

UNIVERSITY OF MINNESOTA  
Department of Agriculture  
University Farm, St. Paul, Minn.

Division of Entomology and Economic Zoology

6th Newsletter

May 1, 1943

To the Alumni in the Armed and Related Services:

Dear Alumnus:

Greetings from Minnesota! Wherever you are, be it the desert sands, coastal marshes, or sheltering palmgrove, you will like to think of us here watching anxiously for signs that winter has left for good, that the ground has been frozen for the last time for one more year, that the grass is finally and actually green once again. This is just to remind you the weather might be pretty nice where you are if you had time to notice it. Or perhaps you prefer freezing!

"Our classes in the ——— quarter are much reduced," - quotation from all previous newsletters. One exception this spring is the class in Economic Entomology 5, in which enrollment has increased to 11! Granovsky is teaching this group, thus allowing Mickel time for the collections before the summer rush. Ruggles sort of likes the idea he has taught his last class; - at least that is his story. Dr. Riley's class in Tropical Medicine and Parasitology for senior medics of the Army and Navy Reserves numbers about 80; Ashton Cuckler, Hodson and Swanson are assisting. By the end of the year about 200 students will have taken the course, in which they have concentrated on diagnosis and treatment rather than general parasitology.

Ed. Thomas returned to St. Paul recently from St. Louis and is employed on emergency grasshopper work in cooperation with the State Entomologist's Office.

Mrs. Riley, we are glad to say, is at home slowly regaining her strength.

Much popular interest is being shown in a short course in beekeeping to be held in the Division May 13 to 15. Dr. Tanquary says his visiting faculty will include Paddock from Ames and H. H. H. from W. D. Rumors that Shepard has gone to Washington are false; he is still here.

News of graduate students is scanty for obvious reasons. Hughes has been in northern Minnesota during the last two weeks in April making a survey of the alfalfa plant bug. Fan has finished his 3-months work on organic arsenicals at the University of Nebraska and is now on a trip to various eastern laboratories before returning to Minnesota. It may interest you that in the past two years the College of Agriculture has suffered an 85 per cent reduction in male enrollment whereas in the same period there has been a reduction of only 23 per cent in the number of women.

We look forward to receiving mail and visits from you with at least something of the same interest with which you receive your mail. Thank you for the many nice letters. We are not so naive as to think all of you can find time to write to us as well as to your other relatives and friends, but we do urge you to let us know once in awhile how you are doing so we may pass along the news to others.

With all good wishes to each one of you, we all are

Sincerely yours,

Donald H. Shepard  
M. C. Tangeman  
Clarence E. Mielck  
Wm. A. Riley  
A. C. Hodson  
A. A. Granovsky  
H. V. Kiggles  
Gustav Swanson  
Mark Heyden

Roger Anderson, April 12, 1943 - 223 Federal Building, Asheville, North Carolina

"I have traveled throughout both North and South Carolina as far South as Charleston, and in the northern part of Georgia (Atlanta, Augusta, etc.) on termite work for the War Department. All the towns we have to visit are Army or shipyard - and/or both, towns. What I am trying to say is that one or all of the three agencies - Army, Navy and ship construction - have filled the towns with personnel and accommodations are difficult to get. One night in Columbia, S. C. I sat up all night in a hotel lobby. I don't suppose that it will be long before epidemics break out in these congested places."

"What little time I've had to spend in the coast cities (New Bern, Wilmington and Charleston) I've certainly enjoyed seeing the old buildings. The peculiar architecture of the Charleston mansions was especially interesting. In February I was traveling with an Engineer of the War Department who was an old Charlestonian. As our work took us into the city of C., he gave me a very vivid account of the history and romance of the old city."

"Last autumn Clarence (Hoffmann) and I spent several days in the swamp country N. E. of Charleston known as 'Hell Hole Swamp'. During prohibition days this was a big bootlegging country and, as the story goes, strangers were shot on sight. However, when we were in there, it seemed peaceful enough. In this area I saw turpentine - and the work of Burrestis apricans, cypress swamps, and a few remnants of the by-gone splendor of the old rice plantations. Besides the piney woodlands and the swamp country, I have also seen the cotton country and the country that filthy weed, tobacco, made rich. When I first came down here I was quite amused to see the old mountain women chewing tobacco and spitting all over the streets just like the men."

"In dealing with termites, we have to crawl under the basementless buildings to find out where the termites are entering the structures. This is usually a very unpleasant job but is absolutely necessary in order to give proper advice for termite control. Much of the wood destruction by termites occurs at the bearing points. The subsequent failure usually causes an unevenness of the floor. This can have serious consequences in buildings such as powder magazines."

Sergeant Herbert C. Barnett, April 5, 1943 - Division of Parasitology and Tropical Medicine, Army Medical School, Army Medical Center, Washington, D. C.

"I am impatiently sitting back waiting news on my application for a commission in the Sanitary Corps. About a week ago I was told down at the Surgeon General's Office that they had approved my application and they informed me where my first assignment would be. My papers are now at the office of the Army Procurement Board and all action on my case is subject to their approval. I am hoping that their approval will be forthcoming so that my orders will be delayed no longer and I can get the matter off my mind."

"Major Philip left here Friday and as I understand it, will stop at Hamilton for a short time. Major Hertig will take over most of his work in parasitology, although Lt. Worth, one of our medical officers, will continue to give some of the lectures and to direct some of the laboratory periods in medical entomology. We have recently had a new enlisted man added to the department in the person of Pvt. De Leon, a Ph.D. from Cornell. DeLeon worked in forest entomology for a number of years with the U. S. D. A. and is a very well trained man. He too is applying for a commission now and may not be with us very long."

Daniel M. Benjamin, PhM2/c, U. S. Naval Hospital Staff, Newport, Rhode Island

"After reading about the experiences of Daggy, Pratt, Jellison and the others who have seen foreign duty, my quiet life at Newport seems too mild for even the slightest mention. For the records, However, I should let it be known that I'm still stationed at the U. S. Naval Hospital and am working in the Eye, Ear, Nose and Throat operating room. My duties are those of senior man and as such, I'm teaching O. R. technique to our new men and am "scrubbed" for most of our operations. We are still taking out tonsils and repairing septal deviations, with a few cataracts and bronchoscopies now and then for variety. Clinic takes considerable time each day with treatment of various E.E.N.T. ailments affording valuable experience. Much of Dr. Minnich's physiology comes into use in our plotting of color fields and blind spots in our diagnostic work.

"My entomological life has practically ceased with ant control being my duty. Ants were giving us considerable trouble getting into our sterile goods and were traced down to a package of eye-droppers in a storage locker. The ants had set up nests in four eye droppers and were sending out their parties from there.

"I stopped in at Washington a while back and had a pleasant visit with Elishewitz and was able to see Barnett also. Jess Douglass, a Main Campus Zoologist, and I are still together; Douglass having received his Laboratory Technician's rating, is now instructing embryo technicians in bacteriology."

Dan was back in Minneapolis on a furlough last week and visited at University Farm. We all enjoyed visiting with him very much.

2nd Lt. A. A. Bertagnolli, 877 Chemical Company, Barksdale Field, La.

Mail sent to Bertagnolli at this address has been returned and we do not know where he is at the present time.

Staff Sergeant Everett G. Blood, Med. Det. 323 S.T.R., Fort Benning, Ga.

We have not heard anything from Blood since he went into the service but we hope that if he gets this copy of the Newsletter he will drop us a line and tell us what he is doing in the Army.

2nd Lt. A. W. Buzicky, M.D.R.F., M.R.T.C., Camp Robinson, Arkansas

Al has had the good fortune to be transferred to a camp where there is considerable prospect of his being placed in anti-malaria work.

