Asytesta cinctella*" (USNM); 1 ♀, "Milne Bay, N. Guinea, II.D.Poll/ *Asytesta milneana* m.i.l., Det. K. M. Heller 1912" (MSNG).

Distribution. Papua New Guinea: Central Province: Mailu Island [type locality]; Milne Bay Province: Alotau, Milne Bay; D'Entrecasteaux Islands: Normanby Island.

Remarks. I selected a male specimen from Faust's material that was labeled "type" as the lectotype for the species in order to fix the name to that specimen. Several specimens belonging to this species bear Heller's determination labels with the

manuscript names *A. milneana* and one with *A. cinctella*. I did not find any record of these names ever being published.

Asytesta versuta Faust
(Figures 183–184)

Asytesta versuta Faust, 1898: 163 [key], 166 [description]

Diagnosis. This species is superficially similar to *A. gestroi* and *A. arachnopus*; however, neither species possess well developed lateral vittae on the pronotum and instead have well developed sublateral vittae. *Asytesta versuta* is more closely related to *A. sejuncta* and *A. fayae* new species, from which it is distinguished by immaculate background vestiture, and sharply contrasting and unbroken dorsomedial and lateral vittae on the pronotum. *Asytesta fayae* also differs from this species by the irregular patch of white scales on the sides of the pronotum from the anterior margin to the base that is broader near the head and convergent towards the pronotal base, meeting intervals 9 of elytra, which also bears a broad white vitta from the elytral base to near the apex and males apparently lack a tooth-like flange on the ventral margin of the protibia.

Redescription. *Adult habitus* (Figures 183–184). Measurements (n =1): body length 8.2 mm, body width 3.8 mm, pronotal length 3.5 mm, elytral length 4.7 mm, rostral length 2.5 mm. Body elongate-oval, 2.2 times long as broad; integument reddish-brown to dark brown, antennae and tarsi light reddish-brown. Clothed in sparsely distributed, dark tan to brown scales; integument not obscured by squamae except by more densely distributed yellowish-white scales in vittae, in sharp contrast to dark background squamae. Frons, base of rostrum, and pleura more densely clothed in white scales, white scales denser on tibia; rim of mesosternal receptacle with fine white scales; vestiture on legs evenly interspersed with white, hair-like setae, slightly denser along dorsal edge; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on tibia; tarsi clothed with dense, white, hair-like setae. Pronotal disk with

dorsolongitudinal vitta from apex to base; pair of lateral longitudinal vittae from near anterior margin to base; anterolateral region of pronotum with distinct, broad, well defined, oblique, vittae from lower margin of postocular lobe to just above middle of procoxae (Figure 183); dorsal portion of ring not extending beyond middle of procoxa. Elytra with broad sutural stripe of yellowish-white scales from midline to apex; pair of white longitudinal vittae on fifth intervals from humeri to subapex, vittae broader in apical 1/3 of elytra, occupying space between intervals 4–6; epipleural margin with white scales from base to apex; humeral and epipleural vittae connected by short fasciae along elytral base, fascia not reaching dorsum. Mesosternum and metasternum clothed in sparse white to tan scales, ventrites mostly without squamae, sparsely distributed light-brown squamae on ventrite 1 and 5, ventrites 2–4 more or less glabrous. Scales very fine to minute (indistinct under low magnification), appressed; white setae distinct, suberect to decumbent. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1 times broad as long, broadest slightly before base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, minute, smaller than punctures at base of elytra. Elytra 1.2 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral

humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, slightly elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by about 1/2 their length; mesofemora exceeding elytral apices. Protibia strongly compressed laterally, ventral margin with flange distinct, obtuse, tooth-like in male (as in Figures 48–49); dorsal margin strongly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Female is not known.

Material examined. Holotype: ♂, "*versuta*, Faust/ N. Guinea Staudin. [Staudinger]/ Coll. J. Faust, Ankauf 1900/ Type" (SMTD).

Distribution. New Guinea.

Remarks. Faust (1898) suggested that this species may be the male of *A. gestroi*, of which Faust only had females. I examined a series of male *A. gestroi* and determined that the two species are distinct (see diagnosis). Faust (*loc. cite*) indicated that this species was based on a single specimen, thus designation of a lectotype is not necessary.

Asytesta vittata Pascoe, 1865
(Figures 185–186, 192)

Asytesta vittata Pascoe, 1865: 431

Diagnosis. This species has a dark background vestiture that is mottled with irregular patches of white scales and has white, dorsomedial longitudinal vitta, short sublateral vittae in the posterior half of the pronotal disk, complete lateral longitudinal vittae, and short transverse vittae on the sides of the pronotum that joins the anterior end of the sublateral vittae at a right angle. There are several other species of *Asytesta* that are primarily covered in dark background scales with sharply contrasting white longitudinal vittae as in *A. vittata* (*viz*., *A. arachnopus*, *A. fayae* new species, *A. gestroi*, *A. versuta*, *A. gazella*). The short transverse vittae on the sides of the pronotum is not found in all of these species except *A. gazella*, in which the transverse vittae do not transect the lateral vittae or join the sublateral vittae and also lacks a dorsomedial longitudinal vitta.

Redescription. *Adult habitus* (Figures 185–186). Measurements (n = 16): body length 4.8–6.9 mm (mean 6.2 mm), body width 2.3–3.5 mm (mean 3.1 mm), pronotal length 2.0–3.0 mm (mean 2.7 mm), elytral length 2.8–3.9 mm (mean 3.5 mm), rostral length 1.7–2.1 mm (mean 1.9 mm). Body oval, 1.9–2.1 times long as broad; integument dark brown to black, antennae and tarsi light reddish-brown. Sparsely covered with light brown to almost black scales, with densely distributed white to tan scales forming vittae and mottling on elytra, in sharp contrast to dark background squamae. Vertex of head, base of rostrum, pleura, coxae, basal portion of femora, and venter more densely clothed in brown to whitish scales; vestiture on femora and tibia interspersed with evenly distributed, white, hair-like setae; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Pronotal disk with pair of reduced, faint, sublateral longitudinal vittae from midline to base; pair of lateral longitudinal vittae from anterior margin to base; distinct transverse vittae from center of dorsal margin of procoxae intersecting lateral longitudinal vittae, joining lateral vittae at slightly less than right angle. Anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of

prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring extending beyond procoxa to basal pronotal margin. Elytra with faint fascia spanning entire anterior margin, fasciae reaching epipleural margin; humeri with white, longitudinal vittae on intervals 5 from humeri to subapex, vittae not broadened apically, restricted to intervals 5; distinct sutural stripe of dirty white scales from base to apex; epipleural margin with dirty white scales from base to apex; dark areas with small, evenly distributed patches of whitish scales, more densely distributed behind midline. Mesosternum and metasternum and ventrites covered with sparse white scales, ventrites 2–4 glabrous in middle. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 104), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate to nearly circular, posterior margin weakly truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.0–1.3 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one white to dark brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle mesosternal receptacle slightly cavernous, lateral margins produced, posterior margin slightly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.1–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum.

Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs moderately long, hind femora exceeding elytral apices by 1/3 their length; mesofemora exceeding elytral apices. Profemora bidentate; apical profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, tapering to apex, male flange terminating before tibial apex, female flange tapering to apex (as in Figures 45–46); dorsal margin weakly convex. Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 distended, as long as or longer than remaining ventrites combined, on significantly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1, slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male and female terminalia*. As in generic description.

Material examined. Holotype: ♂, "Type, H.T/ Batchian/ Pascoe Coll., 93-60" (BMNH). Paratypes: 1 ♂, "Wallace/ N. Guin" (BMNH); 1 ♂, "Aru Islands, Moluccas" (ZMUC). Non-type material:1 ♀, "Aru Wallace/ Coll. Haag" (DEI); 2 ♂♂, "Isole Aru, Wokan, O.Beccam 1873/ Museum Paris, ex. Coll., R. Oberthur" (MNHN); 2 ♀♀, "I. Aru, Wallace/ Collection, Desbrochers/ Museum Paris, 1965, Coll. A. CLERC." (MNHN); 1 ♂, "44372/ Wallace/ N. Guinea" (BMNH); 1 ♂, "Is. Aru, Coll. Jekel" (MSNG); 1 ♂, "Aru-Jnsel, Wamma Dobbo, C. Ribbe 1883" (SMTD); 1 ♂, "Wallace/ N.Guin, Aru Is." (BMNH); 2 ♂♂, "Aru Is, Bahra/ Coll. J. Faust, Ankauf 1900" (SMTD); 1 ♂, "Baly/ Bowring 6347/ *Asytesta* dec. (Pascoe)" (BMNH); 1 ♂, "Moluques/ Collection, Bovie thru, Buchanan/ *Asytesta vittata*, Pasc." (USNM); 1 ♀, "Aru, *Asytesta*

vittata, Pasc./ Pasc., Jan.1870/ Coll. Roelofs/ *A. vittata*, Moluccas Pasc., Aru. R431." (ISNB); 1 ♀, "Aru Is" (BMNH); 1 ♀, "Aru-Jnseln, Ureiuning, C. Ribbe 1884/ Samml. K.F. Hartmann, Ankauf 1941.1" (SMTD); 1 ♀, "Aru/ 1599" (SMTD); 1 ♀, "Aru Is., Doria/ Coll. J. Faust, Ankauf 1900" (SMTD); 2 ♀♀, "N. Guinea/ Coll. Castelnau, Coll. Roelofs" (ISNB); 1 ♀, "Coll. Castelnau, Coll. Roelofs" (ISNB); 1 ♀, "44371/ Wallace/ N.Guin, Aru Is./ *Asytesta vittata* Pascoe, Aru Island" (BMNH); 2 ♀♀, "Aru-Jnseln, Ureiuning, C. Ribbe 1884" (MSNG).

Distribution. Moluccas, Aru Island

Remarks. The holotype is from Batchian Island (=Bacan Island), which I suspect is in error. To my knowledge, no other specimens were collected on the island and all other material I have studied is from the Aru Islands.

Asytesta woodlarkiana Setliff **new species**
(Figures 187–188, 191)

Diagnosis. The scattered, large white maculae that are randomly distributed over the nearly black dorsum in combination with a dorsomedial longitudinal vitta and a broken transverse line transecting the dorsomedial vitta uniquely distinguish this species from its congeners. One other species, *A. alexanderiae* new species may be confused with this species due to the similar markings on its pronotal disk; however, *A. alexanderiae* has lighter brown vestiture and the mottling is somewhat less developed. Also, the transverse line on the pronotal disk is reduced to a pair of maculae in *A. alexanderiae* that are joined to an apical pair of maculae by a fine line of pale scales, forming an L-shape on either side of the midline.

Description. *Adult habitus* (Figures 187–188). Measurements (n = 7): body length 5.4–7.7 mm (mean 6.4 mm), body width 2.8–3.8 mm (mean 3.1 mm), pronotal length 2.2–3.4 mm (mean 2.6 mm), elytral length 3.2–4.5 mm (mean 3.8 mm), rostral length 1.9–2.3 mm (mean 2.1 mm). Body oval, 1.9–2.2 times long as broad; integument dark reddish-brown, antennae and tarsi light reddish-brown. Sparsely covered with small, dark

brown to fuscous scales, with more densely distributed dirty white scales in vittae and maculae. Frons, pleura, coxae, basal portion of femora, and venter more densely clothed in white to tan scales, tibia with black background scales; vestiture on femora and extreme base of tibia interspersed with white, hair-like setae; tibia otherwise immaculate; male with suberect, hair-like setae along ventral margin of protibia, setae longer than elsewhere on legs; tarsi clothed with sparse, white, hair-like setae. Dorsum dark, heavily mottled with large, irregular, circular maculae; maculae less densely distributed on sides. Pronotal disk with dorsolongitudinal vitta from apex to base; pair of short, curved, transverse maculae on either side of medial vitta at midline, not reaching sides; short, lateral longitudinal vittae from anterior margin to slightly before midline; anterolateral region of pronotum with distinct, well defined ring of white scales enclosing area from lateral margin of prosternal canal to anterior margin of procoxae, with darker background scales in center (as in Figure 104); dorsal portion of ring not extending beyond middle of procoxa. Elytra with thin fascia spanning entire anterior margin in most specimens, margin between intervals 5 bare in some specimens, fasciae reaching epipleural margin; humeri with short, rectangular, maculae on intervals 5 and 6; macula on intervals 5 longer than macula on intervals 6; intervals 5 with broken, longitudinal vitta on declivity; faint stripe on suture from slightly before midline to apex; epipleural margin lined with dense white scales from base to slightly past middle, epipleural vittae distinctly thicker in posterior half. Mesosternum and metasternum covered with dense white scales except transverse glabrous line at suture between sclerites, ventrites without scales except for sparse, evenly distributed, hair-like setae on ventrite 1 and 5 and lateral margins of 2–4, glabrous in middle. Scales fine (indistinct under low magnification), appressed to suberect. *Head*. Visible in dorsal view, with semicircular, crown-like carinae on vertex above eyes (as in Figure 102), interrupted at back by glabrous V-shaped area where head articulates on pronotum, medial longitudinal carinae absent. Eyes flat, large, subcordate, posterior margin truncate; interocular distance narrower than subbasal width of rostrum. Rostrum shorter than pronotum, parallel sided to apex, slightly broadened at apex, with small medial interocular pit at base; pit often obscured by squamae. Basal 1/3 of male rostrum rugose, coarsely punctate to apex, with suprascrobal carinae on lateral margins

straight, not produced or forming lateral tooth-like process. Basal 1/3 of female rostrum less rugose than male, apical 2/3 smooth, finely punctate to apex. Clypeus truncate. Antennal club oval. *Thorax*. Pronotum 1.1–1.3 times broad as long, broadest at base; base nearly truncate, medial area weakly produced. Pronotal disk evenly convex at base, weakly rugose with small rasp-like, setose granules; granules evenly distributed; punctures not obscured by vestiture, shallow, evenly distributed, space between punctures less than ½ diameter of puncture, each bearing one brown, hair-like seta. Prosternal canal deep, lateral walls vertical; mesosternal receptacle very shallow, nearly obliterated, lateral margins weakly produced, posterior margin broadly open. Scutellum visible, diameter subequal to punctures at base of elytra. Elytra 1.1–1.3 times long as broad, anterior margin truncate, declivity gradually declining to apex; punctures as on pronotum, basalmost punctures of each striae at anterior margin like all remaining punctures. Elytral humeri not flattened or produced, subcontiguous with posterolateral margin of pronotum. Elytral intervals convex, granulate. Granulate prominence on third elytral intervals weakly elevated slightly before middle of elytra; prominence raised slightly above adjacent intervals, not distorting outline of dorsal contour in lateral view, terminating gradually at elytral declivity; fourth intervals granulate, weakly produced, not elevated above fifth intervals, all other intervals not produced, lacking granulate prominences. Hind wing fully developed. Legs elongate, hind femora exceeding elytral apices by slightly less than ½ their length; mesofemora exceeding elytral apices. Profemora unidentate; profemoral teeth not larger than teeth on meso- and metafemora; teeth simple, distal margin entire. Protibia strongly compressed laterally, ventral margin with flange distinct, obtuse, tooth-like in male, broader, gradually tapering to apex in female (as in Figures 48–49); dorsal margin strongly convex (as in Figures 51–52). Dorsal margin of middle and hind tibiae similarly convex. Apex of protibia with distinct supra-uncal process; uncus and premucro well developed, broadly separated with small flange situated between, supporting terminal setal brush. Tarsomere 2 short, trapezoidal, strongly flattened (as in Figure 64). *Abdomen*. Ventrite 1 weakly distended, as long as or longer than remaining ventrites combined, on slightly lower plane than remaining ventrites, not overlapping ventrite 2; ventrite 2 partially folded into declivity of ventrite 1,

slightly longer than ventrite 3 and 4. Intercoxal process on ventrite 1 broader than length of ventrite 1. *Male terminalia*. As in generic description. Tergite VII broader than long, anterior margin convex, posterior margin emarginate at middle, wing binding patch distinct, with two rows of 6–8 minute plectral tubercles reaching posterior margin, tubercles greatly reduced, distinct under high magnification. *Female terminalia*. As in generic description. Tergite VII longer than broad, anterior and posterior margins broadly convex, wing binding patch distinct, with two rows of 7–8 minute plectral tubercles; plectral rows not reaching posterior margin; tubercles visible minute, distinct under high magnification. Bursa more or less indistinct from vagina; vagina with walls weakly sclerotized; no internal sclerites visible.

Material examined. Holotype: ♂, "New Guinea: Papua, Woodlark I. (Murua), Kulumadau Hill, Mar. 23–30, 1957/ W. W. Brandt, Collector, Bishop" (BPBM). Paratypes: 2 ♂♂, "New Guinea: Papua, Woodlark I. (Murua), Kulumadau Hill, Jan 28–30, 1957/ W. W. Brandt, Collector, Bishop" (BPBM); 1 ♂, "New Guinea: Papua, Woodlark I. (Murua), Kulumadau Hill, Feb. 3, 1957/ W. W. Brandt, Collector, Bishop" (GPSC); 1 ♂, "New Guinea: Papua, Woodlark I. (Murua), Kulumadau Hill, Feb. 25, 1957/ W. W. Brandt, Collector, Bishop" (BPBM); 1 ♀, "New Guinea: Papua, Woodlark I. (Murua), Kulumadau Hill, Mar 4–9 1957/ W. W. Brandt, Collector, Bishop" (BPBM).

Distribution. Papua New Guinea: Milne Bay Province: Woodlark Island (= Muyua Islands).

Etymology. The species epithet is based on the type locality.

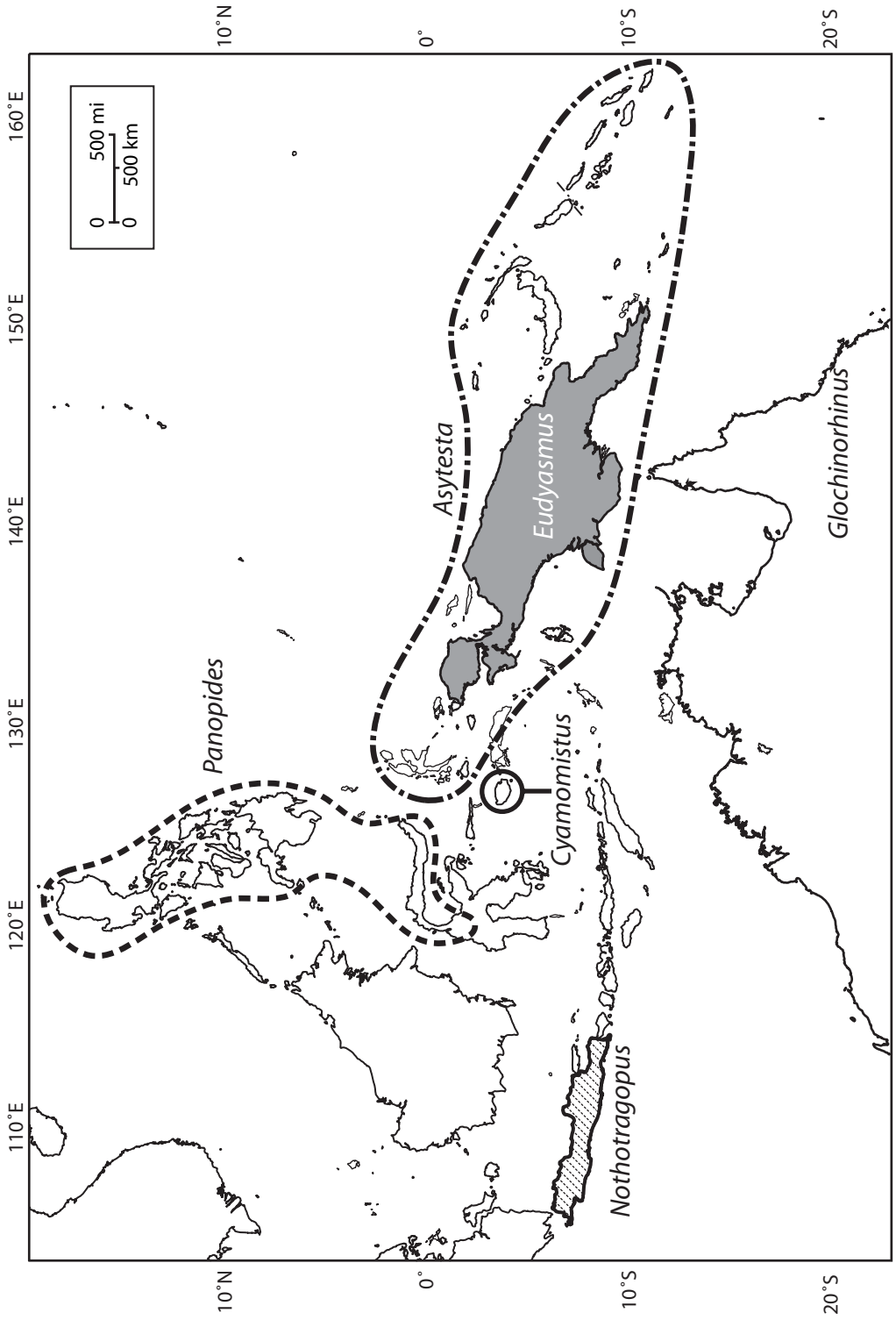


FIGURE 1. Distribution of the Indo-Australian crowned weevil genera. The distribution of *Glochinorhinus* was not examined for this study but the genus is recorded from Queensland and New South Wales, Australia.

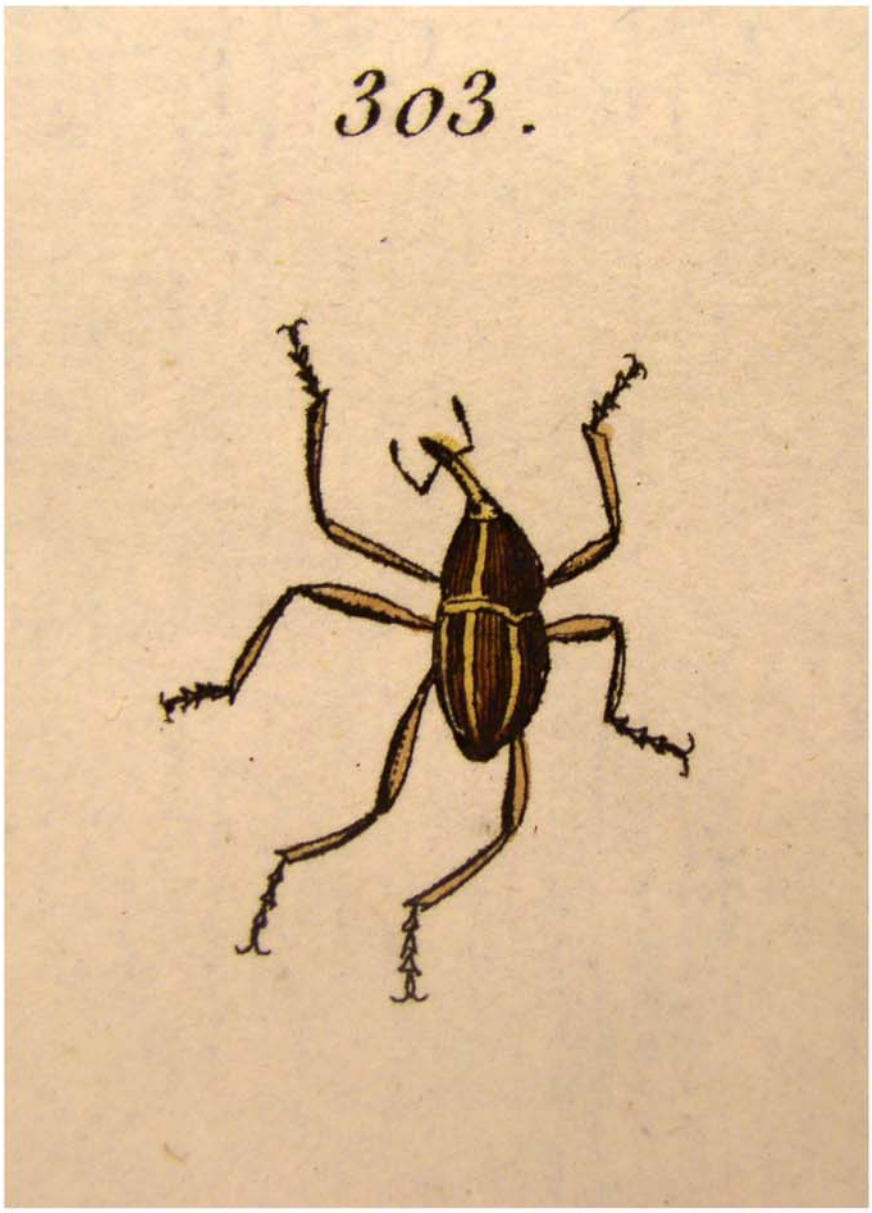
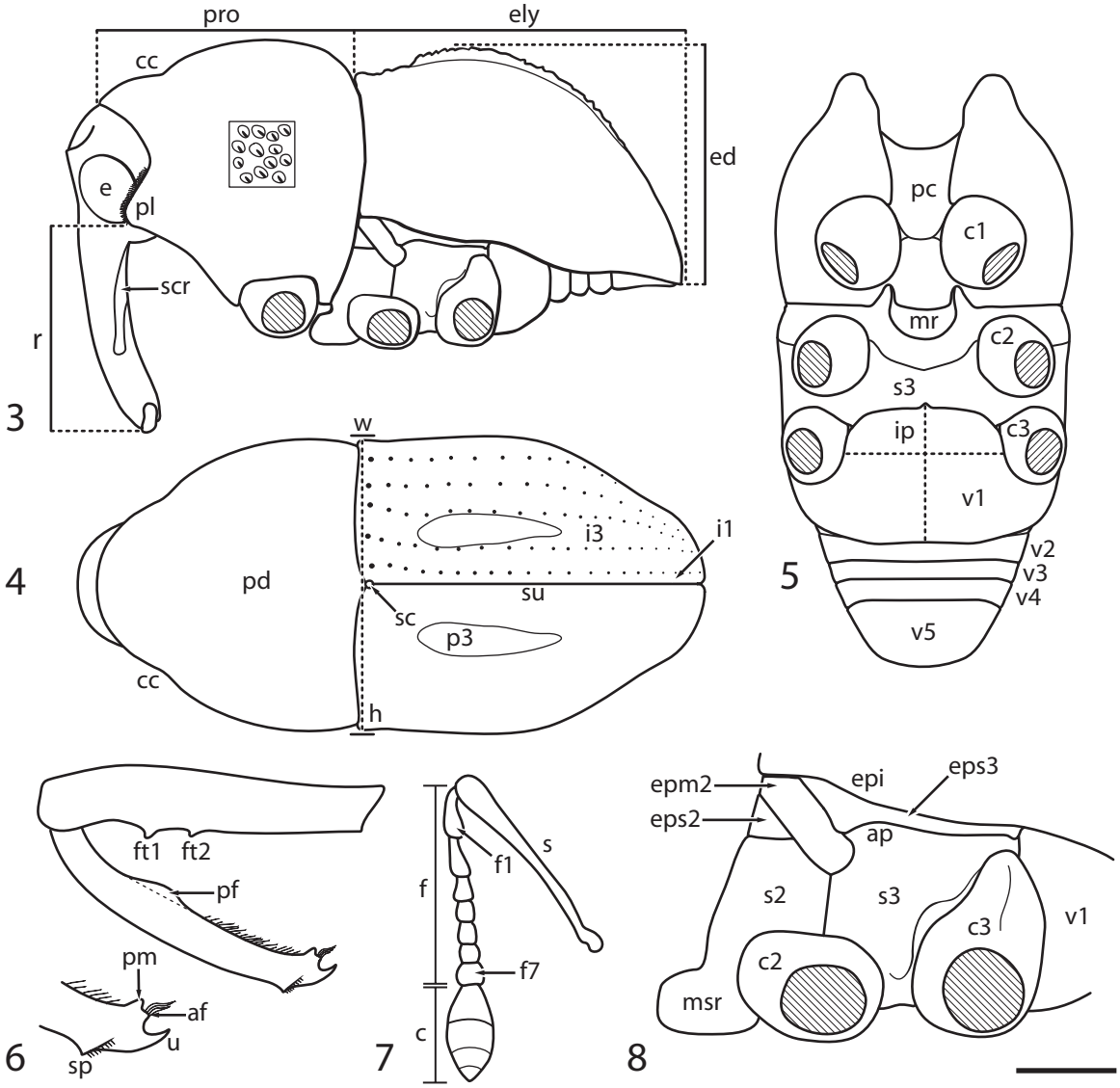
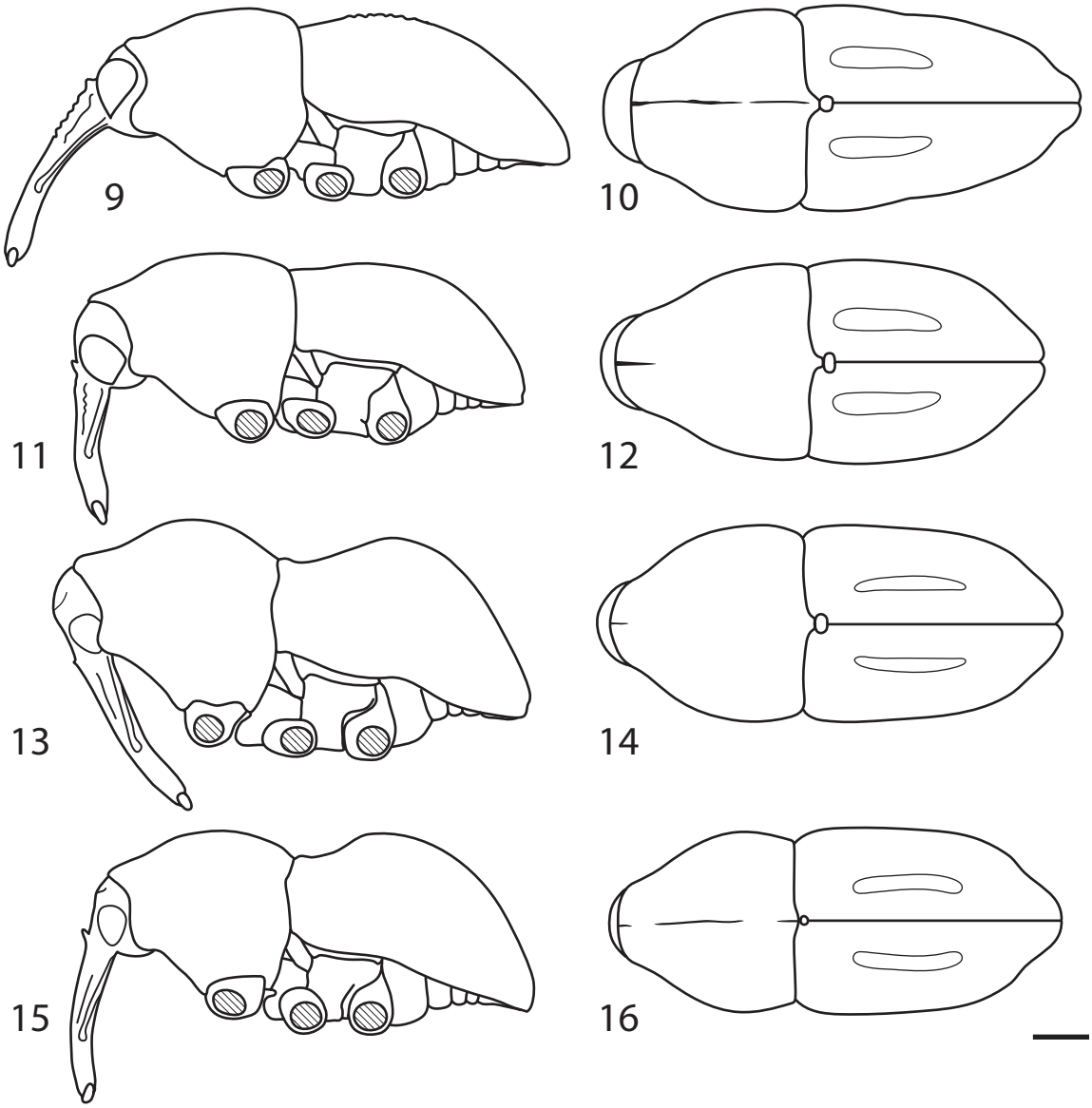


FIGURE 2. Reproduction of figure 303 from plate xxii in Olivier 1807 illustrating *Rhynchaenus gazella* Olivier (= *Asytesta gazella* (Olivier)).

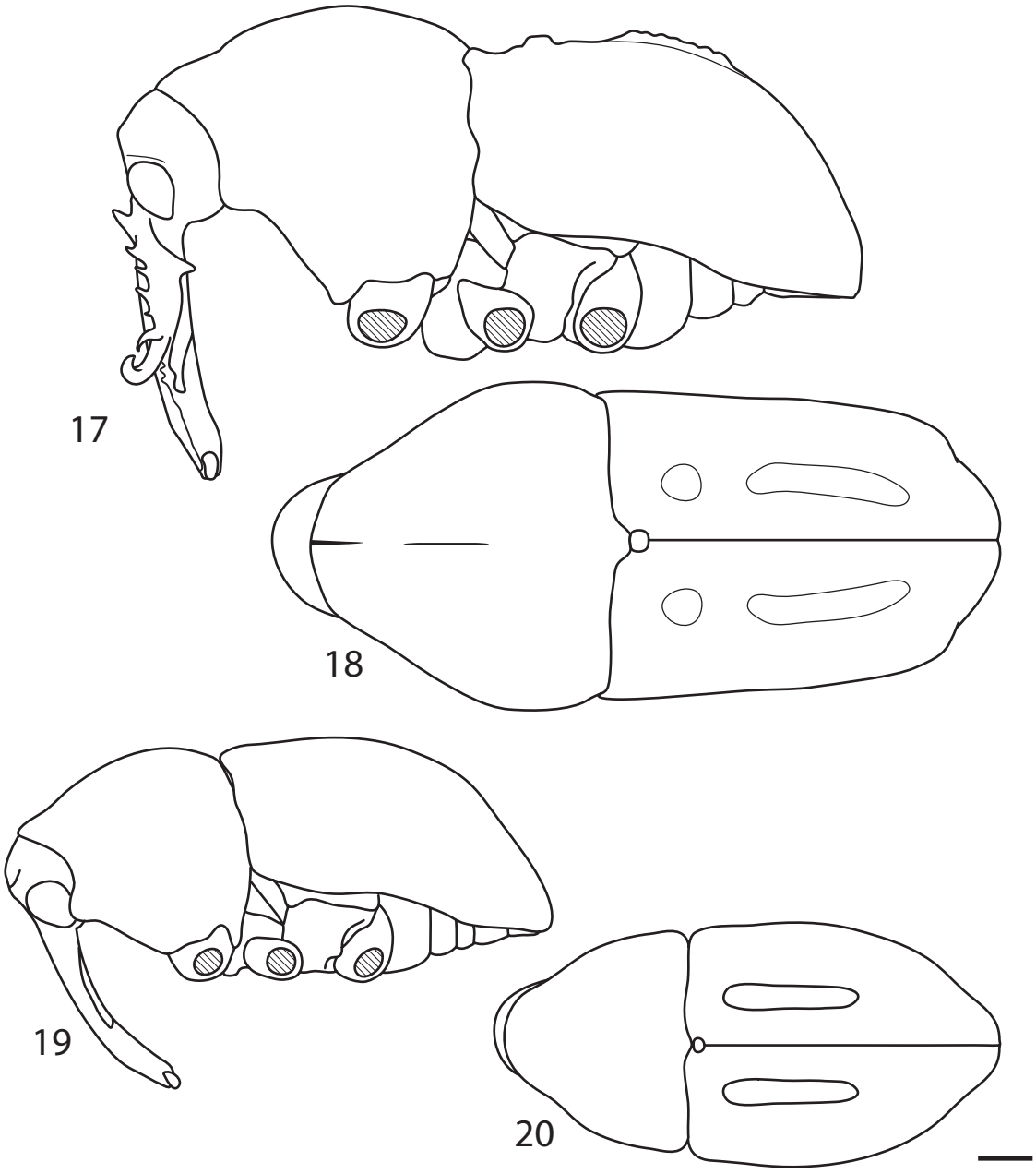
FIGURES 3–8. *Asytesta humeralis*, male: 3. Habitus, lateral view, broken lines indicate where the lengths of the pronotum (pro), elytra (ely), and rostrum (r) and elytral depth (ed) were measured, inset shows detail of pronotal sculpture. Key: cc. cervical constriction; e. compound eye, pl. postocular lobe, scr. scrobe; 4. Habitus, dorsal view, broken line indicate where body width (w) was measured. Key: cc. cervical constriction, h. elytral humerus, i1. interval 1, i3. interval 3, p3. prominence on interval 3, pd. pronotal disk, sc. scutellum, su. suture; 5. Habitus, ventral view, broken line indicates where length and width of the intercoxal process was measured. Key: c1–c3. pro-, meso-, and metacoxae, ip. intercoxal process of ventrite 1, mr. mesosternal receptacle, pc. prosternal canal, s3. metasternum; v1–v5. ventrites; 6. Right profemur and protibia, anterior view, Inset. Detail of tibial apex (not to scale). Key: af. apical flange, ft1. primary femoral tooth, ft2. secondary femoral tooth, pf, protibal flange, pm. premucro, sp. supra-uncal projection, u. uncus; 7. Antenna, c. club, f. funicle, f1. first article of funicle, f7. seventh article of funicle, s. scape; 8. Meso- and metapleura, lateral view. Key: ap. anapleural margin, c2–c3. meso- and metacoxae, epi. epipleural margin of elytron, epm2. mesepimeron, eps2. mesepisternum, eps3. metepisternum, msr. lateral wall of mesosternal receptacle, s2–s3. meso- and metasternites, v1. ventrite 1 of abdomen. Scale bar = 1 mm for figures 5–8; = 0.5 mm for figures 9–10.