April 14, 1943

Buzicky states that he has been extremely busy for the past few months. He says "As you probably heard I have been transferred from Camp Berkeley to the Medical Replacement School at Camp Robinson. My work at the O.C.S. was very interesting. Like anything that is worthwhile it required a lot of work." He goes on to state "The most interesting part of my work there consisted of analysis of the character of the men in the platoon to determine the candidate's potentialities of becoming a good officer. It is largely on the basis of the platoon leader's recommendations that determines whether a man will get through or not."

"About the middle of February I got a letter from Colonel Russel in Washington. He is in charge of the anti-malaria work in the Army. He stated that my name had been called to his attention as one having specialized training in entomology and asking whether I would be interested in a transfer to the Sanitary

Corps to conduct anti-malaria work overseas. Georgiana didn't like the idea too much but saw that such experience would be invaluable to me later. I had a rather hard time getting permission from my commanding officer to put in for this transfer because they were very satisfied with my work at O.C.S. and did not want to let me go. I finally got clearance and wrote to Colonel Russel that I was very interested and stated my qualifications. I received a letter by return mail which stated that I would be very useful in the Army's anti-malaria organization and that my services in connection with malaria control would be utilized within the next few weeks. While awaiting an assignment they had me transferred to the school at Camp Robinson. That was six weeks ago and still no word from them. I had the understanding that I would be transferred to the Sanitary Corps but it turns out that I will remain a 2nd Lieutenant, Medical Administration C., assigned to duty with the S.C. This is a technicality but it robs me of the first lieutenantcy. Just so I can be taking work in entomology, the promotions will come later, maybe."

"Georgiana and I drove to Little Rock and have a room in town. Apartments are practically impossible to get. As soon as I reported to the pool I was temporarily attached to the Sanitary Technicians School on the post and I have been there since. I am teaching courses on insect borne diseases, water putrifaction, vital statistics and a number of others. Many of the students do not have even a high school education so the problem which presents itself is bringing the material down to their level."

"Needless to say Arkansas is beautiful at this time of the year, etc.  
etc."

"I have gotten together literature on mosquitoes and have done considerable collecting with other entomologists at the San. Tech. School. I am very glad to be getting the opportunity to do work in medical entomology as it will permit me to put some of my training into practice and incidentally give me some fine experience."

1st Lt. Leroy D. Christenson, 3rd Malaria Survey Unit, New Orleans Staging Area,  
New Orleans, La.

Word has been received that Lt. Christenson's Unit was activated about the first of March. There is no further news from him.

Lt. Reed Christenson - Army address unknown.

As yet we have not been able to learn where Reed is located.

1st Lt. Walter Connell

We have not heard from Connell for quite awhile. We hope that when this Newsletter reaches him that he will write and tell us what has been happening to him.

FLASH!! We hear that Walt. Connell has been assigned to a Malaria Unit at Camp Harahan, New Orleans, La.

Ensign Richard H. Daggy, Naval Advanced Base, Navy 212, M Division, Fleet Post  
Office, San Francisco, California.

February 15, 1943

"Our training program in mosquito control is being enlarged now that the more frequent rains are allowing anophelines to spread more widely. This morning a new class of 15 arrived and since it was beginning to rain, I went over some of

the lectures and laboratory material with them. With a regular program of 'classes' again, it seems like old times - lectures, labs., laboratory demonstrations and field trips. I've even developed a mimeographed outline of the course to distribute at the opening of the 'quarter' ! We are trying to build up an integrated system of mosquito control in all the various camp units at the base. Two men come in from each unit, stay in our 'dormitory' if the distance is too great to go back and forth and attend our 'Malaria School'. So far it has been a great success and I've been very well pleased at the type of students I've been getting. All of them have showed a great deal of interest and the large majority are of a very intelligent group. I graduated a class of 10 last week. Instead of a diploma, each is presented with a sprayer and a 50 gallon drum of Diesel fuel oil! From that time on they are to be responsible for mosquito control in their camp units. Of course, we emphasize control as applied to this island but I've been trying to make the material general enough so they can apply much of it as different units move farther north. A good many 'graduates' have gone to Guadalcanal and if things continue to go favorably they'll probably spread even farther. Some of the students have had some entomology, one of the men from an army hospital group nearby had been a student of Hungerford's at the Michigan Biological Station.

"Sneaking of Kansas men, you'll be surprised to learn that Oman is due to arrive here soon to work with the malarial control unit. We've expected Army units of the same type as ours to come out for some time and have just heard that one has arrived. The personnel of both groups are being combined and will work together at the various malarial bases. Two of these Army officers passed thru here and told me that Oman was to be assigned here. When I first heard that an army entomologist was to arrive, I thought of Gurney. It was pretty close at that - didn't Oman and Gurney have neighboring offices in Washington?

"Another Navy malarial unit has just arrived in the harbor, supposedly fully equipped, sprayers, trucks and entomologists! Of course I am very curious to see who the entomologist is. I don't think it can be Peters - at least he didn't hint at any such possibility in his recent letters. But knowing how rapidly things change out here, I don't think I'd be too surprised to see one of the boys walk into the lab, one of these days.

"Just what our position will be with the new unit arriving has been a matter of speculation the last few days. Whether we are to combine forces, push on to a new base or be sent to the States for a coast to coast personal appearance tour has been the object of a good deal of discussion. I hardly think it will be the latter, and the idea of pushing on to new country and new experiences is, of course, a tempting one. On the other hand, it would be hard to leave a base and laboratory after spending so much time and effort in making both working conditions and ourselves fairly comfortable. Then too, there are quite a number of dragon-flies that I'm still chasing on this island - before moving to fresher pastures! However, all this is conjecture and nothing may come of it. Of course, I'll keep you informed in case any shift occurs.

"The Gambusia I mentioned in my last letter have arrived from New Zealand by air transport. Previously I had prepared a large concrete watering trough as a reservoir and at the time of introducing the fish, the water was black with pest mosquitoes. Although very much overwhelmed in numbers, the Gambusia gave a good account of themselves and no larvae remained two days later. I intend introducing them in several ponds this next week and am very much interested in seeing the results.

"Another problem has 'reared its ugly head' during the last week - dengue! In our surveys I've noted an increased number of Aedes aegypti breeding in tin cans and other receptacles around the camps. Since most of the units de-

pend on rain water for washing and laundry, you can very well see that there would be abundant breeding places on the island. We've also noticed an increased number of adults biting in the laboratory and in nearby tents. Fortunately, the disease is so far of a milder type than we have in the southern states but its spread is a very interesting thing to watch. Very probably infected mosquitoes or patients were brought in by plane since the first cases all came from the vicinity of the airfield. Now it is beginning to spring up in other areas and new centers are being formed. At the request of the Chief-of-Staff we've prepared an outline for an Aedes aegypti campaign and my recommendations of last December are now to be put in the form of a general order."

"Please forward my congratulations to Cal Pederson. I see he is Lt. (j.g.) now."

"Enclosed in a box from home was a pair of water goggles. Yesterday being Sunday, they were duly broken in at "Dorothy Lamour pool." I can't recall whether or not I've mentioned Lamour pool previously or not, but it is one of our favorite swimming holes nearby. The pools are enormous springs about a hundred feet in diameter and about 30 feet deep in the center with very clear, sparkling water. Set in a background of jungle forest, trailing vines, and even a few orchids nearby, it seems to resemble some of Hollywood's settings for Tarzan pictures and Dorothy Lamour's 'sarong' pictures. In spite of the name I'm quite sure Miss Lamour has never visited the pool nor is likely to with the present popularity as a swimming hole for the service men! The bottom consists of coral rock in the form of ledges and quite a number of small brilliantly colored fish are found here. With the water goggles one can get quite a magnificent view of their peculiar shapes and brilliant colors. Next Sunday we plan to visit a coral reef and try them out on salt water fishes. If those we can see from the piers are any indication, we should have a very enjoyable time."