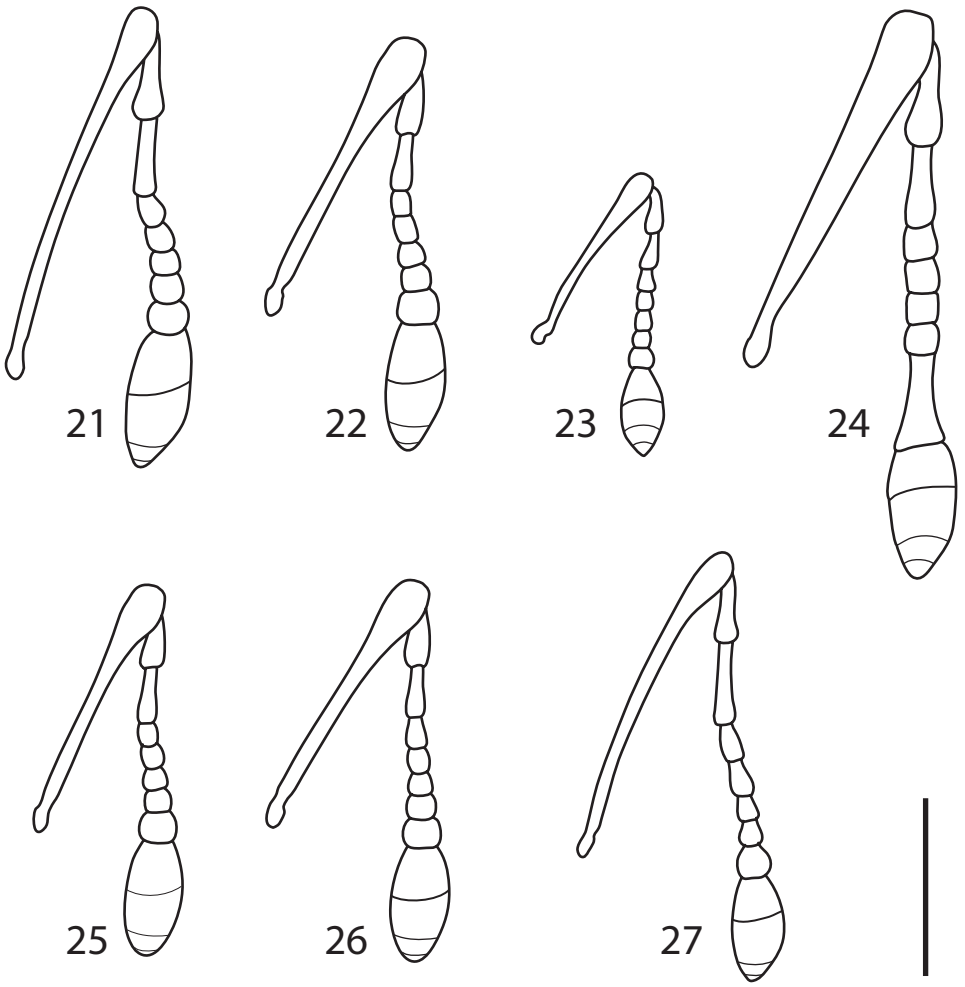
FIGURES 3–8. *Asytesta humeralis*, male.



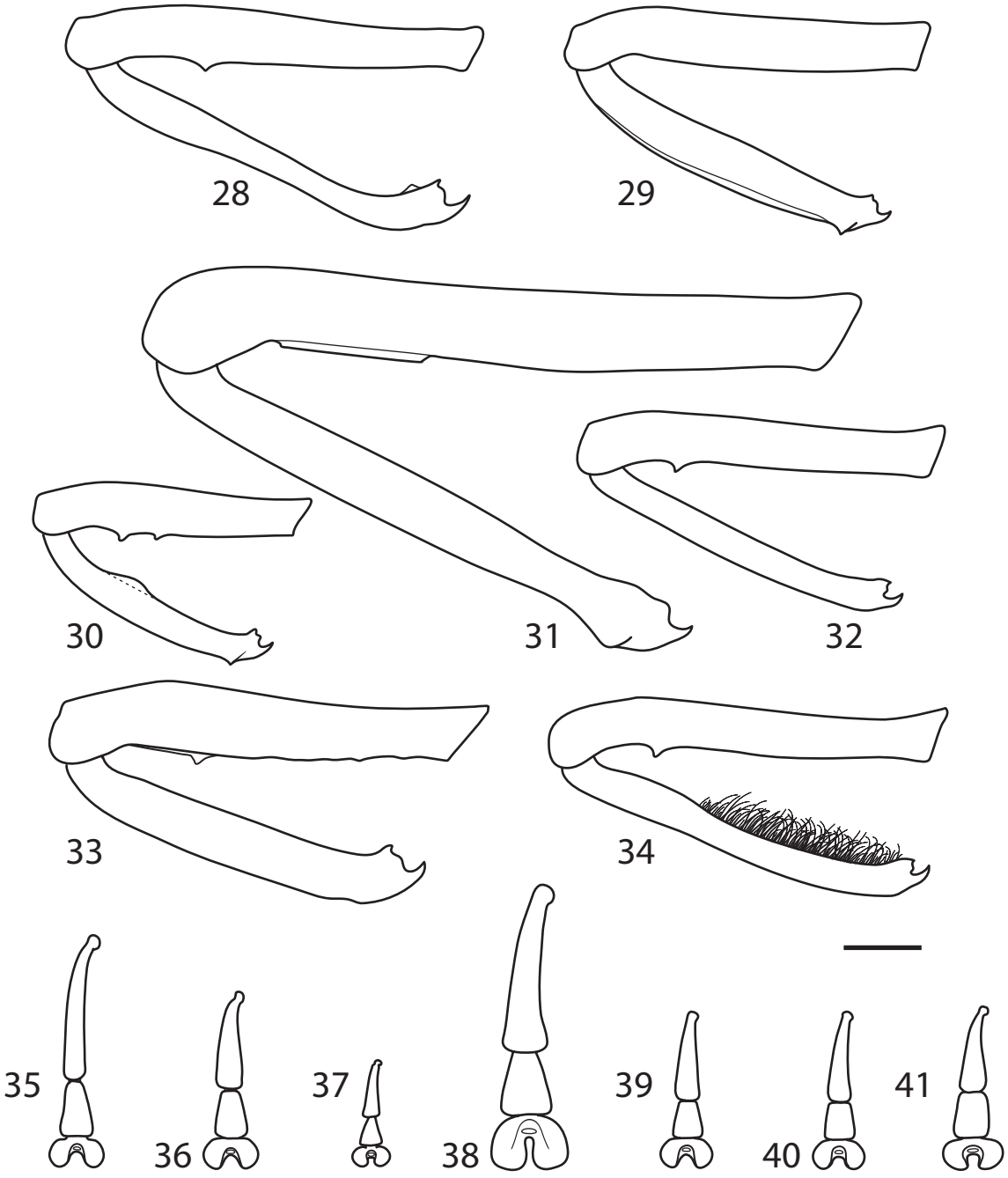
FIGURES 9–16. Habitus. 9. *Eudyasmus planidorsis*, male, lateral view; 10. same, dorsal view; 11. *Eudyasmus albertisii*, male, lateral view; 12. same, dorsal view; 13. *Panopides philippinicus*, male, lateral view; 14. same, dorsal view; 15. *Nothotragopus zimmermani*, male, lateral view; 16. same, dorsal view. Scale bar = 1 mm.



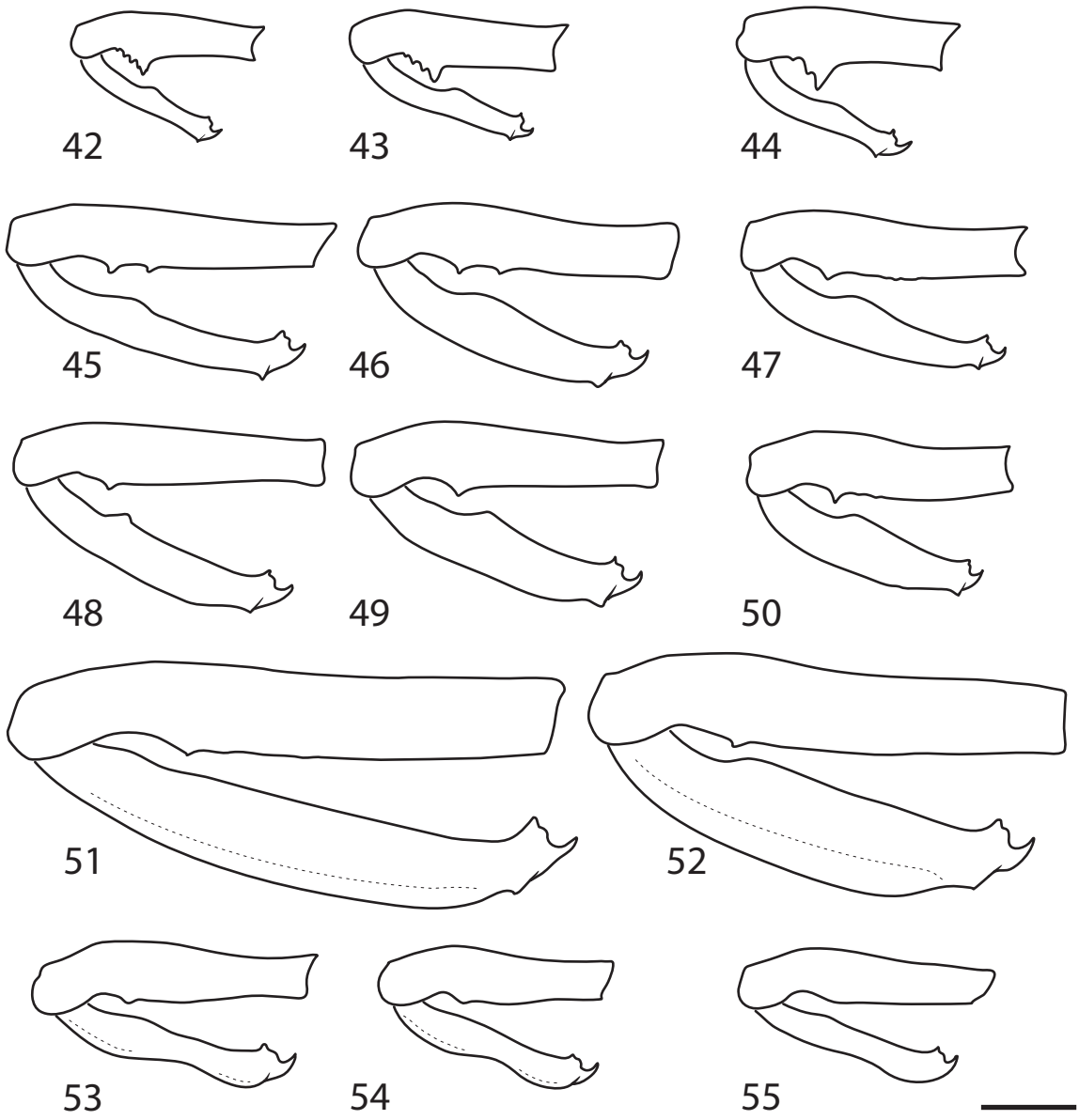
FIGURES 17–20. Habitus. 17. *Glochinorhinus evanidius*, male, lateral view; 18. same, dorsal view; 19. *Cyamomistus albitarsus*, female, lateral view; 20. same, dorsal view. Scale bar = 1 mm.



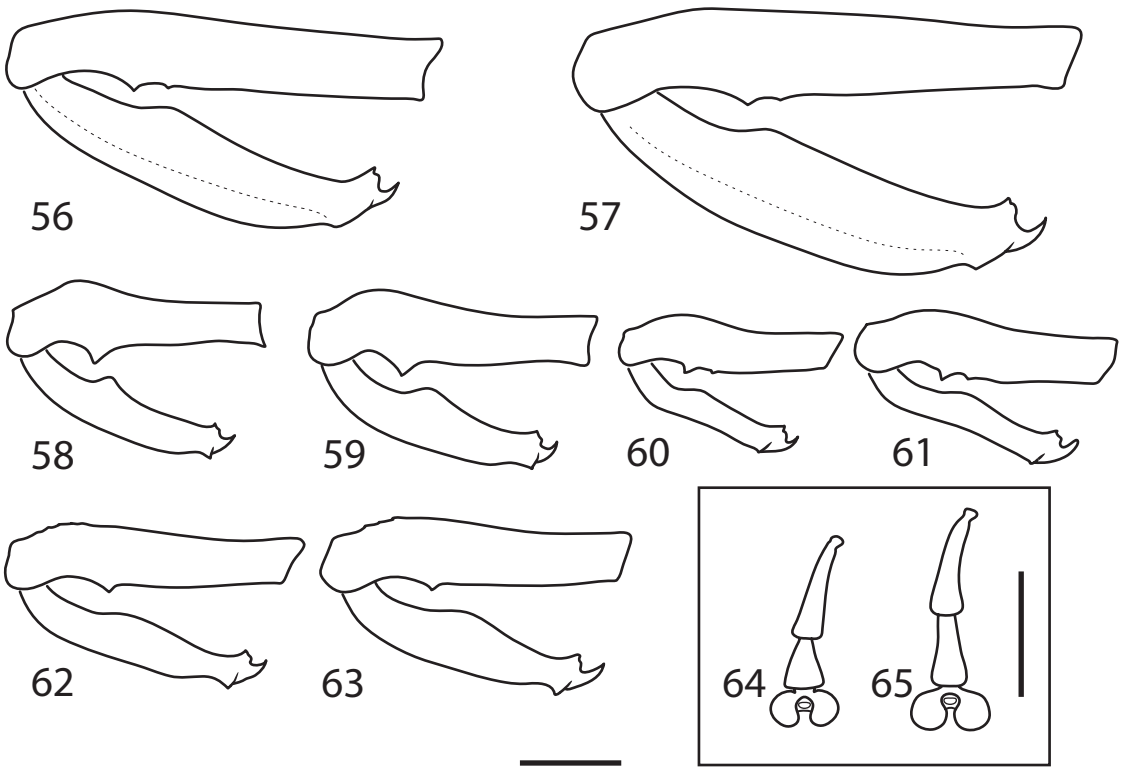
FIGURES 21–27. Antenna. 21. *Eudyasmus planidorsis*, male; 22. *Eudyasmus albertisii*, male; 23. *Asytesta humeralis*, male; 24. *Glochinorhinus evanidius*, male; 25. *Nothotragopus zimmermani*, male; 26. *Panopides philippinicus*, male; 27. *Cyamomistus albitarsus*, female. Scale bar = 1 mm.



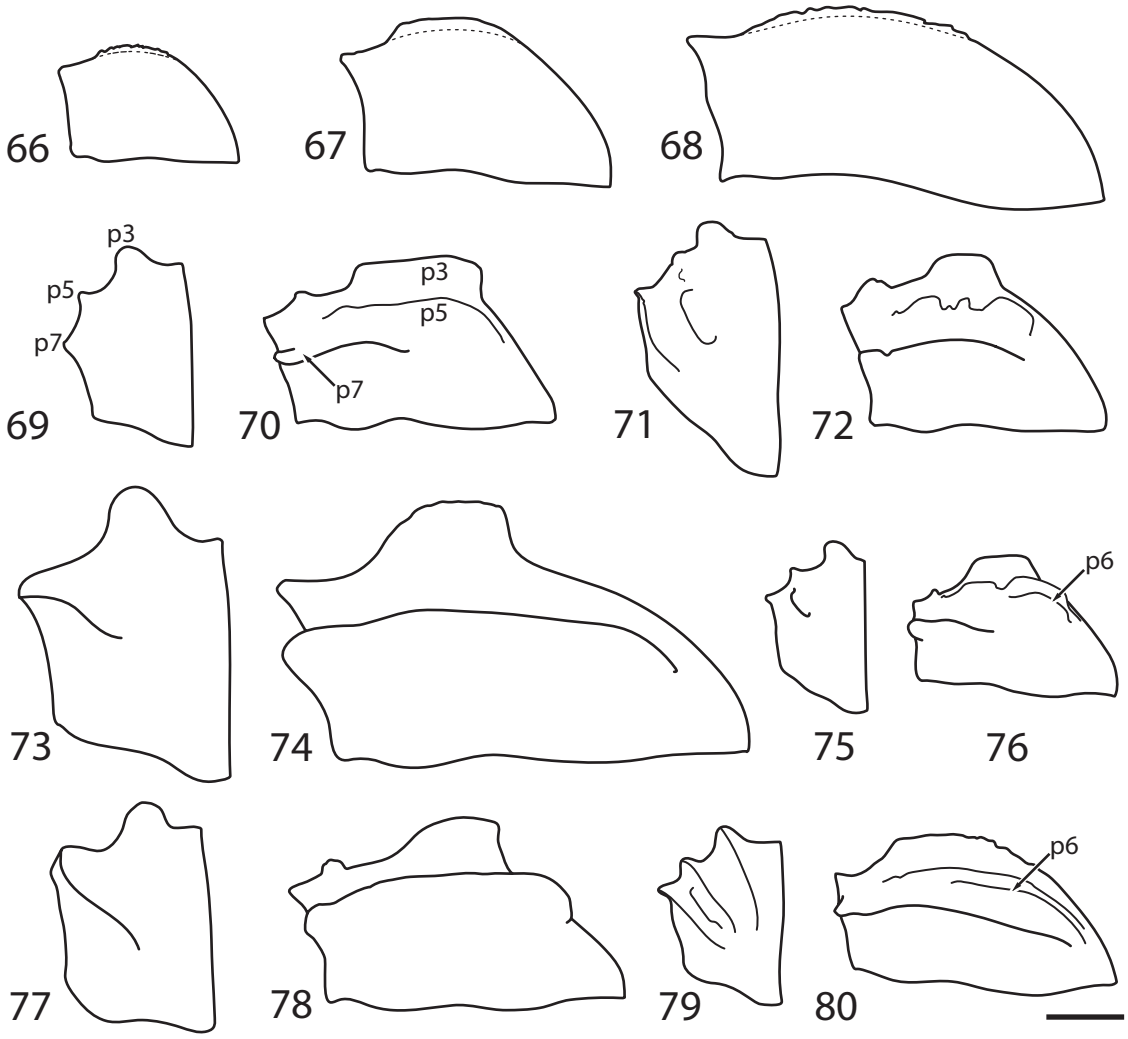
FIGURES 28–41. Right profemur, protibia, and tarsi, anterior view, scales and setae omitted: 28, 35. *Eudyasmus planidorsis*, male; 29, 36. *Eudyasmus albertisii*, male; 30, 37. *Asytesta humeralis*, male; 31, 38. *Glochinorhinus evanidius*, male; 32, 39. *Nothotragopus zimmermani*, male; 33, 41. *Cyamomistus albitarsus*, female; 34, 40. *Panopides philippinicus*, male. Scale bar = 1 mm.