"I received a very nice letter from Pres. Sattgast of Bamidji State College in which he stated that they were looking forward to my return. He even mentioned 'adequate increases' during the time I am away and the fact that I can apply for reinstatement within six months of my discharge! All this seems very far in the future, but it is certainly very kind of them to mention it at this time. It gives one a more comfortable feeling to know that a job is waiting for you when you return. I'm afraid that for the majority of the men in service, such reassurances are not possible. Now the problem to worry about is how well the small colleges will weather the war period."

February 18, 1943

"I got another ivory boar tusk bracelet last week and had it polished for a bracelet. It's a little smaller but more carefully curved." (Richard now has two-thirds of a wife).

"Not much excitement here any more now that Guadalcanal is secured. Things are settling down to pretty much of a routine and there isn't much that's new or interesting to write about. Rains are harder and more frequent (in fact there's a cloudburst going on right now) and, of course, mosquitoes are spreading more and more. So I'm kept pretty busy. We're training several men for malarial mosquito control from each camp unit on the island. Another entomologist arrived today. His name is Dr. Oman - worked in the National Museum at Washington where I met him several times. He's an army officer and will work with the unit here."

"I saw another very interesting article in the Nov. 16, 1942 issue of Life about Gen. Vandergrift - pages 82-83. If you look at the dates, it's very easy to put two and two together and conclude that we came over on the same ship. We did - I used to meet him on the boat deck while he was taking his morning hikes - and if you'll read some of the excerpts from his early letters, you'll find we landed at the same port the same day - of course. That picture of his staff on the following page was of special interest. Some of them I got to know quite well on board ship and, of course, saw all of them many times during our trip across. And if it hadn't been for my foot, I'd have experienced the same things he writes about in the later letters. Look up that copy, you'll probably get more of a kick out of reading it now!"

February 20, 1943

"You should have seen me this afternoon with the laundry bending over a hot tub, well, pail then, and stirring them with a bamboo stick over an open fire. I finally had to start boiling them. They were beginning to show tattle tail gray when I hung them out on the line. And you have no idea how the neighbors talked! But next week washday should cease to be a drudge - we're becoming modern and are getting three electric washing machines here at the hospital for use by the staff. The officers have Tuesday morning and Saturday afternoon for their use so I'll have to change my wash day! As for pressing - do you remember that picture in my bedroom, the one about 'each evening sees a task begun' or something like that? Well it really works - pressing your pants under a mattress! I put a board over the spring, then the pants, and then the mattress on top of that. It really gives a very fine press - in fact I've got the whole gang doing it now! Guess I should have patented the idea."

"Speaking of lunch reminds me of a funny experience I had the other day - I don't think I've told you about it before. A Marine Corps Major and I were inspecting some spots for new camp sites, places that would be suitable from a malaria standpoint - and while out on a part of the island, stopped in to ask some questions at a nearby plantation. Imagine my surprise to find a lady of about 65 come to the door and say "Bonjour monsieur!" and she spoke nothing but French. Many of the planters are French but can speak English as well. She didn't! So I had to review my two years of French (1930-1932) in about 5 seconds since the Major knew no French whatsoever. While I was 'reviewing' he tried Spanish but no luck! So I had to take over in French! 'Bonjour madame. Comment allez-vous?' - was a good start and I worked on from there. I got along pretty well. We were invited inside for a drink of lime-ade and asked to sit down for a few minutes. The dining room was entirely a separate building - like a small pavilion or bandstand, raised about 5 feet off the ground and open all around except for a few slats at one end to keep out the rain. It was surprisingly cool and comfortable and as we sipped our drink, I practiced more French. It seemed she had come out from France in 1897 and had been here ever since! One of her sons was a chemist in the Mines at New Caledonia but she was living here at the plantation. Everything was going along fine until suddenly she asked (in French, of course) if we would like some breakfast - it being about 9:00 a.m. then! I didn't recognize the word breakfast and was puzzled for a while and all I could do was smile and nod as if I understood. It wasn't until she was scurrying around hunting up eggs that I caught on to what she was doing. She was going to cook us eggs for breakfast! Then I did get excited - neither of us were hungry and I couldn't for the life of me remember how to say 'I'm not hungry' in French and it wasn't until she almost had the eggs in the pan that I remembered. 'Je n'ai pas faim' ! (I'm not hungry) I yelled and finally got her to understand that we couldn't eat a thing. She insisted on giving us some queer kind of native fruit to take along. Les pommes carnelles she called them. I haven't any idea what they would be called in English. They were very sweet and you couldn't eat more



than one - certainly they were too rich for a steady diet. We finally said 'Au revoir, Madame' and left but not before she invited us to stop in again. Needless to say, I'm reviewing my French before taking up her invitation."

April 10, 1943

"I was thrilled to get the photostat copies of the literature. Knight happened to be here when they arrived. All the things sent will be very valuable to us, especially the keys and descriptions of the Dutch East Indies material. Capt. Bayliss has a naturalized German working in his laboratory at the Army Hospital and has offered to have the material translated for me. Knight and I are thinking of publishing our observations and data on A. punctulatus as it develops thru the rainy season. Captain Magath is anxious to have the material published and we are, of course, anxious to do it. Evidently all such manuscripts are first submitted thru the Bureau of Medicine and Surgery, U. S. N. for approval before publication. In the meantime any of the previous literature such as you've sent is of very great interest to us. If you happen to come across any other references to that species, I'd certainly appreciate them.

"I was interested in your comments on the Mutillids. With that distribution, it seems very likely that some species should occur here as well. I'll certainly keep a good look-out for them the next few months as the collecting dates indicate. The last month and a half, we've been swamped, literally as well as figuratively, in water and work. Our short-course classes in mosquito control are always full. Fifty were trained last month and our 'dormitory' next door is filled to capacity at the present moment. The daily rains have made our spraying work difficult and many of our roads are fast becoming impassable.

"And this is supposed to be the end of the rainy season!! The rains are evidently making an all-out effort before the dry season begins. Once it's here I expect to have more time for collecting. By that time the Mutillids ought to emerge from hiding as well.

"We've just received the welcome rumor that Navy medical personnel will be relieved after a year's service in the tropics. This also refers to Malaria Control Unit personnel and opens up the possibility of a visit to the States late this summer or next fall. The assumption is that we will be replaced, probably have 30 to 60 days leave, or a short period of duty in the States, before being sent out to some new post. We're all trying hard not to put too much faith in it but since it comes from an official source we can't help looking forward to a visit home.

"The idea of being sent to a new station is also enticing. Dutch East Indies, Africa or China would please me. One season here has given us a very good picture of malaria and its vector in this part of the world and another would be largely repetition. Of course, we'd probably be more efficient in the same place another year but a new station would be far more interesting. So maybe I'll get to see you all again in a few months. Hope we don't get disappointed!"

"After reading the last two Newsletters I'm almost embarrassed at the amount of space I take up. You'd better put a fire-cracker under that Puerto Rico bunch and I'll try to write 'abstract' style!"

Donald G. Denning - March 29, 1943. Assistant Entomologist (R), U. S. Public Health Service, 207 Civil Courts Building, New Orleans, La.

"Recently I have had occasion to make several trips out of New Orleans, A new control project is being set up at Hammond, La. and I have made several trips there. Hammond is an interesting town located in the heart of what is claimed to be the world's largest strawberry area. A new project is opening up near Baton Rouge and last week I was there for a few days."

Warrant Officer Edwin Dery, March 28, 1943 - 487th Engr. W. Sup. Bn., A.P.O. #545, C/o Postmaster, Los Angeles, Calif.

"I am spending most of my time making tests for the Engineer Board in the desert. Aside from this, the usual routine duties occupy the remainder of time.

"With the maneuvers over, my section set to work on a post-technical phase of training. Along with this a recreational program was instituted. We intend to make good use of the California sunshine. I hope that swimming will be included as the Salton Sea (the world's saltiest body of water) is but a few miles from here.

"The desert has turned a deep green with patches of grass hiding the sandy bleakness. A sweet fragrance is evidenced everywhere. The summer heat is becoming more apparent each day as the temperature reaches 100 every day.

"I may have acquired a love of the desert but with the approach of spring in Minnesota I am developing a longing to see those beautiful forested hills and cool fast-flowing trout streams. If everything goes as planned I hope to spend a few days at home about May 1 but I am not counting on the trip too intensely.

"Entomologically speaking the desert let me down. For a short period scorpions and tarantulas began making appearances but soon after disappeared. I haven't seen a single one in the past six weeks, and furthermore, no one has brought in any specimens."

April 7, 1943

"I have been confined to our headquarters, processing the normal flow of correspondence, and performing the routine tasks of an operation section. At present, advanced training in arms is the subject undergoing our utmost attention. We have been fortunate in being able to obtain the different small-arms with enough ammunition so that all of our men could become familiar with their performance and operation. The so-called 'infiltration courses' are now used. All men have to cross a designated area (usually, 100 or more yards) under actual fire. The bullets whiz by being only about two feet above the ground surface. The 'real thing' as we call it, is the only method of successfully training a man for combat.

"The weather made such an abrupt change that I must write something about it. Each day the temperature has been rising until last Sunday, the maximum was about 115 degrees F. Monday, the wind turned from West to North, blowing in not only a cold wave, but also a drizzling rain. For three days the temperature has been 45 while it rains intermittently.

"Our battalion physician has become very interested in Arthropods and Reptiles. He has instructed the enlisted men of his detachment to collect all

specimens they can. He is trying to gather at least a sample of each class so that he might instruct his men on the recognition of each and the treatment of their bite or sting. Already I have been asked to give a lecture on disease transmission by Arthropods."

H. Rodney Dodge, March 23, 1943 - U. S. Public Health Service, P. O. Box 1095, Macon, Ga.

"As I recall, the last issue of the Newsletter left the thinly-veiled suggestion that I was in need of recuperation. Well, perhaps I'm not the same any more, but in some respects I haven't changed much. Am still the customary three jumps behind the times, as I have been on other subjects like my dissertation. I could be real interested in the latter these days, for it is going to be on mosquitoes. With the present unsatisfactory state of several beetle projects, plus the fact that my work all day on mosquitoes does not leave me much incentive for additional microscopic work, I have decided that my present work can and will make a very presentable thesis, and I'm not going to fumble the ball this time.

"Since January I've been keeping track of the specimens as they are received each day, and it's interesting to note how they run. The third week of January we had a peak of winter breeding, with 1,395 fourth instar Anopheles and 3,056 Culicine larvae received, which compares very favorably with the weekly average for the month of October. Since then business has slowed up, but now the trend is upward again. Quads were very scarce, though not a week has passed since Jan. 1st without at least one Quad. larva showing up, until the last week of February, during which 10 Quad. positive stations were found. A good number of species have been absent as larvae all winter, until just recently we have received a few from the southern part of the state. These are U. sapphirina, Psorophora ferox and howardii, and Culex erraticus. In early February we received one Aedes atlanticus larva, but it had evidently been tricked by the unseasonably warm weather, for not another one has been received since some time last fall.

"We have some minuten nadeln and Riker mounts, and I am spending spare moments mounting up adults and larvae, to make a number of display cases of our Georgia material. We obtained some sheet cork from an auto supply store under the pretext of using it for repair of automobiles, and I think it will make a rather neat display with the minuten pinned directly into the cork. We haven't run our traps all winter. Though I'd like to have had them in operation it's a good thing they weren't, for I'm not finished with last year's catch yet."

Harold Elishewitz, March 3, 1943 - Naval Medical Research Institute, National Naval Medical Center, Bethesda, Maryland.

"For three months I have been working on the rather pressing problem of canteen water sterilization: testing of methods used at present, those proposed for use, and attempting to develop new materials. By setting up a standard bacteriological test I was able to determine the comparative efficiency of the various materials in the presence of varying amounts of organic matter. Halazone is unsatisfactory. The services desire a one operation outfit: a tablet of high-test Ca hypochlorite which can impart up to 30 parts per million of chlorine to the water (more than sufficient to completely sterilize any water) plus a coated tablet of Na thiosulfate which will break open at 15-20 minutes to completely neutralize the excess chlorine. This package would be fool-proof. Unfortunately, however, our tests show that none of them is satisfactory and we stopped the marine corps from issuing them. The men in the field are not considered capable of handling a two operation process - which works very well - namely, dropping the chlorinator in first, shaking, and ten minutes later dropping in the dechlorinator. Yet the Japanese field soldier uses a 3 operation process!!! Dr. Mathieson

ran the chemical analyses and our results checked perfectly. I finished my report and recommendations this past week. This week the Institute received four new bacteriologists so I have been freed to undertake a few entomological problems altho I will continue some of the miscellaneous projects that I have already started.

March 8, 1943

"In my spare time I managed to review the Bureau of Medicine and Surgery's files on Insect Repellents."

"While reviewing the work that has been done it occurred to me that the present research was getting further and further out on a limb and sight was being lost of a basic point - namely that the repellents now in use are 100% effective in themselves and the problem resolves itself into finding methods of increasing the duration of effectiveness rather than finding new compounds which will accomplish the same end result. I rechecked the progress reports and failed to find any evidence of attempts to utilize binders. I got out another project report outlining the problem and requested that we be permitted to do the work here. Our projects have been approved.

"At the same time the chief physical chemist of the Naval Research Laboratory contacted us and said that in his work on surface films of oils he had developed several entirely new types of oil-water interfaces which might be of use in mosquito larvicide work. After spending a week reading up on the subject, I went over to see him and believe that he has developed something entirely new. He is able to get with light oils a thin, tenaceous film that does not break up or pile up and is chemically very active. If it maintains larval toxicity it will combine the advantages of both heavy and light oils and might do away with the use of pyrethrins. We are going to run larvicide experiments here on oils that the N.R.L. furnishes us."

Captain Frank V. Fisk, Medical Section, S. O. S., A. P. O. 689, C/o Postmaster,  
N. Y., N. Y. March 28, 1943.

"Orchids to your Division for getting out a regular newsletter and for sending it out First Class airmail so that it reaches even to India while it is still news! Just now our mail from home seems to be suffering from some sort of delay ... perhaps I should say my mail, some of the other officers are experiencing no trouble. But the Newsletter comes right through just the same.

"There is little fresh news from here, but I thought I would let you know of my change of address. I am now at A. P. O. 689, which is a newly activated Post Office near A.P.O. 629, Maj. Jellison's number. It has been a month or more since I last saw Bill Jellison, but he was hale and hearty then. He is still Anti-Malaria Officer for several installations in this area. My Base is more or less on the 'fringe' of civilization and I am assigned to the so-called 'Forward Area' which puts me right out in the jungle. It is certainly a contrast to my last station... from virtual desert to tropical rain forest...did I say rain?... Yes, that is our 'long suit' out here. We have to pile 150 to 200" of it down here in a year and Mother Nature is trying hard to catch up with this year's quota.