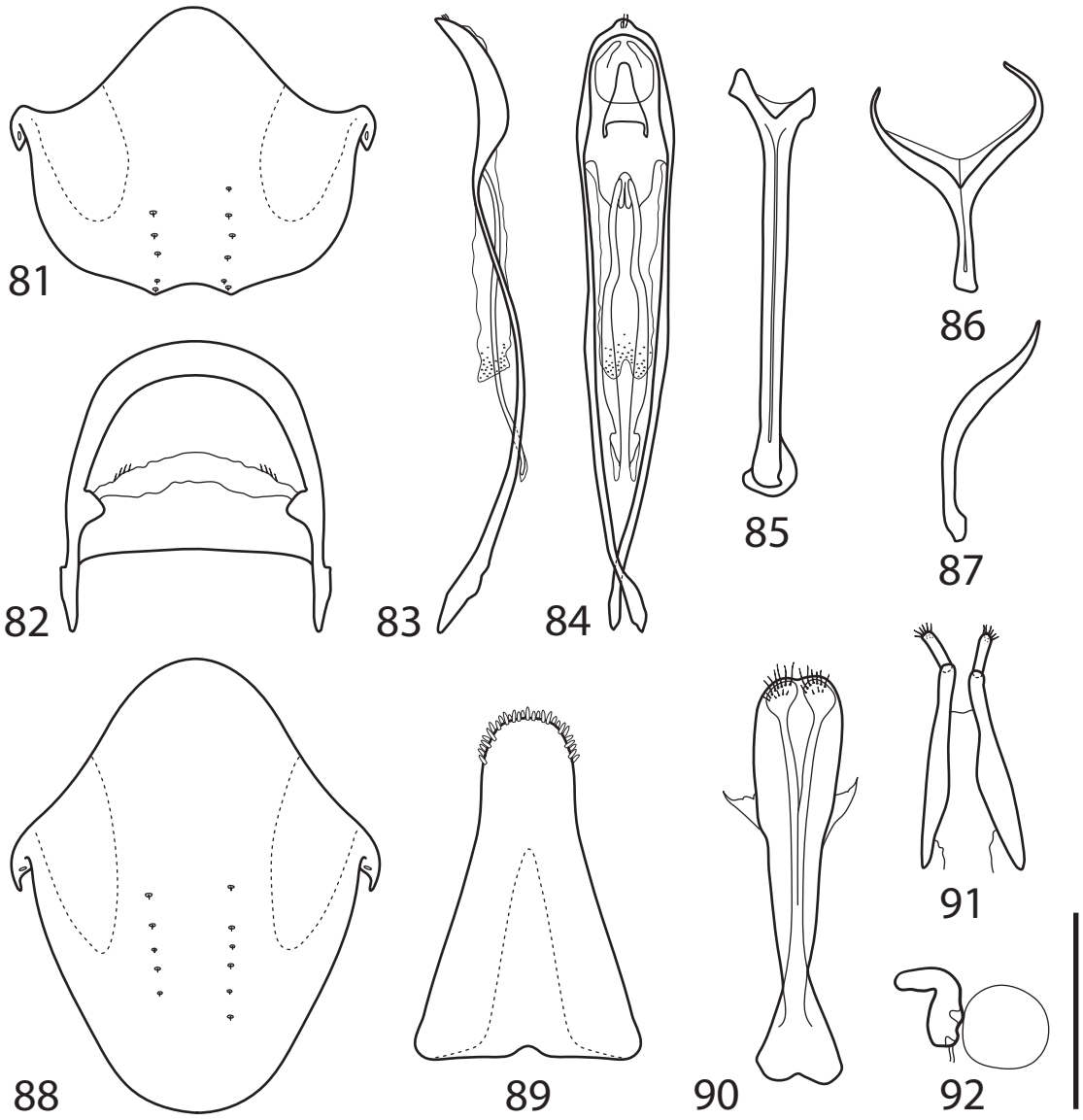
FIGURES 42–55. Right profemur and protibia, anterior view, scales and setae omitted: 42. *Asytesta doriae*, male; 43. same, female; 44. *Asytesta albifrons*, female; 45. *Asytesta humeralis*, male; 46. same, female; 47. *Asytesta rata*, male; 48. *Asytesta aucta*, male; 49. same, female; 50. *Asytesta rata*, female; 51. *Asytesta compressipes*, male; 52. same, female; 53. *Asytesta alexriedeli*, male; 54. same, female; 55. *Asytesta emarginata*, male. Scale bar = 1 mm.



FIGURES 56–65. Right profemur and protibia, and tarsi, anterior view, scales and setae omitted: 56. *Asytesta arachnopus*, male; 57. same, female; 58. *Asytesta frontalis*, male; 59. same, female; 60. *Asytesta julieae*, male; 61. same, female; 62. *Asytesta tuberculata*, male; 63. same, female; Figures 64–65 (inset). Male tarsomeres 1–3 of left proleg: 64. *Asytesta humeralis*; 65. *Asytesta tuberculata*. Scale bars for figures 58–65 and 66–67 = 1 mm.



FIGURES 66–80. Diagrammatic representation of the left elytron of male *Asytesta* species indicating shape and position of prominences and elevated striae. 66. *Asytesta doriae*, lateral view; 67. *Asytesta rata*, lateral view; 68. *Asytesta compressipes*, lateral view; 69. *Asytesta dorsalis*, caudal view. Key: p3, p5, p7 = prominence on intervals 3, 5, and 7; 70. same, lateral view. Key as in previous figure; 71. *Asytesta frontalis*, caudal view; 72. same, lateral view; 73. *Asytesta gressitti*, caudal view; 74. same, lateral view; 75. *Asytesta julieae*, caudal view; 76. same, lateral view. Key: p6 = prominence on interval 6; 77. *Asytesta tuberculata*, caudal view; 78. same, lateral view; 79. *Asytesta emarginata*, caudal view; 80. same, lateral view. Key: p6 = prominence on interval 6. Scale bar = 1 mm.



FIGURES 81–92. Male and female terminalia of *Asytesta humeralis*, 81–87. male: 81. tergite VII, dorsal view; 82. tergite VIII and sternite VIII, ventral view; 83. aedeagus (tegmen removed), lateral view; 84. aedeagus (tegmen removed), dorsal view; 85. spiculum gastrale, ventral view; 86. tegmen, ventral view; 87. tegmen, lateral view; 88–92. female: 88. tergite VII, dorsal view; 89. tergite VIII, dorsal view; 90. sternite VIII, ventral view; 91. hemisternites, dorsal view; 92. spermatheca. Scale bar = 0.5 mm for figures 81–82, 86–89, and 91–92; = 1 mm for figures 83–85 and 90.

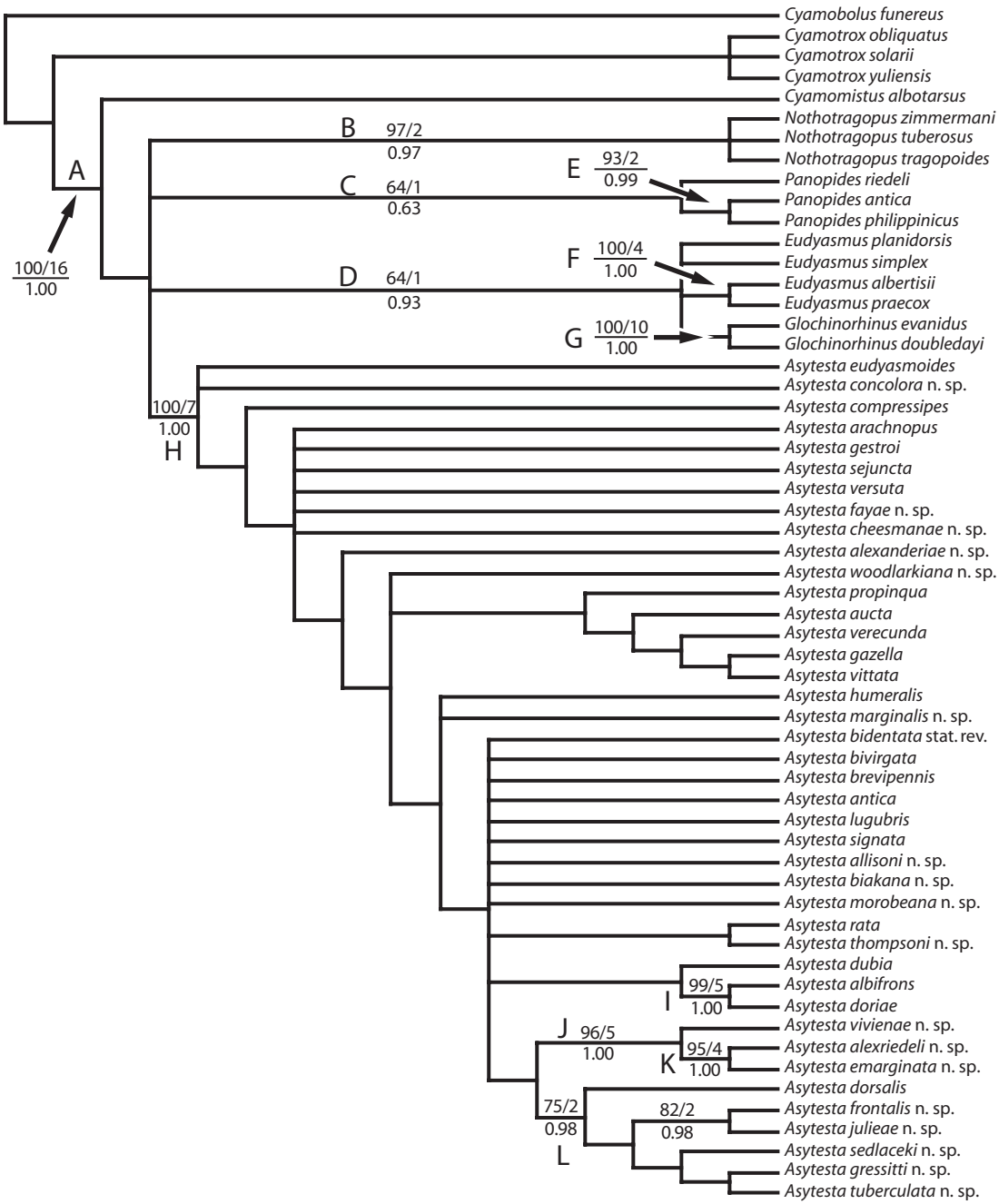


FIGURE 93. Strict consensus of 7390 trees recovered from the MP analysis of 82 characters and 53 taxa. Numbers above the branch are bootstrap proportions before the solidus (/) and decay values after; numbers under the branch are posterior probabilities for nodes from the Bayesian analysis. Within clade H, nodal support is shown only for nodes with bootstrap ≥ 75%, decay ≥ 2, and posterior probability ≥ 0.95. Letters at nodes indicate clades discussed in the text.

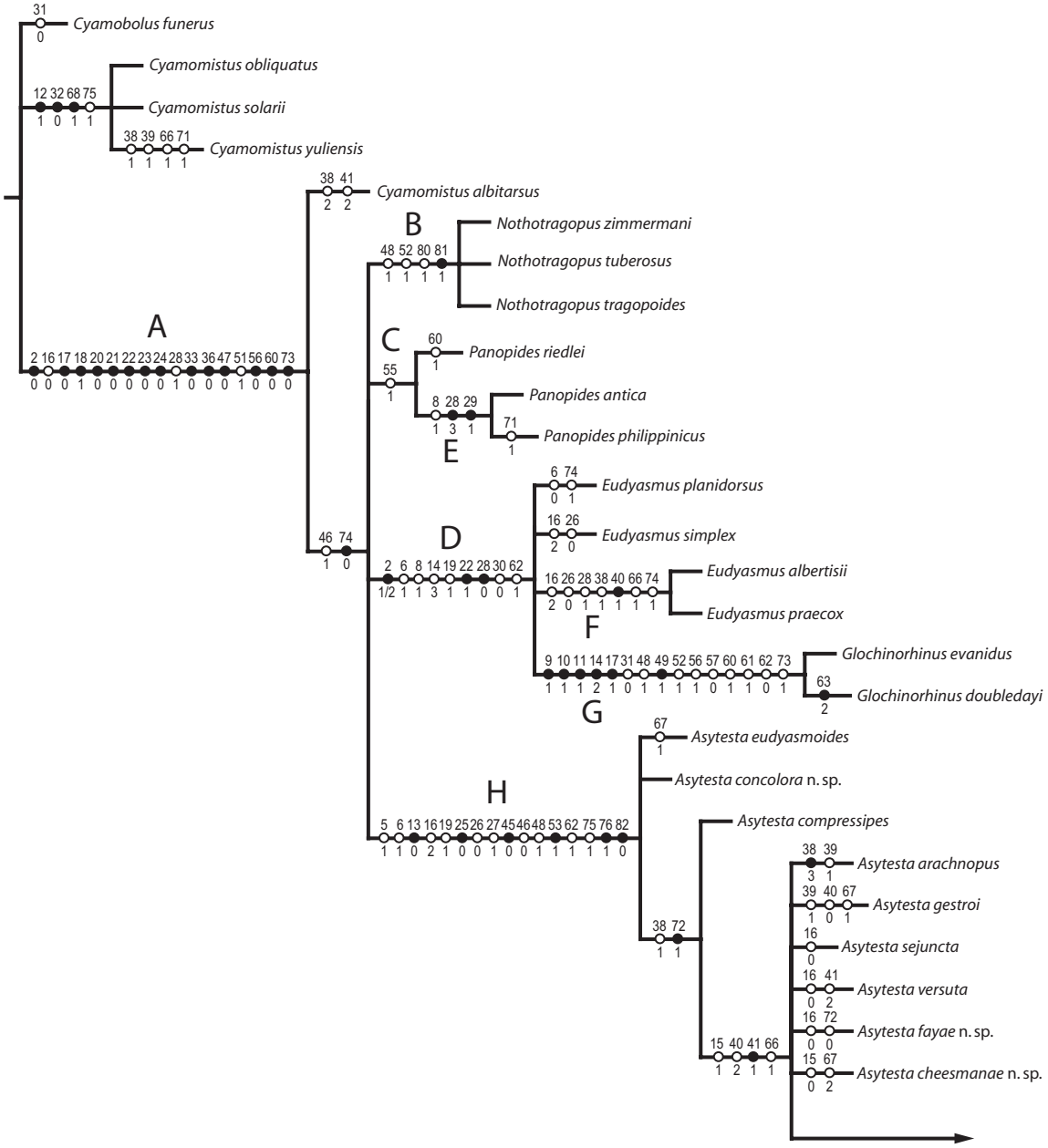


FIGURE 94. Strict consensus of 7390 trees from the MP analysis with unambiguous characters supporting nodes and terminal taxa mapped onto the branches. Filled (black) circles indicate unique synapomorphies, empty circles (white) indicate homoplastic changes. Numbers above and below circles correspond to character numbers and state numbers respectively. *Continued next page....*

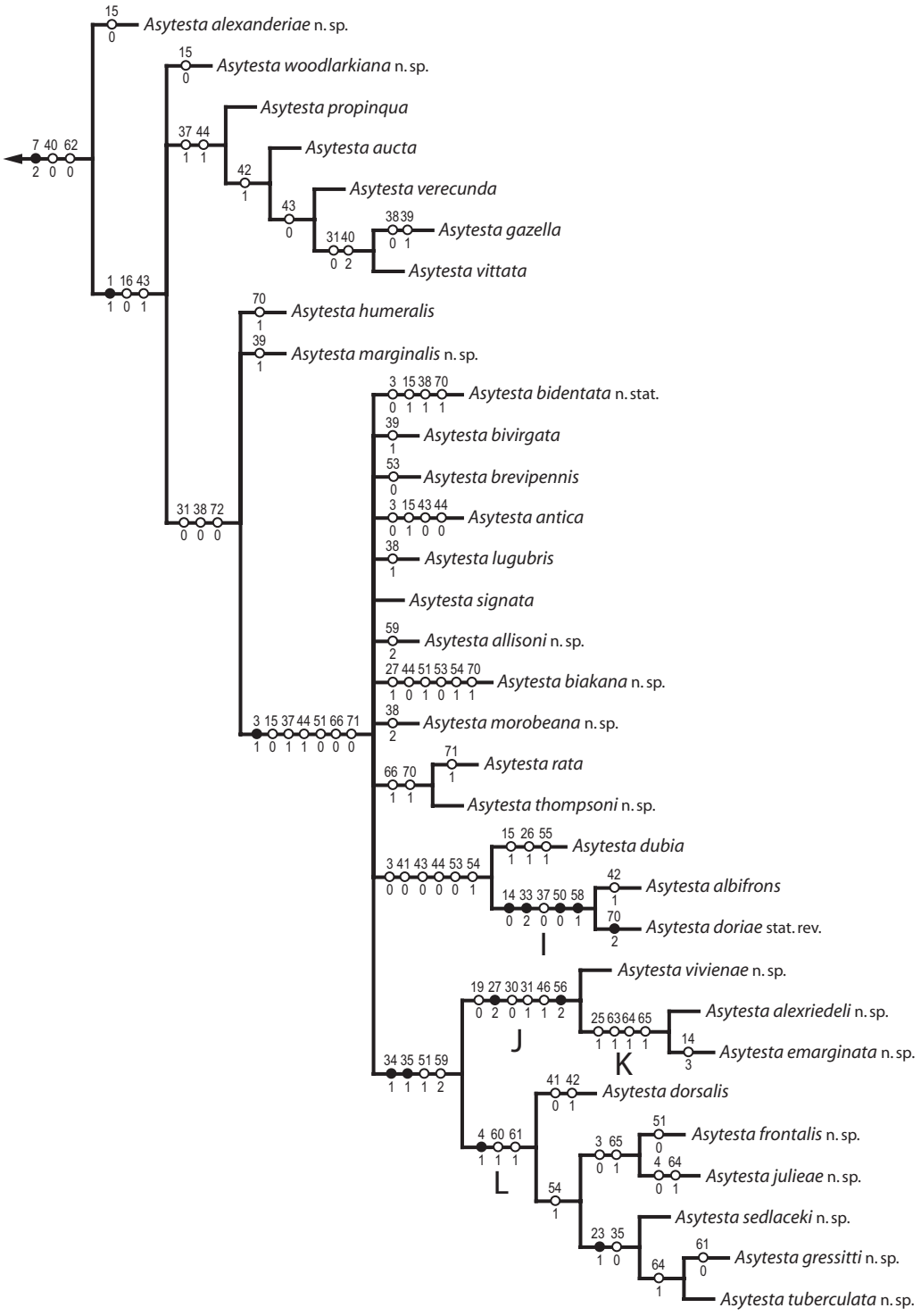


FIGURE 94. *continued*.