"I was interested to read of the U. S. Public Health Service recently commissioning a number of the entomologists working for it. That sounds very encouraging. With so many of us commissioned, even though we have only Reserve Commissions, we may be able to induce the U.S.P.H.S. to accept more of the species, Homo sapiens entomologicus, into its ranks after the war. For the time

being perhaps we can work on something like raising all the commissioned entomologists in the U.S.P.H.A, one rank after each year's service...or perhaps establishing a good reputation for ourselves in the USPHS would be more to the point. I think it can be said that the USPHS group here....doctors, sanitary engineers, entomologists, all of us...is making a fairly good name for itself. The reasoning is this; at first we were a distinct group and the Army hardly knew how to use us; now we have been absorbed and integrated right into the Army set-up and are treated the same as other officers. Our Chief, for instance, is now the Base Surgeon for the Base to which I am attached, a position of considerable responsibility.

"Ensign Richard Daggy's experiences are always thrilling, and he certainly has the knack of writing them up nicely. The mosquito he is dealing with, Anopheles punctulatus, sounds like a "toughie" alright. Its catholic tastes as regard breeding places must certainly make it difficult to control. Our No. 1 Public Enemy, An. minimus, restricts its breeding to the edges and debris in flowing streams and to seepage areas, but, of course, with 150" annual rainfall falling in a dense jungle there is bound to be a seepage or two which escapes detection. In fact, we are attempting larval control only at the Base (under Capt. Gordon Smith P.H.S. (R) and at two locations in the forward area. For the rest of the scattered camps we are depending on strict personal anti-malaria hygiene....bednets, suitable clothing, anti-mosquito cream, daily 'flitting' of tents and bashas, isolation of camps, etc. ...The 'isolation of campsites' is hardly an item of personal hygiene, but then you get the idea. Keep the Newsletters coming!"

Captain Ashley B. Gurney, April 17, 1943. Station Hospital, Camp Crowder, Mo.

"At present I am taking a 3-weeks course in malaria field training, given by personnel of the Florida State Health Board. This course includes a week at Jacksonville, 10 days at Tallahassee and several days at Pensacola. We are now in Dr. Mark F. Boyd's laboratory at the Florida State College for Women, which is a fine, large, modern institution. This course is repeated every three weeks to small groups of Army and Navy people. Physicians, sanitary engineers, entomologists and some parasitologists attend, and all take the same work, it being intended that all get the complete picture of the problems at hand in a malarial situation. Naturally, we don't know where the future will provide an opportunity to put this information into practice. The course touches on the principal aspects of malaria survey and control, including drainage, blood smear work, recognition of cases by means of feeling enlarged spleens in populations of children, insecticides, mosquito identification and other matters related to the mosquito survey. It may be that some in this group will have an opportunity to go abroad on malaria commissions. A week ago today in Jacksonville, Professor Buxton and an English Major-General visited us briefly and told us something of the great importance of malaria on the other side of the world.

"One of the Navy men in our present group, Lt. Perry, was recently in Puerto Rico and has mentioned meeting Earl Pritchard and Harry Pratt there."

"I expect to return to Camp Crowder after going to Massachusetts on some leave following the completion of this course. Bedbugs and roaches have been practically our only winter insect problems here. Some 30 barracks have been found infested with bedbugs so far and we started a cyanide fumigation program last December. We use American Cyanamid and Chemical Corporation Zyklon discoids and find them satisfactory. This summer the heat treatment may be tried again, to save money and eliminate the safety precautions. We have found sodium fluoride, applied to cracks and other hiding places by small hand dusters with flattened nozzle tips, entirely effective, but there has been some use of hand spray guns and vaporizing units. All of the roaches that are well

established are the German roach."

Congratulations to Gurney on his promotion to a Captaincy.

FLASH!! News just came in that Gurney has been assigned to Camp Harahan, New Orleans in charge of a Malaria Control Unit.

Sergeant Merle Hanson - 203rd General Hospital, Fort Lewis, Washington.

Merle is a medical technician doing some parasitological work at the Fort Lewis Hospital.

Philip H. Harden, Assistant Entomologist (R), U. S. Public Health Service, 207 Civil Courts Building, New Orleans, La.

Shortly after the first of March the Division received an announcement of the birth of Sylvia Rae Harden and on March 28 Phil wrote "Sylvia Rae is doing fine - sweet, beautiful and well behaved; she weighs about 9 pounds now, growing fast."

Major Marshall Hertig, Army Medical School, Army Medical Center, Washington, D.C.

Dr. Marshall Hertig, one of Dr. Riley's first graduate students in medical entomology at the University of Minnesota returned from Peru last winter. He has been commissioned a Major in the Army and is now on teaching duty at the Army Medical School.

1st Lt. Paul Highby, Army Medical School, Army Medical Center, Washington, D.C.

Paul was commissioned in the Army three or four weeks ago and has been sent to the Army Medical School at Washington, D. C. where he is taking special training.

Pfc. John D. Hitchcock, 4th Platoon, 300th General Hospital, Camp Forrest, Tenn.

We have had no news from John since the last Newsletter.

Major William L. Jellison, March 23, 1943 - APO 629, C/o Postmaster, New York, N.Y.

"Our main concern is with Anopheles minimus, the only important malaria vector in our area.

"Advanced members of malaria survey and control units are arriving which is very encouraging. One party went thru last week, visiting here briefly. The entomologist had 2 trunk kits of special entomological equipment for mosquito work. Stealing of one of these to supplement meager supplies was prevented only by promises that one would be ordered for this laboratory.

"As the monsoon season approaches work of cleaning ditches and streams preparatory to oiling is being rushed. Buildings are being improved as much as possible without the use of screen, the supply of which is exhausted but in an area with screen rates of 0, 10, 15, 26, 70 up to 100 per cent we are still not optimistic about the coming malaria season."

Corporal Thomas H. Johnson, April 25, 1943 - A.S.F., W.T.C., 16th Malaria Survey Unit, New Orleans, La.

"I have done quite a bit of getting around since last writing you. I finished **technician** school in Atlanta and went to Fitzsimon's General Hospital in

Denver. I had quite a pleasant stay there in addition to a little work on mosquitoes and malaria. Since arriving I have not done anything except the routine army training. However, we will start some more work in mosquito surveying pretty soon. I don't know as yet what the course will consist of but I am sure that I will like it.

"It seems that I can never catch up with any of the Minnesota men. During the last training period Lt. Christenson was an instructor here, one of their old schedules was still posted. I saw his name and went in to inquire about him and to my disappointment he had been transferred two days earlier.

"Dr Faust from Tulane will be one of the lecturers in the course that we will take. I think the Army is giving me quite a treat."

Tamarath Knigin (Mrs. Stanley F. Yolles) - Malaria Laboratory, Office of Sector Surgeon, A. P. O. 868, C/o Postmaster, New York, N. Y.

Miss Knigin is co-author of a most interesting "Discussion of the chigoe, (*Tunga penetrans*) based on experiences in British Guiana" which appeared in *The Military Surgeon* for October, 1942.

Herbert Knutson; April 15, 1943 - Assistant Sanitarian (R), U.S.P.H.S., Administration Bldg., Room 101, National Institute of Health, Bethesda, Md.

"I left Rhode Island Friday and started an orientation course here last Monday. I received a commission (R) as Assistant Sanitarian. On May 1st I shall probably leave for Atlanta and be assigned from there. Certainly am getting some orientation in this orientation course. Tomorrow is malaria day."

FLASH!! Knutson was transferred to Atlanta, Georgia.

Private Rudolf W. Kogan, March 15, 1943 - Co. A., 1st Armored Repl. Bn., 4th Platoon, A.F.R.T.C., Fort Knox, Kentucky.

"I have completed my basic training. However, I will stay in my old company for about 6 weeks more and then go to the Officers Candidate School.

"Sometime ago I wrote to the J.A.M.A. that I did not think that *Filaria* can be transmitted by transfusion of whole blood, as claimed by Dr. Carl S. Taylor (J.A.M.A., Dec. 20, 1941, p.2123). I just received an answer which is as follows: 'Filaria infection cannot be transmitted directly by the transfusion of whole blood. The embryos (*microfilariae*) which circulate in peripheral blood need to be picked up by a susceptible blood sucking fly in its blood meal, after which they migrate from the fly's stomach to its thoracic muscles, where they metamorphose through a series of larval stages and migrate down the fly's proboscis sheath to enter the skin, the next time the fly bites a human being. It is true, however, that *microfilariae*, may be transferred from an infected individual to a filaria free person and may survive up to six weeks or more.'

"I also sent some samples of *Fraxinus chinensis* to the National Research Institute for analysis. They found some alkaloid and will test for its anti-malarial properties. The yield, however, was very small. I tried to get some samples of *Fraxinus malacophyla* from China, through the Chinese embassy but failed. They advised me to buy it from 'some Chinese store'."

Captain Glen Kohls, Army Medical School, Army Medical Center, Washington, D. C.

April 21, 1943

"On April 2 I received a wire to leave Hamilton the 9th for the Army Medical Center. I arrived a week ago Monday and was immediately assigned to the Department of Parasitology in the Army Medical School. It seems that my duties will center around assisting in courses in Medical Entomology. Quite an assignment for one who has no experience and little aptitude for teaching. However, I'm looking forward to it as an interesting and profitable experience and with the hope that I can contribute something toward filling the vacancy created by Philip's new assignment. Major Hertig is here and Capt. Becker, formerly of Iowa, is in charge of protozoology. Barnett is still here also. I see Lt. Highby frequently but whether he will be here long seems doubtful. Philip has undoubtedly told you about the work here. It's a busy place to say the least."

Ensign Gerhard Kretzschmar, District Coast Guard Office, 310 North Washington Square, Philadelphia, Pa.

We have had no word from Kretzschmar since the last Newsletter.

Lt. (j.g.) Horace Lund, Naval Air Station, Elizabeth City, North Carolina.

There has been no news from Horace since the last Newsletter.

Ensign John T. Medler, March 10, 1943 - H-V (S) USNR, Yard Dispensary, Mare Island, California.

"I am pleased to be able to inform you that I have accepted a commission as an Ensign H-V (S) USNR and have been called to active duty. Perhaps the events leading to this are routine, but I was surprised at the short interval from the time of my application to my present status. I completed my application in January, it was sent to Washington on the 14th and the commission was issued on January 27th. Orders were received on February 25 instructing me to proceed to duty at Mare Island on or before March 1st. The change from civilian to military status was certainly abrupt, but I am glad to have it that way. I feel now that I am really in the war effort.

"Priscilla and I had planned to return to New Mexico for a short vacation, during which time she and the children could establish themselves at our Ruidoso cabin for the duration. The plan has been postponed for the present. She is remaining at Porterville until I can find suitable living quarters here. Due to the crowded condition of the Bay Area, I may not find a place within the radius of 50 to 75 miles. Even so, we could be together for weekends until I am given a new assignment. Of course, I am hoping that it will be foreign service."

"I have been busy getting my uniforms and orienting myself to a new routine. I hope my shake-down will not be too long. My colleagues in H-V(S) are a sanitary engineer, and two chemists who are classed as industrial hygienists. The H-V (S) corps is relatively new, and includes sciences related to medicine. We wear the insignia of pharmacists, but actually are not any part of the Hospital Corps. There is a possibility that the classification will remain after the war, for much of it concerns public health and industrial hygiene.

"It is a question as to how long I shall remain here. It may be days, weeks or months. The letters from Daggy in the recent Newsletter have given me the itch for the same thing, and I hope that I, too, shall be in a mosquito hot spot before long. Although I shall make a mosquito survey here, this will not be



an important mosquito control area. A temporary additional duty of mine is to check on civilian absentees from the yard who have had records of Monday morning sickness. I have permission to spend some time at the U. of California Library, and I am planning to get together the literature on the mosquitoes of the Australian region, which may supplement the list that Simmons and Aitkin give for the Philippine Area in the Army Med. Bul. 59. Do you think that this will be a good project?

"I wander about the yard a great deal in order to get inside dope on the work of submarines, DEs (destroyer escorts), and ASs (sub tenders) and other ships. Many ships are being built or **repaired** here. It was interesting to see a cruiser just back from the South Seas for repairs. It has  $3\frac{1}{2}$  Jap. flags on the bridge, signifying the destruction of 2 destroyers, 1 cruiser and  $\frac{1}{2}$  a battleship. I like to talk with those men returning from the combat zone, for it is much more thrilling to get first-hand accounts than to read cut and dried communiquees."

1st Lt. Herbert E. Milliron, March 6, 1943 - 1560 Service Unit, Medical Section, Station Hospital, Camp Atterbury, Ind.

"It appears as though my stay at Camp Atterbury may be somewhat extended. Although the mosquito problem here does not appear to merit a great deal of attention, we are outlining a rather extensive control program, which will be handled by the Corps of Engineers for the most part. The survey, of course, will be my job.

"The possibility of getting leave sometime in the near future does not seem too remote and you may count on my visit to St. Paul when the chance to get away does present itself."

Herb. did get his leave and spent the weekend of April 11 visiting in St. Paul. Herb. was looking fine and we enjoyed his visit exceedingly.

H. Page Nicholson, Assistant Entomologist (R), U.S.P.H.S., 300 Essex Building, Norfolk, Va.

We have had no news from Page since the last Newsletter.

Captain William B. Owen, April 13, 1943 - Carlisle Barracks, Medical Field Service School, Carlisle Barracks, Pa.

"My studies in the Medical Field Service School here at Carlisle have been so pressing that there has been little time for correspondence. The 23rd Officers Class, of which I was a member, finished on April 8. This represented six weeks of the most intensive work that I have ever experienced. We had classes for 8 hours each day and often were given assignments to perform in the evening. The subject matter was all new with few exceptions. This fact combined with the fatigue experience after 8 hours of listening to lectures made it a real experience. The pace was a little fast for the older men. In addition to learning technical aspects of the Army, etc. I picked up some tricks of how to cram knowledge into students in a limited time. The methods of instruction were excellent. Our courses were divided among the following fields: logistics, military administration, military training, drill, military art, field medicine and surgery, chemical warfare and military sanitation. Since this school is regarded as the "West Point" of the Medical Department, I am now supposed to be a member of the elite in this branch of the service. You may know that Colonel Hennis is on the staff of the Sanitation Dept. He was supposed to give the lecture on Medical Entomology to our class, but was ill at the time. We re-

ceived many mimeographed sheets on insects of medical importance that I am sure were prepared under his direction.

"Upon entering the Army I was assigned to the Medical Replacement Pool here. While waiting for an assignment I am attached to a Medical Inspector's Class. Since last Thursday I have heard several lectures repeated in this class that were presented before the regular Officers Classes. As this group completes the Inspector's Course this week, I am merely marking time until my orders arrive. When I will leave here and where I will be located is to be decided in Washington. I am assuming that some phase of malaria control work is waiting for me somewhere. Uncertainties in the Army appear to be the rule.

"Mrs. Owen is still in Laramie waiting to join me when I have a destination that is at least semi-permanent. If I am eventually moved out of the U. S. I hope that she will return to the Twin Cities for the duration. I think she would be more contented there with her old friends and a job of some kind."

FLASH!! Captain Owen is now at the Army Medical School, Army Medical Center, Washington, D. C., on temporary duty to take the course in Tropical Medicine.

Major Reginald H. Ozburn, Canadian Army address unknown

Elishewitz reports on March 13 that he met Major Ozburn at the 30th Annual Meeting of the New Jersey Mosquito Extermination Association. Major Ozburn took his Master's Degree in the Division of Entomology in 1931. Until recently he was a Major in the Canadian Army (Artillery) but has just been transferred to the Medical Corps where he is in charge of the entomological work in the Canadian Army. We hope that by the time the next Newsletter goes out that we will have some personal word from Major Ozburn.