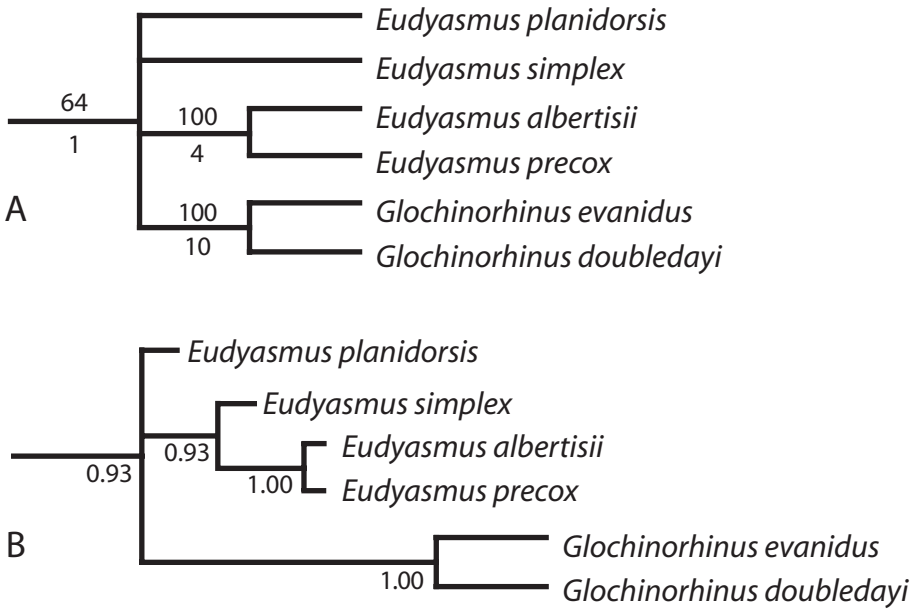
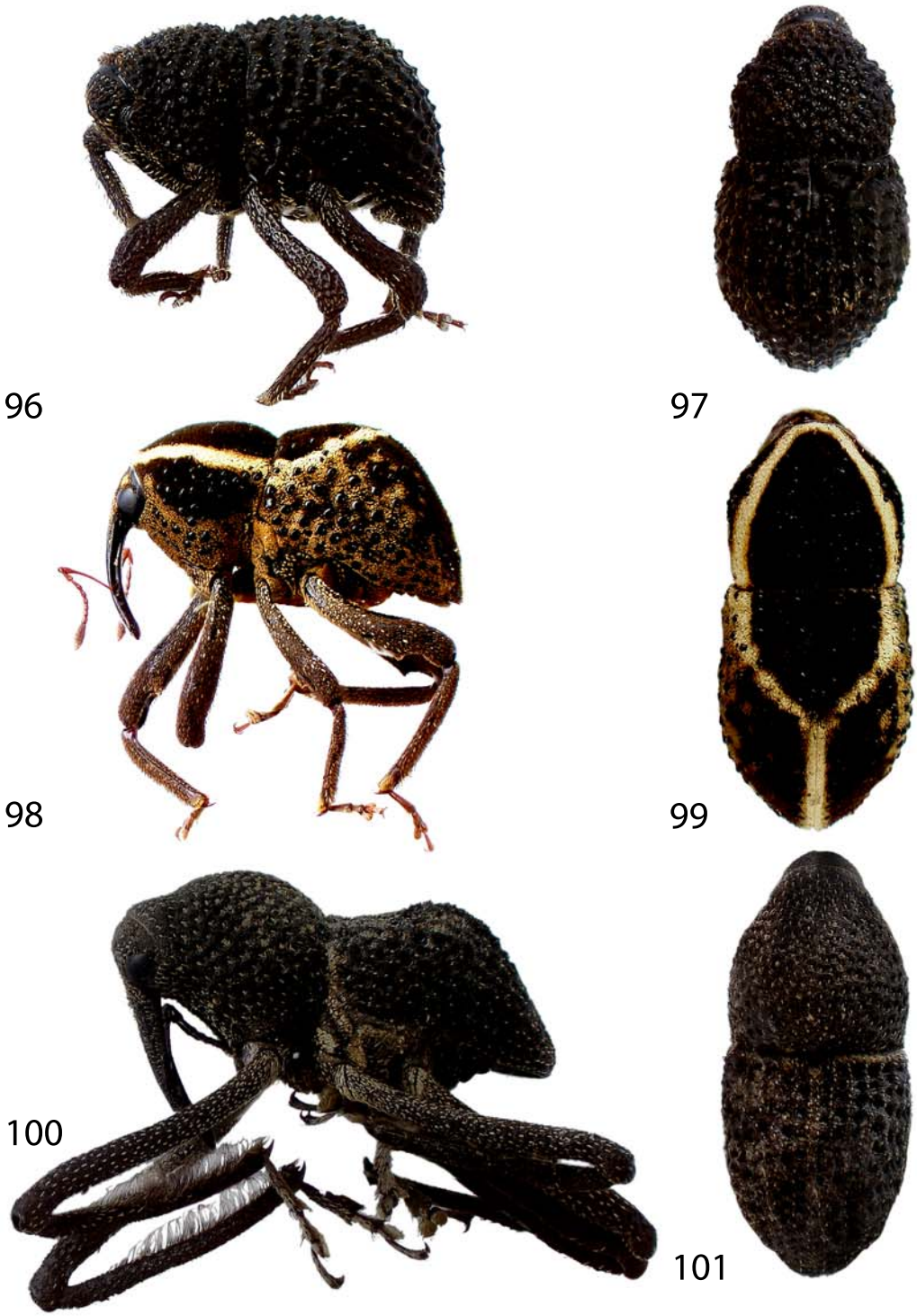
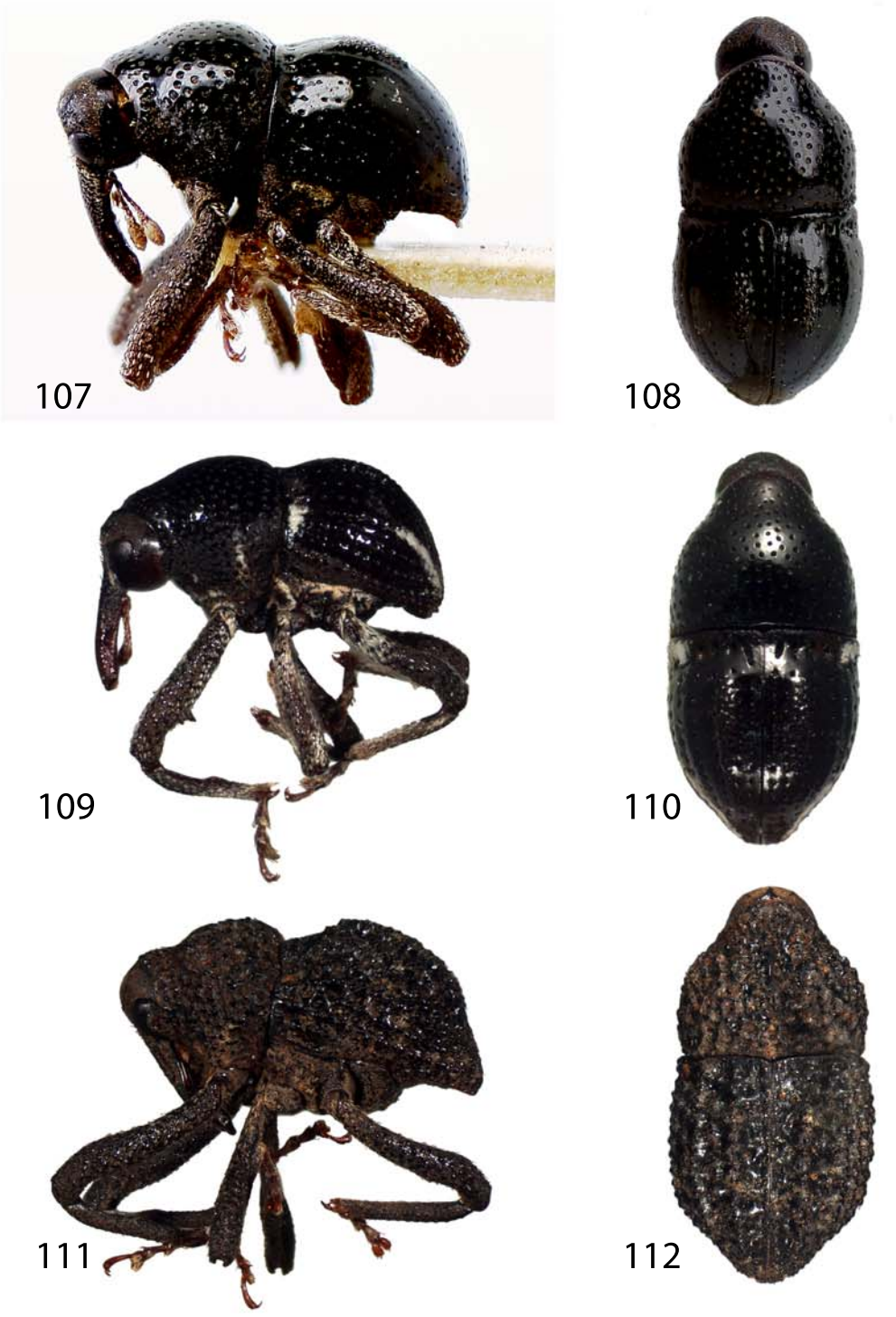


FIGURE 95. Differing topologies of the subclade containing *Eudyasmus* and *Glochinorhinus* recovered from the Maximum Parsimony (MP) and Bayesian analyses. A. MP analysis, strict consensus, numbers above the branches indicate bootstrap proportions, numbers below the branch are decay values; B. Bayesian analysis, majority rule, numbers below the nodes are posterior probabilities.

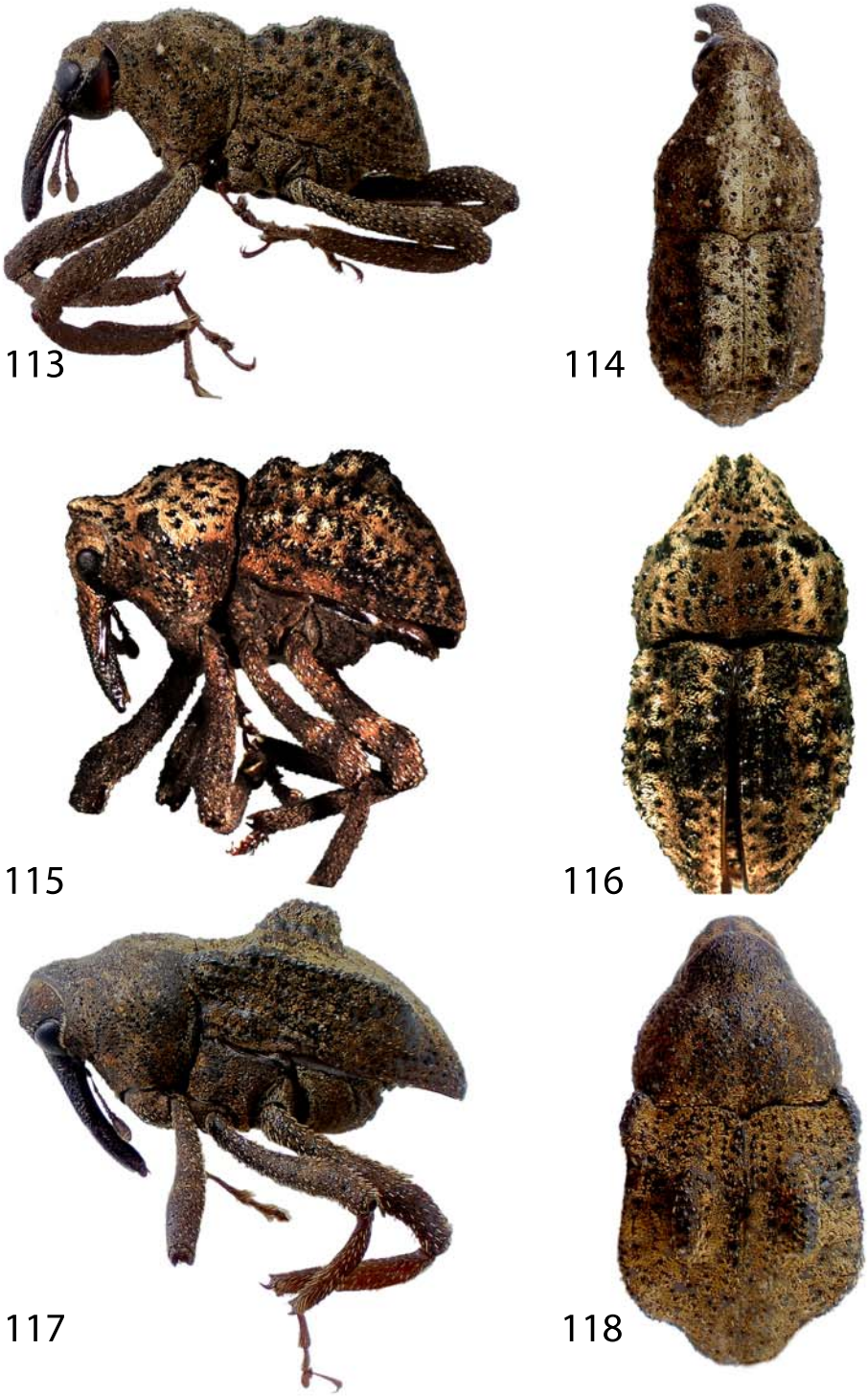


FIGURES 96–101. Habitus of non-congeneric species formerly in *Asytesta*. 96. *Microporpoterus maura* (Pascoe) n. comb., lateral view; 97. same, dorsal view; 98. *Meroleptus ypsilon* (Heller) n. comb., lateral view; 99. same, dorsal view; 100. P*anopides philippinicus* (Heller), lateral view; 101. same, dorsal view.

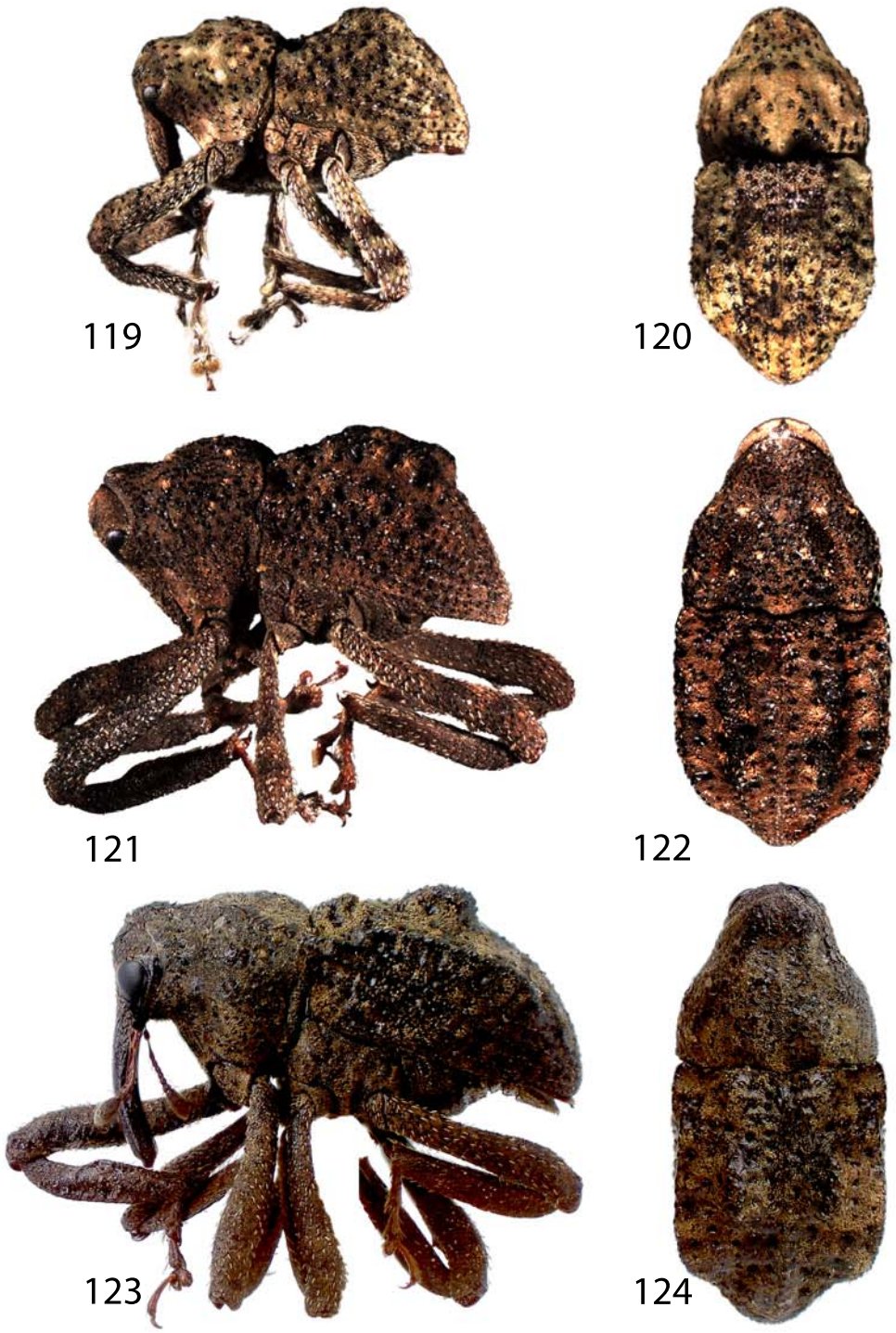
FIGURES 102–106. Head and rostrum of *Asytesta* species. 102. *Asytesta compressipes*, male, frontal view; 103. *Asytesta doriae*, male, frontal view, arrow indicates lateral tooth-like processes; 104. *Asytesta rata*, female, ventral view; 105. *Asytesta frontalis*, male, frontal view; 106 . *Asytesta alexriedeli*, female, frontal view.



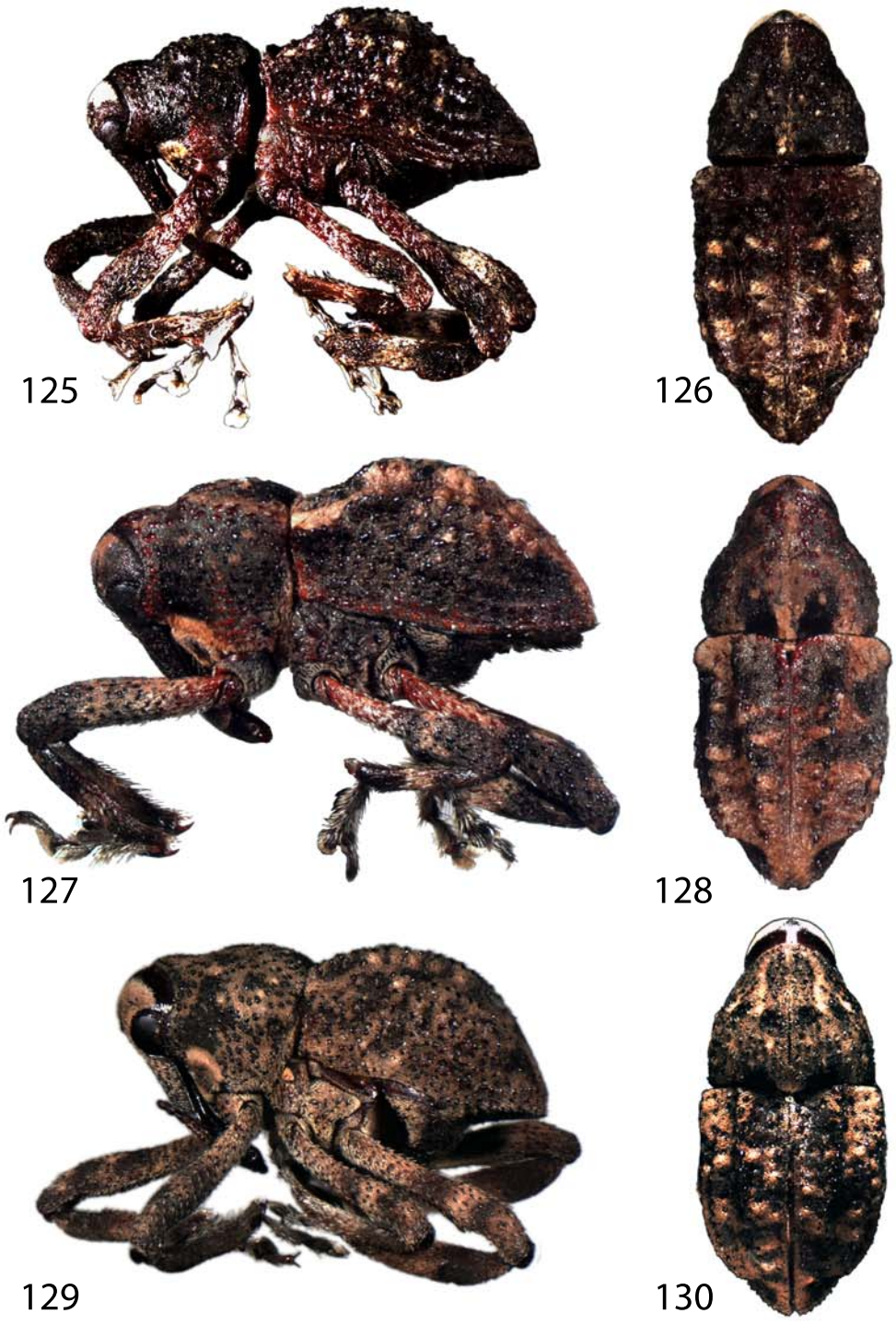
FIGURES 107–112. Habitus of *Asytesta* species. 107. *Asytesta albifrons*, female, lateral view; 108. same, dorsal view; 109. *Asytesta doriae*, male, lateral view; 110. same, dorsal view; 111. *Asytesta dubia*, male, lateral view; 112. same, dorsal view.



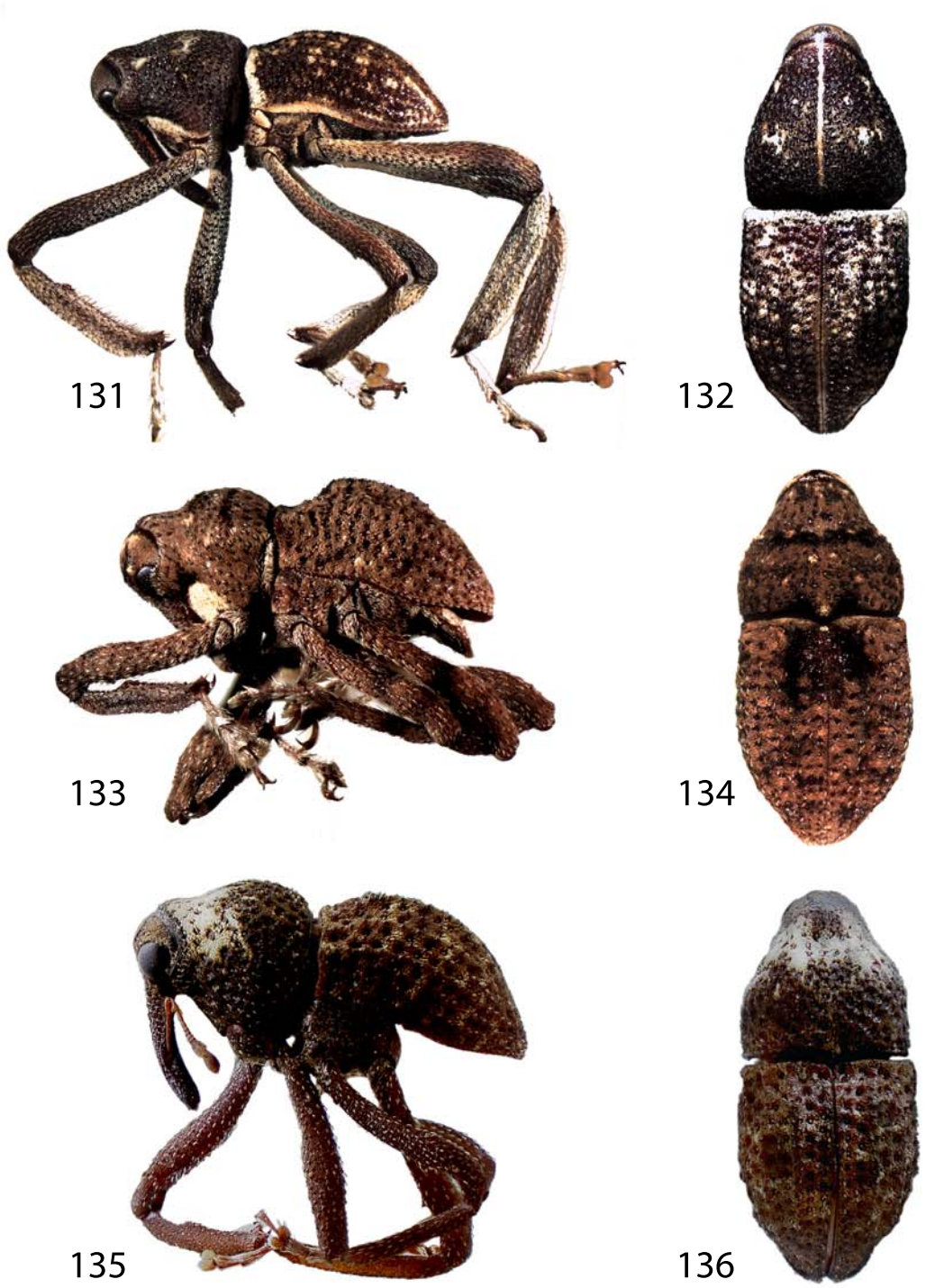
FIGURES 113–118. Habitus of *Asytesta* species. 113. *Asytesta dorsalis*, male, lateral view; 114. same, dorsal view; 115. *Asytesta frontalis*, male, lateral view; 116. same, dorsal view; 117 *Asytesta gressitti*, male, lateral view; 118. same, dorsal view.



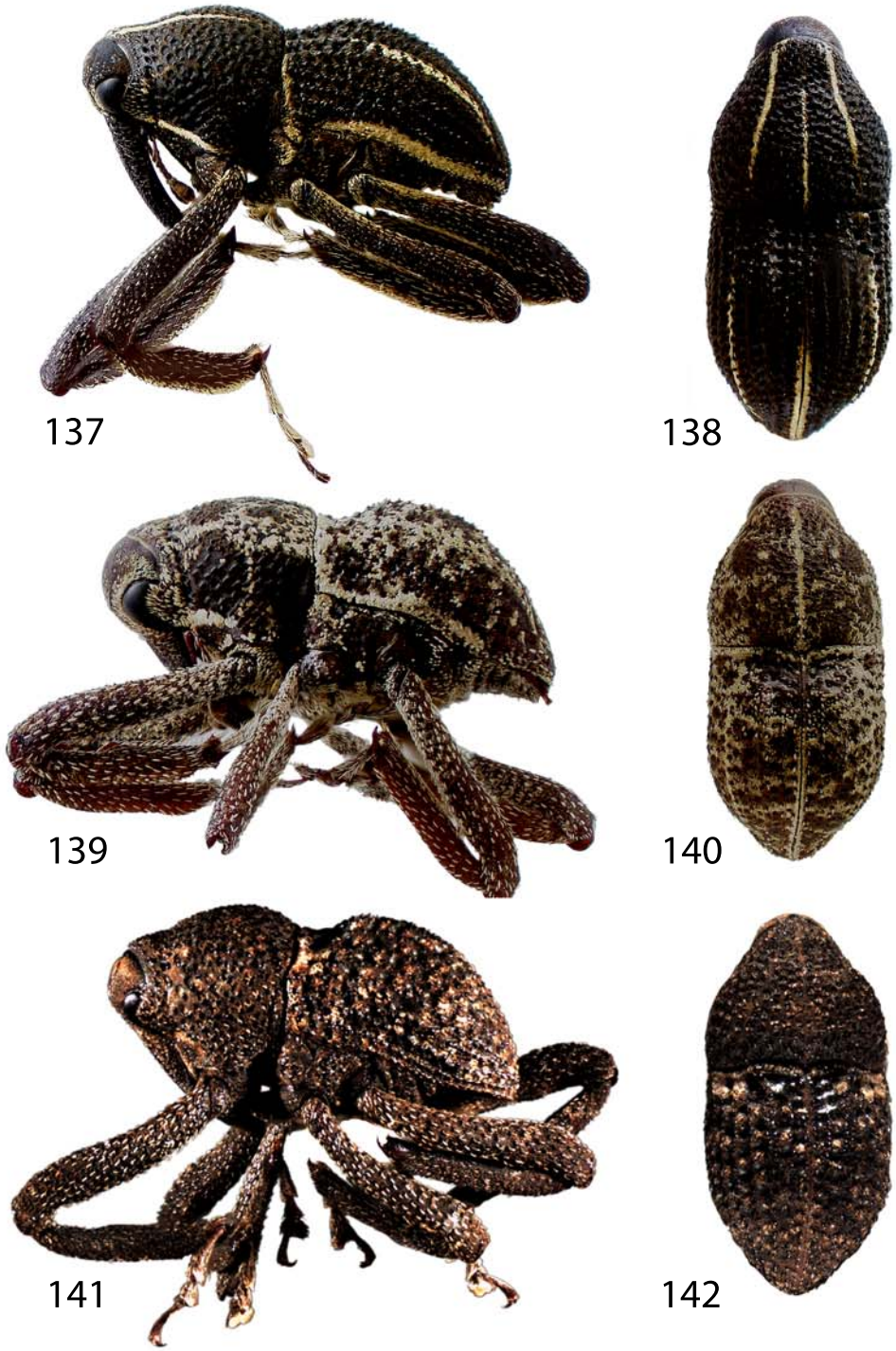
FIGURES 119–124. Habitus of *Asytesta* species. 119. *Asytesta julieae*, male, lateral view; 120. same, dorsal view; 121. *Asytesta sedlaceki*, male, lateral view; 122. same, dorsal view; 123. *Asytesta tuberculata*, male, lateral view; 124. same, dorsal view.



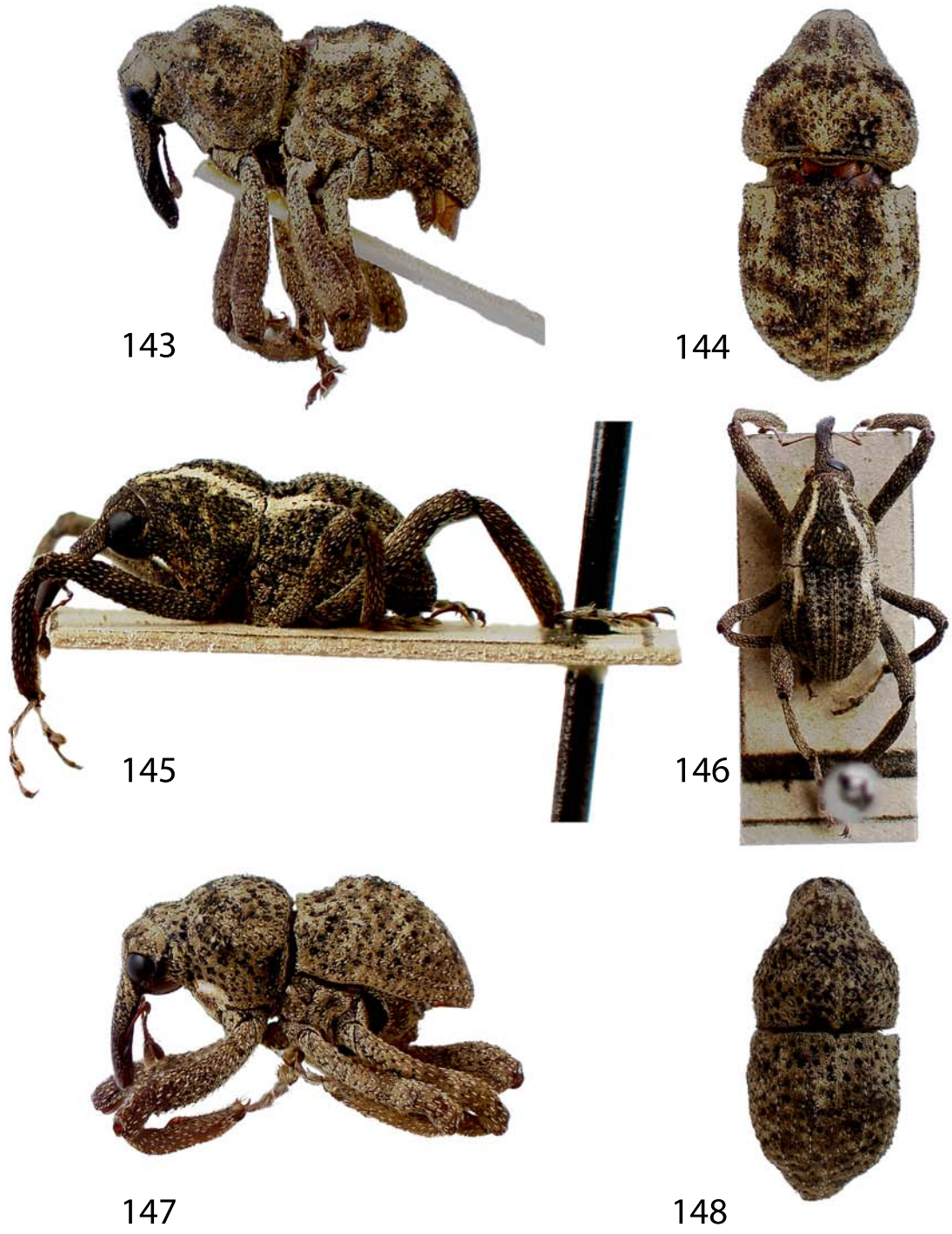
FIGURES 125–130. Habitus of *Asytesta* species. 125. *Asytesta alexriedeli*, female, lateral view; 126. same, dorsal view; 127. *Asytesta emarginata*, male, lateral view; 128. same, dorsal view; 129. *Asytesta vivienae*, male, lateral view; 130. same, dorsal view.



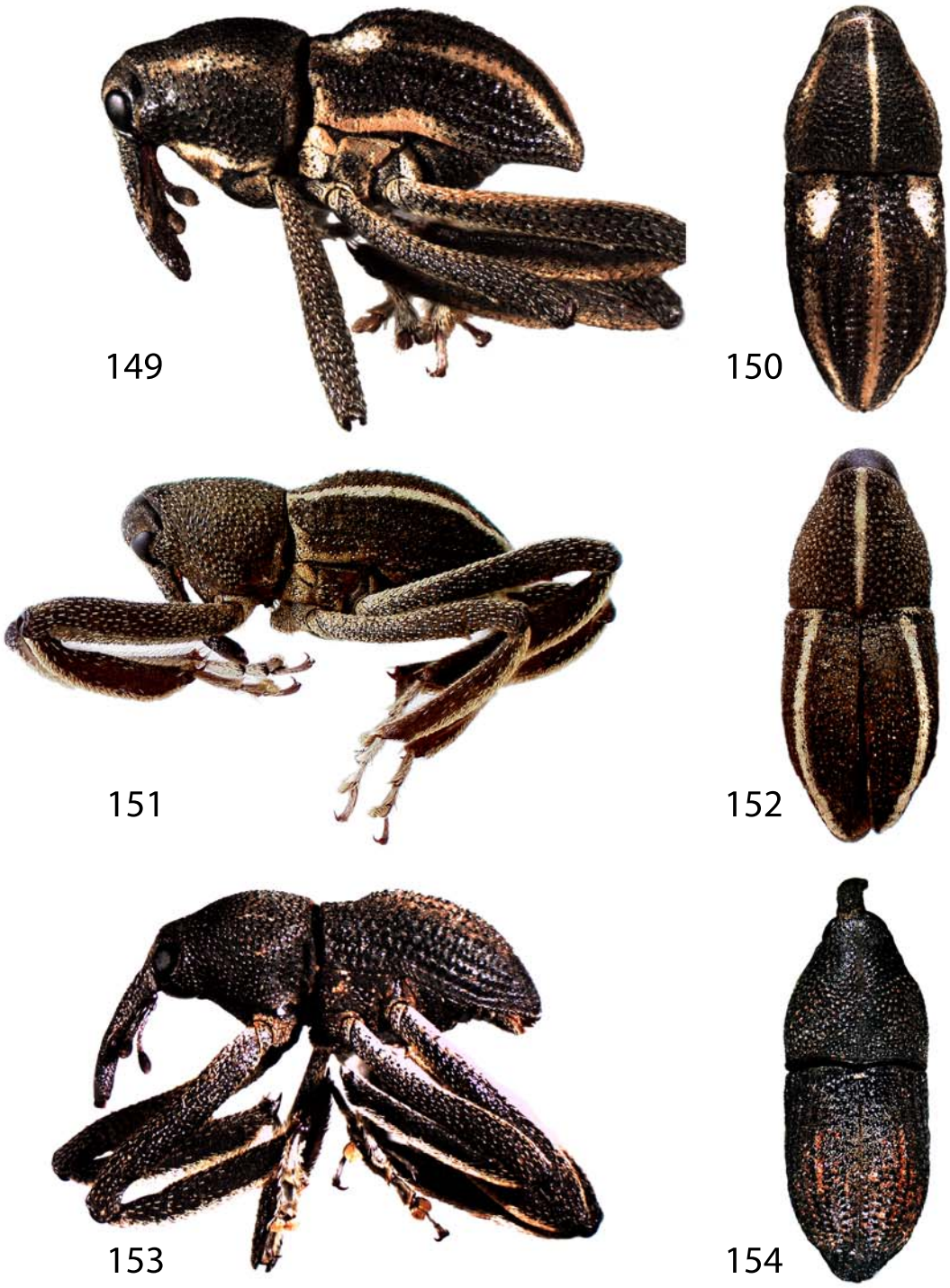
FIGURES 131–136. Habitus of *Asytesta* species. 131. *Asytesta alexanderiae*, male, lateral view; 132. same, dorsal view; 133. *Asytesta allisoni*, male, lateral view; 134. same, dorsal view; 135. *Asytesta antica*, lateral view; 136. same, dorsal view.



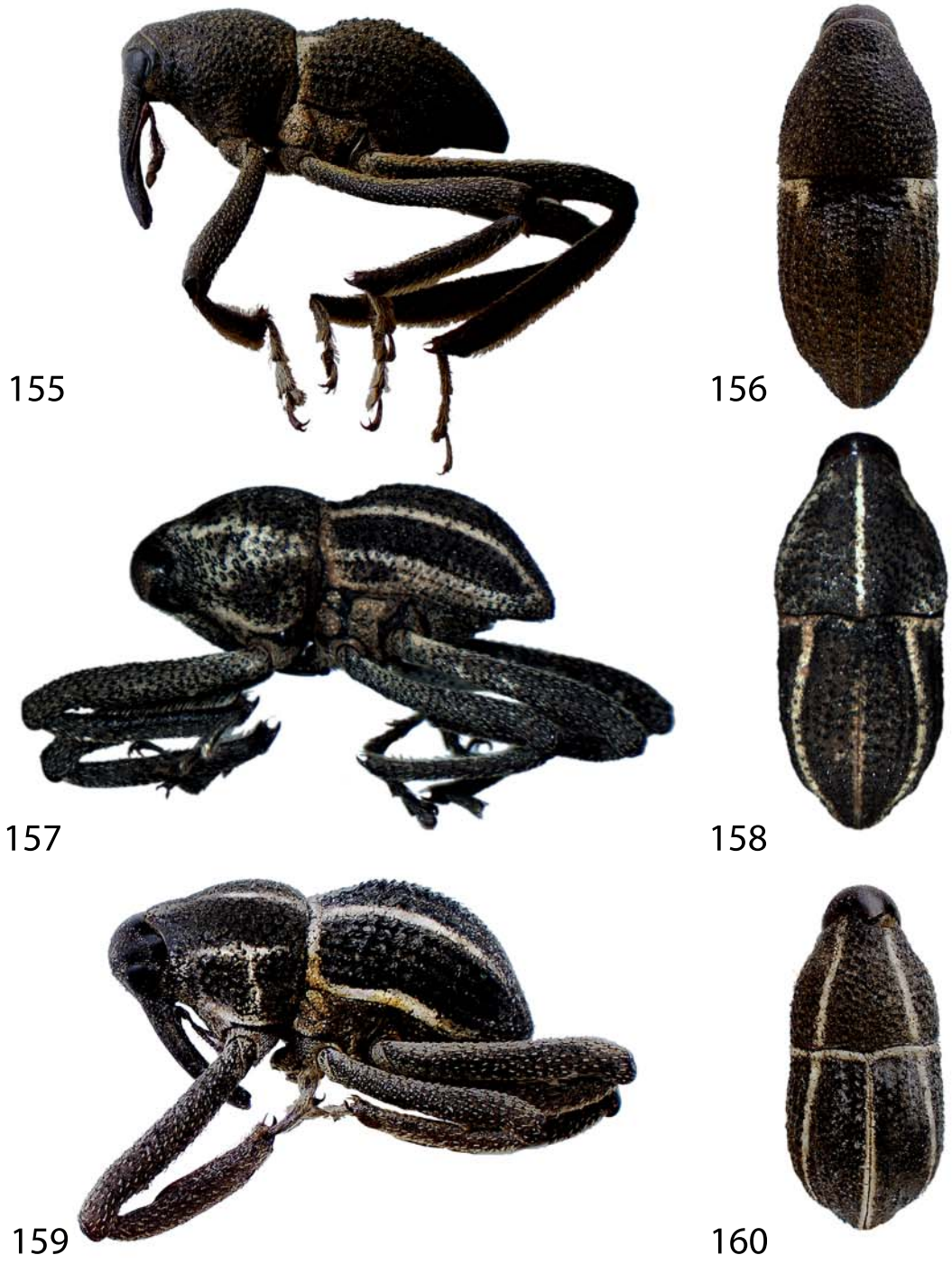
FIGURES 137–142. Habitus of *Asytesta* species. 137. *Asytesta arachnopus*, male, lateral view; 138. same, dorsal view; 139. *Asytesta aucta*, male, lateral view; 140. same, dorsal view; 141. *Asytesta biakana*, male, lateral view; 142. same, dorsal view.