Lt. (j.g.) Calvin Pederson, Malaria Control Laboratory, U. S. Naval Air Station, Trinidad, B.W.I.

We have had no news from Calvin since the last Newsletter.

1st Lt. Harold Peters, February 14, 1943 - Station Hospital, Camp Pickett, Va.

"My visit in Minneapolis the latter part of January was limited to a day so I didn't get much of a chance to get around. It is nice to see the professors in the department but I'll swear it seems like a dead Sunday afternoon as far as the former bustle of graduate students is concerned. It rather gives me an empty feeling."

"After my brief, but pleasant, trip I arrived back here just after one of the worst sleet storms in the history of the state. If they had one like that very often I am sure that this country would look a lot different from what it does. I have never seen anything like it. The sleet froze to objects it touched immediately as it fell and entire trees were encased in ice. Branches no longer had any flexibility but when touched moved as a unit with the whole tree. In a grove of trees across the road from our hospital I would estimate that well over half of them were broken not so much by the wind which accompanied the storm but by the sheer weight of the tremendous load of ice. Many which were not broken off were permanently bent to the ground. It is a sorry sight and great areas around there are going to be happy hunting grounds for all sorts of wood boring beetles, starting this summer.

"My work here is still the same. I am getting so I can almost hear the gonococci jumping around on the positive slides. I have occasion to observe in the clinic now and then and have learned a great deal there also. On Tuesdays and Fridays we give the arm (intravenous) injections and hip (intramuscular) injections of Namharsen and bismuth to the syphilitics. To date I have given literally quarts of Namharsen injections (10 cc. per patient)."

Allan Peterson, Assistant Entomologist (R), U.S.P.H.S., State Board of Health,  
Jackson, Mississippi

We have had no news from Allan since the last Newsletter.

Major C. B. Philip, A. P. O. 4121, C/o Postmaster, New York, N. Y.

Dr. Philip spent several hours in St. Paul on April 4 while en route to his home at Hamilton, Montana. After a short visit at Hamilton he embarked for the Near East for an indefinite period. He is a member of the typhus commission. The best wishes of all of us accompany him.

1st Lt. D. J. Pletsch, M.D.R.P., M.R.T.C., Camp Berkeley, Texas.

Don. left Bozeman, Montana on April 1 to report at Camp Berkeley, Texas.

April 15, 1943

"The assignment here will last at least the 4 weeks of the Refresher Course, of which I have completed about 2 weeks. Officers assigned to this pool are M.C.'s (Medical Corps); D.C.'s (Dental Corps); M.A.C.'s (Med. Admin. Corps) and Sanitary Corps. The course work includes much material of the Army orientation type, from calisthenics and drill up thru organization, gas warfare, intelligence, motor maintenance and similar miscellany. Very little technical material relating to Sanitation, except a couple of British films on lice and delousing, and on fly control. These were very well done.

"The work has included several 4 and 3 hour marches, and field map work. Since many of the men are 35-40 years old, it isn't hard for the younger fellows to stand the pace.

"Last Saturday we received over a dozen new men from Carlisle Barracks. They were very enthusiastic over the 6 weeks course there, where teaching was on a high academic and military level. Our former family doctor from Bozeman was among the group which came down from Pennsylvania and we had quite a re-union. He said he got a series of lectures on insect control from Hems, who is a Lt. Col.

"Florence and the kiddies are staying in Bozeman for the time being, until I learn of the nature of my next assignment. Camp Berkeley is "deep in the heart of Texas" and the only sizable town nearby is Abilene, which is overcrowded and with a high cost of living. Leaves on trees have been out here for sometime and I got out on a collecting trip last Sunday with Lt. Sampson of California, who is interested in aphids. We found only a single species of aphids and one species of psyllid; plus a scorpion and horned toad."

Harry D. Pratt, March 9, 1943 - Assistant Entomologist (R), U.S.P.H.S., District  
6, San Juan, Puerto Rico.

"Since I last wrote you much has happened down here. Earl and I are now both commissioned officers of the Public Health Service with rank of Assistant Entomologist (R), just like the rest of the Minnesota boys. We have split our work

geographically so that he has charge of projects on the south side of the island, while I have charge of those on the north side of the island as far as the entomological work is concerned. The first week in February I had the pleasure of showing Mr. G. H. Bradley, Senior Entomologist USPHS, our various projects. He was quite impressed with the variety of our problems; the absence of albinanus in daytime resting places; and the tremendous number of places in which albinanus would breed, as compared with Anopheles quadrimaculatus in the states. Before he left, he looked over my collection here and took back about a dozen species he had never seen before. Also encouraged me to get out a paper on two probable new species, and the undescribed larva and pupa of Uranotaenia cooki Root previously known only from the type locality in Haiti. He also said he would push a paper Earl and I are working on together, a comparison of animal bait and New Jersey light traps as a means of estimating Anopheline populations and which promises to be very interesting indeed.

"Miss Ainee Wilcox, who is one of the best malaria blood film technicians in the world, has been down here for about three weeks teaching technical personnel thick and thin film diagnosis for the malarial parasites in the blood.

"The light traps have been bringing in some very interesting insects besides mosquitoes, mole crickets (Scapteriscus), sweet potato weevils, Ephemeroidea (probably including some new species), the third specimen of Embiontera recorded for the island (Prof. Wolcott recorded two specimens years ago which may possibly be the same species), and to date at least 6 species in four different genera of ichneumon flies. I am also saving all blood-sucking Diptera such as Tabanids, and Culicoides.

"Captain T. H. G. Aitkin, with whom I used to collect mosquitoes, has left the island and been replaced by a Captain Peres who was Herb. Barnett's boss at Army Medical School in Washington."

The following will prove to Harry that the nest cannot be lived down. One of his college classmates tells us that at Massachusetts Harry was known to everyone as "Peter Rabbit."

April 5, 1943 - A letter from Harry under this date reports the death of Dr. William Hoffman with whom Harry has been closely associated since his arrival in Puerto Rico and who was a very well-known medical entomologist.

A Earl Pritchard, Assistant Entomologist (R), U.S.P.H.S., A. P. O. 848, C/o Postmaster, New York, N. Y.

If we don't receive something for the Newsletter from Pritchard before very long we are going to send a detail of military police to stand over him while he writes.

We have learned indirectly that Mrs. Pritchard is teaching at Moorhead, Minn.

Lt. Don C. Quinby, March 2, 1943 - Btry. K - 216th C.A. (AA), San Mateo, Calif.

"I am in the regiment which defends San Francisco from air attack and to say the least have had plenty to do. The first two nights I went up in an Army plane to accompany the pilot and direct him over our positions so that the men could get more experience in tracking. Also, to get some idea of how our searchlights look from the air. The mission is a nightly one and one of the

officers here in the regiment always goes along with the pilot. Last night I went out to one of our positions along the coast. Today we fired practice fire with the 50 caliber machine gun and tonight I'm going to bed unless I get a detail. My job here seems to be a 24 hour affair as we are always on the alert. However, I am of the opinion that I won't be here longer than three months for they are gradually replacing all the men with limited service men. It seems that officers stay here about three months and then go on to 'hotter' territory. All the 'old' officers will probably be leaving in a few weeks and we 'newer ones' will take over until a new bunch replace us. At least that seems to be the general idea. I may be a battery commander in short order. I don't particularly relish the idea as it is a hell of a lot of responsibility."

Corporal Morris Rockstein, March 10, 1943 - 35th T.SS., A.A.F., Pantlind Exhibition Bldg., Fifth Floor, Grand Rapids, Michigan.