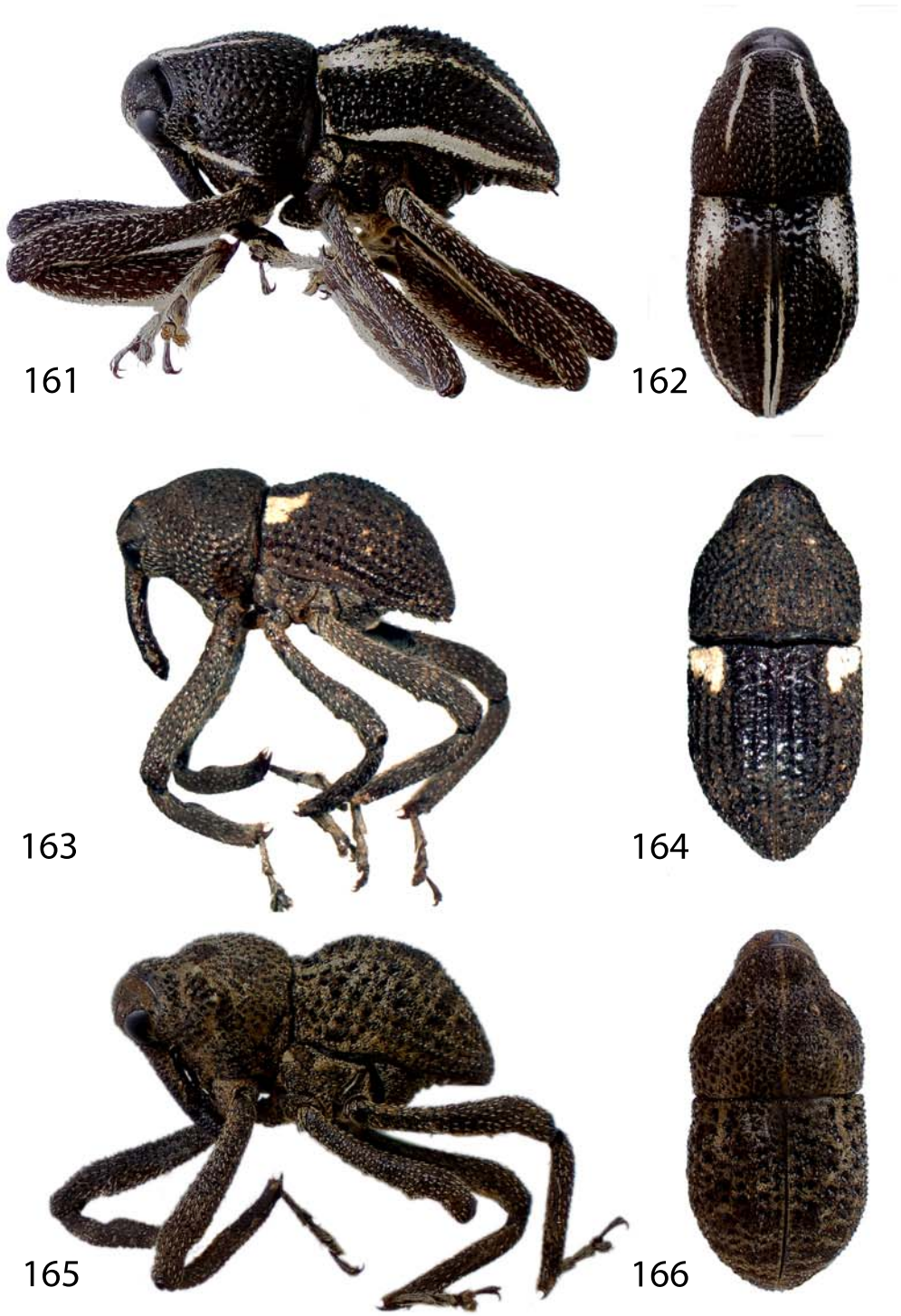
FIGURES 143–148. Habitus of *Asytesta* species. 143. *Asytesta bidentata*, male lectotype, lateral view; 144. same, dorsal view; 145. *Asytesta bivirgata*, male, lateral view; 146. same, dorsal view; 147. *Asytesta brevipennis*, male, lateral view; 148. same, dorsal view.



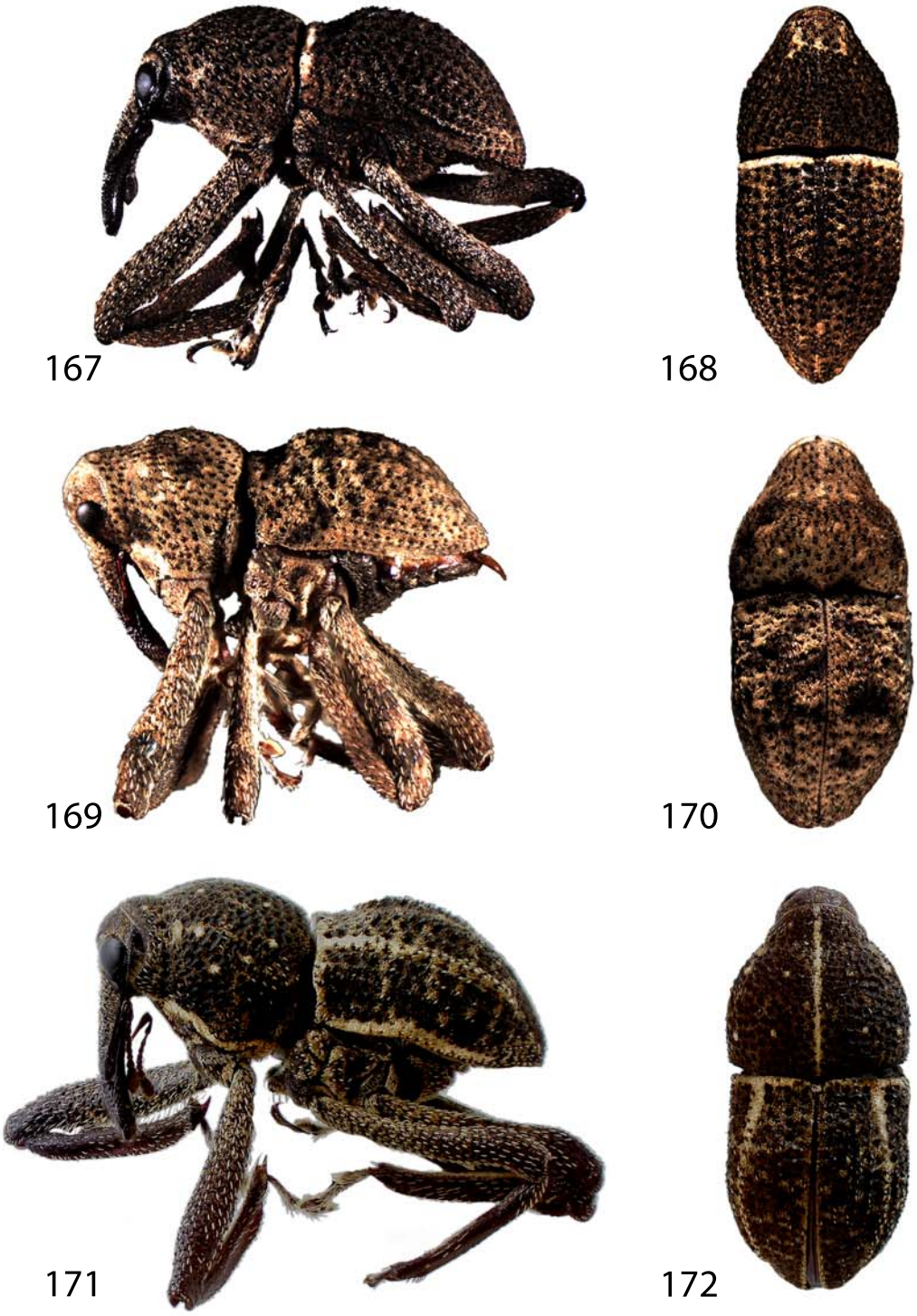
FIGURES 149–154. Habitus of *Asytesta* species. 149. *Asytesta cheesmanae*, male, lateral view; 150. same, dorsal view; 151. *Asytesta compressipes* (holotype of *Cyamobolus trivittata*), male, lateral view; 152. same, dorsal view; 153. *Asytesta concolora*, male, lateral view; 154. same, dorsal view.



FIGURES 155–160. Habitus of *Asytesta* species. 155. *Asytesta eudyasmoides*, male, lateral view; 156. same, dorsal view; 157. *Asytesta fayae*, male, lateral view; 158. same, dorsal view; 159. *Asytesta gazella*, male, lateral view; 160. same, dorsal view.



FIGURES 161–166. Habitus of *Asytesta* species. 161. *Asytesta gestroi*, female, lateral view; 162. same, dorsal view; 163. *Asytesta humeralis*, male, lateral view; 164. same, dorsal view; 165. *Asytesta lugubris*, male, lateral view; 166. same, dorsal view.



FIGURES 167–172. Habitus of *Asytesta* species. 167. *Asytesta marginalis*, male, lateral view; 168. same, dorsal view; 169. *Asytesta morobeana*, male, lateral view; 170. same, dorsal view; 171. *Asytesta propinqua*, male, lateral view; 172. same, dorsal view.

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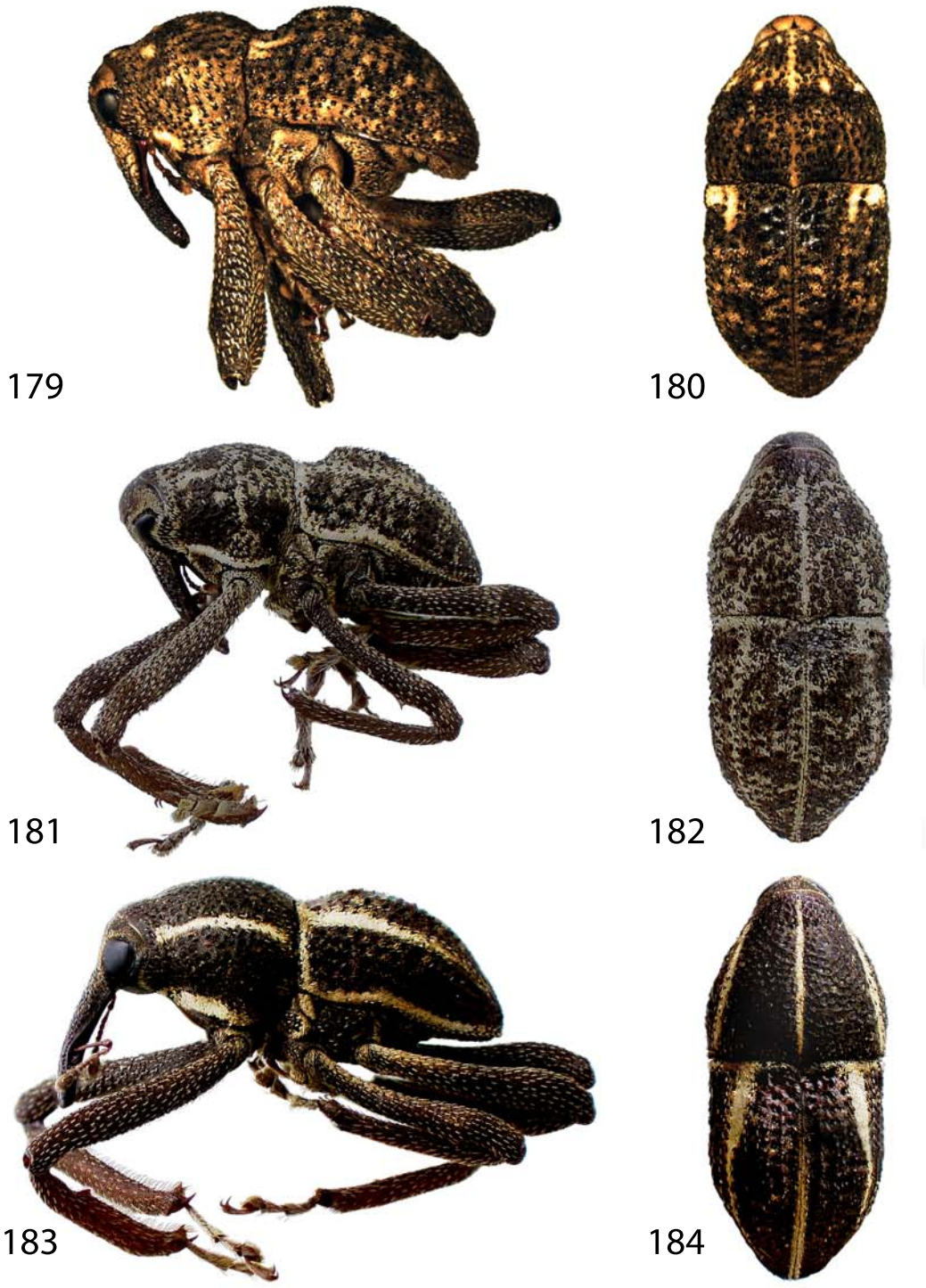
FIGURES 173–178. Habitus of *Asytesta* species. 173. *Asytesta rata*, male, lateral view; 174. same, dorsal view; 175. *Asytesta sejuncta*, male, lateral view; 176. same, dorsal view; 177. *Asytesta signata*, male, lateral view; 178. same, dorsal view.



FIGURES 179–184. Habitus of *Asytesta* species. 179. *Asytesta thompsoni*, male, lateral view; 180. same, dorsal view; 181. *Asytesta verecunda*, male, lateral view; 182. same, dorsal view; 183. *Asytesta versuta*, male, lateral view; 184. same, dorsal view.

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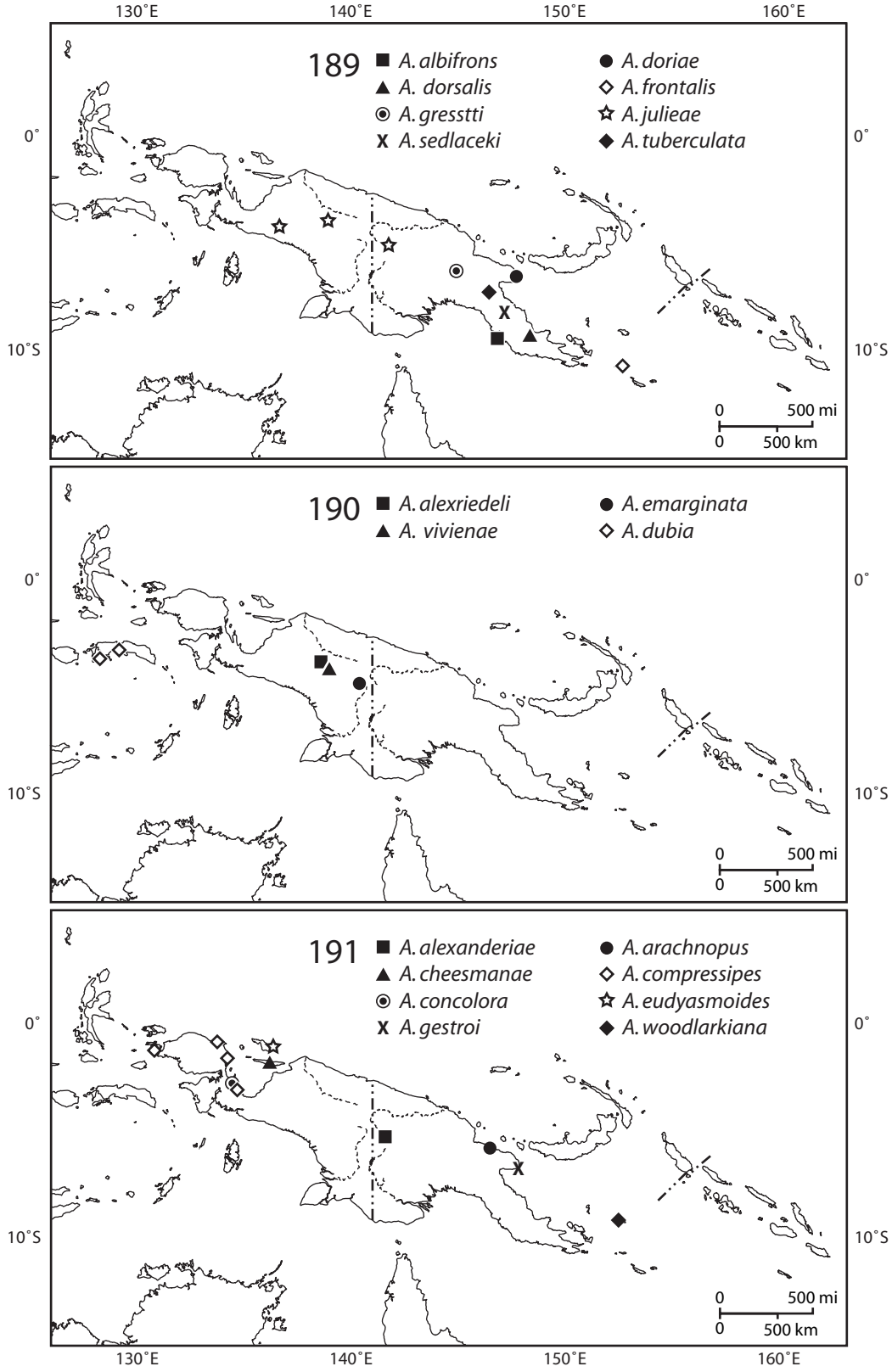
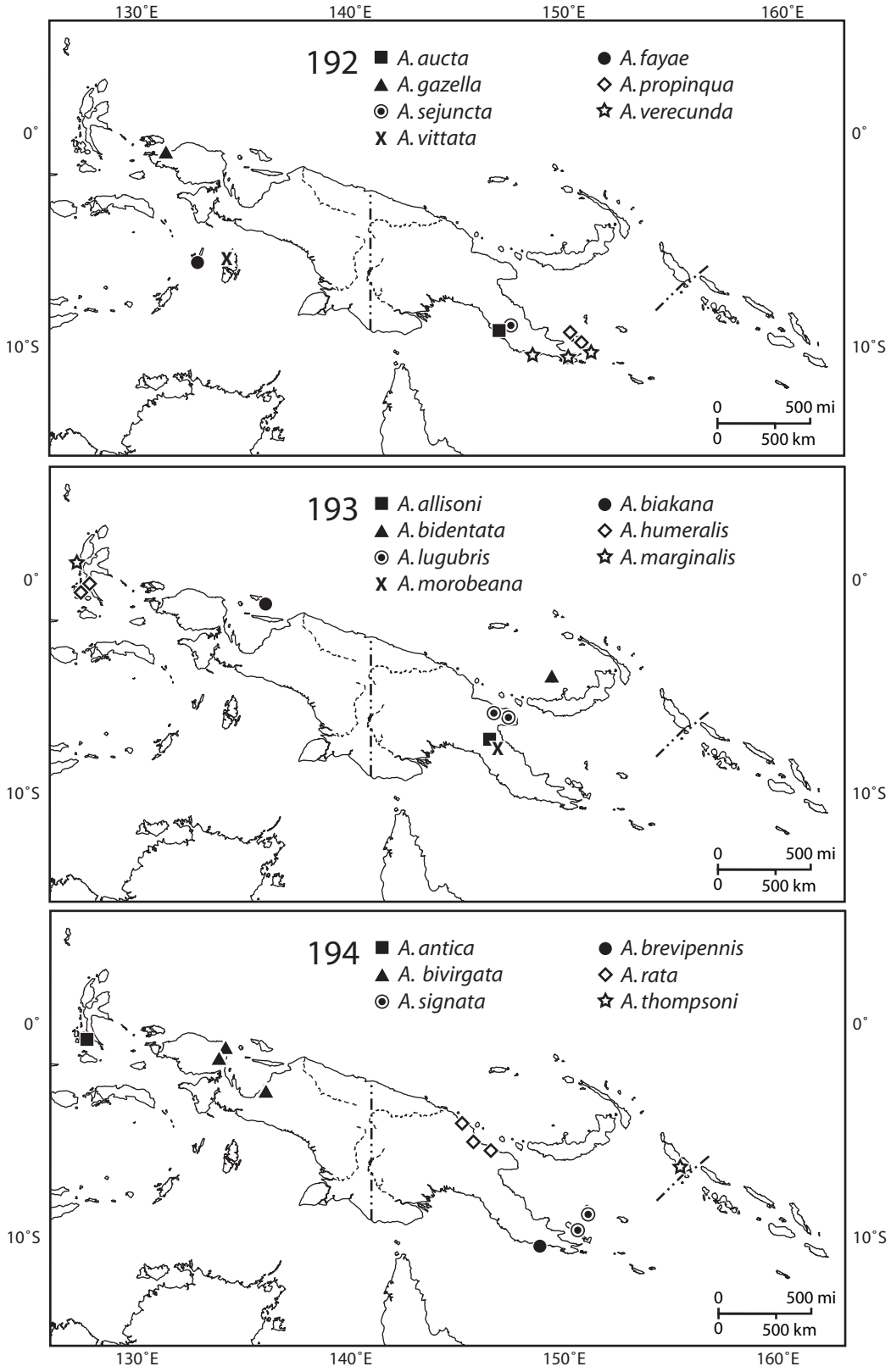
FIGURES 185–188. Habitus. 185. *Asytesta vittata*, male, lateral view; 186. same, dorsal view; 187. *Asytesta woodlarkiana*, lateral view; 188. same, dorsal view.



FIGURES 189–191. Distribution maps of *Asytesta* species.



FIGURES 192–194. Distribution maps of *Asytesta* species.

EPILOGUE

The primary goal of this study has been to make the crowned weevil genera more accessible for research. The study included here provides a foundation for future systematic research as outlined below and new character systems were discovered of potential phylogenetic usefulness in other weevil taxa. Despite these advances, significant challenges for understanding Indo-Australian weevil diversity remain.

Several taxonomic contributions were made in the course of my studies. The crowned weevil genera were not recognized previously. Seven genera were initially grouped together to comprise the group; six are currently recognized following the synonymy of *Zygara* with *Asytesta* here. Numerous taxonomic issues were corrected and 20 new species were described for three of these genera. *Panopides* and *Nothotragopus* were formerly monotypic; known only from single, female type specimens. Males of these genera were described, sexual dimorphism was reported, and additional species were recognized in each genus (Setliff 2008a and 2008b respectively). *Nothotragopus* was erroneously believed to be a part of the Australian fauna and was shown to be from Java (Setliff 2008b). *Asytesta* was paraphyletic with respect to *Zygara*, which was synonymized in herein, restoring the monophyly of the genus. Prior to this study, there were 26 *Asytesta* species; now 41 species are recognized. One noncongeneric species of *Asytesta* was transferred to *Panopides* in Setliff (2008a) and two noncongeneric species were transferred to other genera in this work. In Setliff (2007) the type species for *Asytesta* was designated and in the present work, four *Asytesta* species were synonymized with previously described species. Additionally, habitus illustrations and keys were provided for all 47 species in these three genera.

Several issues concerning the crowned weevil group and its constituent genera remain unresolved. Phylogenetic support is lacking for the group, for relationships between the genera, and for the monophyly of some genera. The paucity of morphological characters that are informative for phylogenetic reconstruction is problematic as are issues concerning incomplete sampling in the Indo-Australian region.

The increased pace of human activity to develop areas of PNG for agricultural and other land uses further hampers sampling efforts and ecological studies of the endemic weevil fauna.

The monophyly of the crowned weevil group has yet to be satisfactorily tested, because identification of appropriate outgroup taxa is very challenging. Some of the crowned weevil genera were originally classified in separate subtribes of Cryptorhynchini. To identify appropriate outgroups, a phylogenetic study of the cryptorhynine tribes is required to delimit the seven tribes and three subtribes. The resulting phylogeny would inform the choice of appropriate outgroups to test the monophyly of the crowned weevil group. Ideally, this Cryptorhynchini study would extensively sample all tribes and subtribes and would be rooted with species of Molytinae. In the absence of a robust phylogeny of Cryptorhynchini, designating the 14 characters that define the crowned weevil clade as synapomorphies is premature. For the present, the possibility remains that these shared features are convergent. I believe this possibility is, however, highly unlikely based on my examination of hundreds of cryptorhynchine genera and species, all of which lack this combination of characters.

Other outstanding phylogenetic issues concern the genera *Cyamomistus* and *Eudyasmus*. Monotypic *Cyamomistus* is still known only from female type material. The lack of male characters for this genus contributes to the ambiguity surrounding its placement. The monophyly of *Eudyasmus* is problematic. Examination of additional material is required to ascertain the correct placement of rare, errant species.

The phylogenetic analysis presented here established the monophyly of *Asytesta* and provided evidence for species groups within *Asytesta* but was unable to define sister-group relationships for *Asytesta* and the other genera of crowned weevils. In 1992, R. T. Thompson made the following observation in reference to the weevil families: "Classification of weevils is like a mirage in that their wonderful variety of form and the apparent distinctness of many major groups lead one to suppose that classifying them will be fairly straightforward but, when examined closely, the distinctions disappear in a welter of exceptions and transformation series." I would argue that this statement applies for "minor" groups such as the crowned weevils as well. Characters were unevenly

distributed across the tree (Figure 94) with most characters supporting genera and species groups. Relatively few adult characters inform generic or species-level relationships. The addition of DNA sequence data may fill the gaps left by adult morphology. Larvae would provide additional morphological characters; however, crowned weevil larvae are unknown. A molecular phylogeny of *Asytesta* would also provide independent evaluation of the species groups proposed here.

Although the usefulness of adult morphology in this study was limited overall, several classes of characters provided useful information at different levels in the tree. Notably, characters pertaining to the prominences on the elytral intervals (Characters 60–65) were useful in defining species groups within *Asytesta* and supported relationships within the *dorsalis* species group. Protibial morphology (Characters 25–29) was informative at the generic level and species group level. Characters dealing with maculae and vittae (Characters 3, 37–44, 66–67, and 70–72) were useful at the species level but were highly homoplastic as indicated by relatively low ci values. However, with the exception of character 39 (paired sublateral vittae on the pronotum), all of these characters had high ri values, indicating that these characters contributed to phylogenetic signal despite being homoplastic. These characters proved to be very useful for diagnosing species. Conversely, male and female genitalia were highly conserved within the crowned weevils. These genitalic characters are presumably synapomorphies of the hypothesized crowned weevil clade and will be useful in future studies on the phylogeny of Cryptorhynchini.

One of the greatest impediments to our understanding of the crowned weevil group and Indo-Australian weevils in general is incomplete sampling and sampling bias. I suspect the actual diversity of crowned weevil species and genera is much greater than the number reported here. The crowned weevils inhabiting the Moluccas and the Solomon Islands are especially poorly known compared to those from parts of Papua New Guinea. Most *Cyamomistus*, *Nothotragopus*, and *Panopides* species are known from fewer than five specimens and these are usually from a single locality. With the exception of *P. philippinicus*, for which there are more than 25 specimens known from several islands in the Philippines, none of the crowned weevils in the region can be described as

"broadly distributed." This situation is probably due in part to the genuine scarcity of these taxa and partially is the result of the paucity of collections from these islands. Species richness of crowned weevils is much greater in New Guinea. This diversity is not surprising since, unlike the smaller islands of the Moluccas, New Guinea is the largest tropical island with the greatest elevation relief, creating a diversity of microclimates and ecological niches in a relatively small geographic area. Its fauna and flora have accordingly undergone extensive speciation (Gressitt 1967). The tectonic history of the numerous terranes that accreted to the Australian craton to form New Guinea has also been suggested to play an important role in the diversification of its biota (see Heads 2006). The two largest crowned weevil genera, *Asytesta* and *Eudyasmus* occur in New Guinea; the later is endemic to the mainland. Here too, our knowledge of the New Guinean fauna suffers from incomplete sampling. Large regions of West Papua are poorly represented in the material I examined for this study. If not for the recent collections by Alex Riedel (SMNK), the *Asytesta* of West Papua would still be virtually unknown, except for older collections made in colonial times in the Vogelkop area and nearby islands. *Asytesta alexriedeli* and *A. emarginata* are the first crowned weevils to be collected in the subalpine zone above 3400 m elevation in New Guinea. These species are remarkable considering all other known crowned weevils were collected in the lowland to lower montane zones and no species has ever been reported from the mid to upper montane zones (ca. 2300–3400 m). The absence of crowned weevils, specifically *Asytesta*, from these altitudinal zones probably reflects the relative scarcity of montane species but also highlights our incomplete knowledge of New Guinean montane fauna.

The Indo-Australian region is home to one of the world's richest cryptorhynchine fauna. However, the status of knowledge of these weevils lags behind that of other biotic regions. Almost no Indo-Australian cryptorhynchine genera have been revised in modern times and a tremendous amount revisionary work is needed. Additionally, the ecology of cryptorhynchines is all but unknown, which is probably a result of our poor understanding of the group's taxonomy. Little can be said concerning the ecology of the crowned weevils based on available information. Host records are known for only five out 54 species. Almost all of these records are based on adult collection data gleaned

from specimen labels and not reared specimens. Although far from conclusive, these records suggest low host-specificity; however, this generalization might not be the case for all genera and species of crowned weevils. Clearly, basic taxonomic efforts to survey, describe, and revise these weevils are required before even the most basic questions concerning their biology and ecology can be investigated. The current inaccessibility of Indo-Australian weevil taxonomy prevents the efficient dissemination of information that is relevent to the managment of timber pests of potential economic importance and impedes research in tropical ecology, agriculture, and conservation.

Anthropogenic degradation of rainforests in the Indo-Australian region is occurring at an ever increasing rate (Laurance 1999). This plight is shared by the entire Indo-Australian biota, including weevils. Many insect species face extinction due to severe habitat fragmentation and loss (Dunn 2005). It is likely that many weevil species have gone extinct before they are known to science and will continue to do so. The loss of these species prevents our understanding of their functional role in the ecosystem and impedes our understanding of weevil systematics. Permanent biological research stations based in the region such as the Wau Ecology Institute and the Binatang Research Center (BRC) in New Guinea have greatly accelerated biological discovery in the region. The BRC has employed parataxonomists to conduct biological inventories and collect ecological data for tropical insect herbivores with great success (see Basset *et al*. 2004). Adult and larval host data for *A. rata* presented in this paper were collected almost entirely by parataxonomists, whose work should be commended and supported.

In closing, I anticipate that the taxonomic and phylogenetic studies included here will support the next generation of Indo-Australian weevil taxonomists. This work should also benefit the research of tropical ecologists, foresters, and conservationists. I hope that by making names available for new species and providing tools for diagnosing the taxa, that some of the deficiencies in knowledge of the ecology and systematics of this group of weevils can begin to be redressed.

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APPENDIX A. Character matrix used for the phylogenetic analyses of the crowned weevil group.

	10 20 30 40 50 60 70 80
Asytesta albifrons	1000?1????00000001100000001?1012000000001000001000001000100000000000000001????000
Asytesta alexanderiae	00001120000000102011000000011011100000100100000001011010000000000000130001100111000000
Asytesta alexriedeli	10101120000000100010000000102100110110100010010101011010020020001110000000001110000 0
Asytesta allisoni	1010112000000010001100000000101010000100010110001010010000020000000000000000011100000
Asytesta antica	1000112000000011001100000000101010000100010000000101001000000000000000000000011100000
Asytesta arachnopus	0000111000000011201100000000110111000003121000000101101000000000100013000010011100000
Asytesta aucta	1000112000000011001100000000101110000110011110001011010000000000000130001100111000000
Asytesta biakana	101011200000001000110000000011010100000?000101000010110010000000000000100100000111000000
Asytesta bidentata	1000112000000011001100000000101010000110010110001010010000000000000010010000111000000
Asytesta bivirgata	1010112000000010001100000000101010000101010110001010010000000000000010000000111000000
Asytesta brevipennis	1010112000000010001100000000101010000100010110001010010000000000000000000000111000000
Asytesta cheesmanae	0000111000000010201100000000110111000001021000000101101000000000100012000010011100000
Asytesta compressipes	0000111000000010201100000000110111000001000000000101101000000000100002000010011100000
Asytesta concolora	0000111000000010201100000000110111000000000000000101101000000000100000000000011100000
Asytesta doriae	1000112100000000001100000000101012000000000000000100000100010000000000020000101000000
Asytesta dorsalis	1011112000000010001100000000101010110100001110001011011000021100000000000000111000000
Asytesta dubia	100011200000001100110000000101010100001000000000001010001100000000000000000001?100000
Asytesta emarginata	101011200000003000100000001021001101101000100101010110100200200011100000000011100?0?
Asytesta eudyasmoides	000011100000001020110000000011011100000000000000001011010000000001000010000000011100?0?
Asytesta fayae	0000111000000011001100000?0110111000001021000000101101000000000100013000100011100?0?
Asytesta frontalis	1001112000000010001100000000101010110100010010001010011000021101010000000000111000000
Asytesta gazella	1000112000000011001100000000101010000101211010001011010000000000000130001100111000000
Asytesta gestroi	0000111000000011201100000000110111000001101000000101101000000000100011000010011100000
Asytesta gressitti	1011112000000010001100010000101010100100010010001011011000021000100000000000111000000
Asytesta humeralis	1000112000000011001100000000101010000000010100001011010000000000000110011000111000000
Asytesta julieae	1000112000000010001100000000101010110100010010001011011000021101110000000000111000000
Asytesta lugubris	1010112000000010001100000000101010000110010110001010010000000000000010000000111000000
Asytesta marginalis	1000112000000011001100000000101010000000101010000101101000000000000010000100011100000
Asytesta morobeana	1010112000000010001100000000101010000120010110001010010000000000000000000000111000000
Asytesta propinqua	1000112000000011001100000000101110000110010110001011010000000000000130001100111000000

APPENDIX A. (*Continued*)

	10	20	30	40	50	60	70	80
Asytesta rata	1010112000000100011000000001010100001100101100010100100000000000011001100011100000							
Asytesta sedlaceki	1011112000000100011000100001010101001000100100010111011000021101000000000011100000							
Asytesta sejuncta	0000111000000110011000000011011100000102100000010110100000000100013000110011100000							
Asytesta signata	1010112000000100011000000001010100001000101100010100100000000000001000000011100000							
Asytesta thompsoni	1010112000000100011000000001010100001200101100010100100000000000011001000011100000							
Asytesta tuberculata	1011112000000100011000100001010101001000100100010111011000021100100000000011100000							
Asytesta verecunda	1000112000000110011000000001011100001100110100010111010000000000013000110011100000							
Asytesta versuta	0000111000000110011000000001101110000010220000001011010000000010001300011001110?0?							
Asytesta vittata	1000112000000110011000000001010100001102110100010111010000000000013000110011100000							
Asytesta vivienae	1010112000000100010000000021001101101000100101010111010020020000000000000011100?0?							
Asytesta woodlarkiana	1000112000000100011000000011011100000100101000010111010000000000011000110011100000							
Cyamomistus albitarsus	0000?0????001100010000001101?011000002002000100001102000000000000000000000100????0?							
Eudyasmus albertisii	0100011100001302011001001001001100000101000011000110200010000100010000000100100001							
Eudyasmus planidorsis	0200001100001300011001001100001100000000000011000110200010000100000000000100100001							
Eudyasmus praecox	0100011100001302011001001001001100000101000011000110200010000100010000000100100001							
Eudyasmus simplex	0100011100001302011001001000001100000000000011000110200010000100000000000000100001							
Glochinorhinus doubledayi	0200011111110120011100100110000010000000000011011111200100011020000000001000100001							
Glochinorhinus evanidus	0200011111110120011100100110000010000000000011011111200100011000000000001000100001							
Nothotragopus zimmermani	0000001000001100010000001101011100000000000011010111200000000000000000000000100111							
Nothotragopus tuberosus	0000001000001100010000001101011100000000000011010111200000000000000000000000100111							
Nothotragopus tragopoides	0000?0????001100010000001101?111000000000000011010111200000000000000000000000???111							
Panopides anticus	0000001100001100010000001103111100000000000011000110201010000000000000000000100101							
Panopides philippinicus	0000001100001100010000001103111100000000000011000110201010000000000000100000100101							
Panopides riedeli	0000001000001100010000001101011100000000000011000110201010010000000000000000100?0?							
Cyamobolus funereus	0300100000001101200112211102010110010000000010100100200110020000000000001100011001							
Cyamotrox obliquatus	0300100000011101200112211102001010010000000010100100200110020000000110001110011?0?							
Cyamotrox solarii	0300100000011101200112211102001010010000000010100100200110120000000110001110011?0?							
Cyamotrox yuliensis	0300100000011101200112211102001010010110000010100100200110120000010100101110011001							