"Just a brief note to let you know that I am to leave for Washington, D.C. shortly for 60 days' temporary detail at Weather Central. As you once put it, I feel like a 'mobile unit' but really enjoy seeing the country at Uncle Sam's request (and expense)."

March 19, 1943

"Out here my work is not very exciting - doing a simple map analysis (with a dozen other observers) of weather maps for a special weather project. It is a great strain on our eyes (and 90% of us are limited service men, because of poor eyesight) involving the reading of almost microscopic numbers on reduced photostatic copies of weather maps. However, with a few suggestions, I have been able to devise a little pattern along the lines of a grid, for spotting the location of fronts and 'highs' and 'lows', and the captain in charge of our project is having them made up by photostat in quantity."

April 17, 1943

"Well, I'm off again - at last Forecasting has come through and by this Monday I shall be ensconced in what is termed the 'toughest grind' of all Technical Training Schools - the 5½ months Forecasting Course. I had given up all hopes of that when the orders were discovered and I am on my way to Grand Rapids. The set-up is new out there but I suspect that we shall be living in converted hotels or other buildings. Upon successful completion of the course, one is a qualified forecaster with an automatic Staff Sergeant's rating. Actually, I still look forward to some phase of medical or biological work for the war effort but I'm not looking the Army's gift horse (of an extended training in an interesting and dynamic field) in the mouth."

2nd Lt. Hugo G. Rodeck, April 23, 1943 - A.A.F. - O.T.S., Miami Beach, Florida

"I leave on Monday, April 26 for a six-week course at Miami Beach, Florida, in the Army Air Force Officer's Training School. Then I am scheduled to go to the A.A.F. W.C.T.C. at Santa Ana, California. I assume for an indefinite period."

Captain Phillip C. Schroeder, R.O.T.C., University of Minnesota, Mpls., Minn.

The division received an announcement from Phil. a week or two ago of the birth of a daughter. Congratulations.

Sergeant Irvin B. Tarshis, April 22, 1943 - 143rd Station Hospital, Camp Bowie, Texas.

"I was inducted into the Army, September 2, 1942. After six weeks of basic training at Camp Berkeley, Texas, I was sent to the School for Medical Department Technicians at Fitzsimons General Hospital, Denver, Colorado.

"At Fitzsimons we were trained for three months in laboratory procedures. The course was very comprehensive. We had work in hematology, urinalysis, chemistry, serology, bacteriology and parasitology. The courses were good and I learned a great deal.

"At Camp Bowie I have been working in the Station Hospital Laboratory each morning for the past two months. At Fitzsimons I got the theory. At Camp Bowie I am getting practical experience."

1st Lt. E. R. Tinkham, Sn. C., March 26, 1943 - Station Hospital, Boca Raton, Fla.

"I reported here on February 22 and ever since have been quite busy. Just recently I have been appointed the Assistant Medical Inspector of the post and I am in charge of Mosquito Control and other similar programs such as that concerning flies, rats and sand flies. As you can readily see it is a difficult matter to draw a line and say flies end here and sanitation starts there and although Lt. West, the Medical Inspector is more concerned with sanitation than I am, I find myself drawn into sanitation frequently when problems of garbage dumps of adjacent communities come up for consideration as these dumps breed flies and mosquitoes.

"However, my main job is mosquito control and I spend much of my time, aided by a private, out on the canal banks making collections of mosquito larvae. This field is crossed by several canals running east and west and one or two larger ones running north and south that drain the southeastern corner of the large Lake Okeechobee. These canals run from the lake to the coast. Lake Okeechobee is in the Everglades which are about ten miles distant and I hope some time soon I can find time to take a trip to them.

"I am learning quite a bit about mosquito larvae altho I have had to start from scratch. I had one lecture on mosquito control at Ft. Dix and another on fly control so that wasn't too much ground work for an orthopterist to start in as a malarialogist or whatever you want to call it. However, I have found some interesting species of Anopheles breeding in the canals and occasional temporary pools namely crucians, quadriaculatus and another one that may be bradleyi although the adults seem to be intermediate between crucians and the punctipennis groups. Crucians is the commonest and breeds in the 'coffee water' of the canals. Quad is, however, the important vector here. Associated with Anopheles in the canals in masses of water hyacinths and water grass are to be found larvae of Uranataenia lowii and sapphirina and Helanocónion erraticus. Those are the commoner species to be found in the canals up to date. The southern house mosquito Culex quinquefasciatus is by far the commonest species breeding in rails around dwellings and in pools here and there. C. salinarius and C. nigrinalpus have also been found.

"One very interesting species here is Mansonia titillans which is only found where water lettuce Pistia striatus grows in canals. This interesting plant floats on the water surface by floats in the bases of the leaves and the titillans larvae attach their modified spiracular tube into the roots of the lettuce and obtain their air from the plant. This species is easily controlled

by removal of the water lettuce.

"Our big problem here is the vegetation choking the canals. These have not been cleaned in years and water hyacinth and grass often completely choke the canals. A group of laborers are now at work cleaning up the big main canals. Once clean with a current established and freedom for the Gambusia minnows, the mosquitoes find life pretty tough for them. Gambusia is really the blessing of this region and they do a good job of control even without the help of man.

"I am leaving tomorrow night for a week or two of a refresher course given at the Fourth Service Command Laboratory at Ft. McPherson, near Atlanta, Georgia. This course will be on the identification of larvae and adults. I am expecting to learn much.

"I am living in a cottage within one hundred yards of the Atlantic and the pounding of the surf lulls me to slumber every night. I was hoping to have my wife with me this coming week but she will now postpone her departure from Phoenix, Arizona until I return here from Fort McPherson.

"I seem to be seeing "America first" with Uncle Sam. Ft. MacArthur, California, Camp Barkeloy, deep in the heart of Texas, Ft. Lewis near Tacoma, Washington and since being commissioned Ft. Dix, N. J. and Boca Raton, Florida. Perhaps after returning this time from Ft. McPherson I shall commence to lead a more sedentary life although one can never tell what the plans are in Washington."

April 27, 1943

Since I last wrote you I have been up to Ft. McPherson, Ga. for the refresher course in Entomology. It was quite an intensive course lasting two weeks and worth any quarter course in a University since we spent eight hours each day peering through a microscope. The first week was spent on mosquito larvae and the second week on mosquito adults.

"I found the mosquito larvae somewhat easier than that of the adults to study as did the others. Although we did not have all of the forty nine species of southeastern Culicidae to study we had a very fine representation from that region. In addition to the Anopheles, Aedes and Culex species we studied quite a few species of Psorophora and two species of Mansonia and two of Theobaldia, the latter a synonym (Theobaldia is a genus of molluscs) to be called something like Culicita. Then there was the interesting Orthopodomyia which breeds in tree holes and the stranger Deinocerites which lives only in crab holes in the keys of southern Florida. We studied Wyomyia smithii which I recall Owens and I found in northern Minnesota in 1932 breeding in the cornucopias of Sarracenia. Handsomest and largest of the mosquito tribe are the Megarhini, several of which I have taken in the jungles of south China.

"I got quite a kick out of making a key to Anopheles larvae on cephalic chaetotaxy alone, especially on the character of the antennae which appear to bear some important characters.

"In the adults the Psorophora and Aedes were by far the most interesting genera. I created quite a bit of unusual interest in an Anopheles female that I had reared through from a larva collected in Boca Raton. It was quite distinctive and appeared to be a connecting link between the crucians and the punctipennis group. If I should get more like it it is certainly distinct enough to be described as a new species. However, the engineers ruined the habitat by putting too much oil in the area - it was dumped rather than sprayed from appearances and happened while I was in Georgia.

"My stay of two weeks was very enjoyable and while there met some interesting men. Harry Hoogstraal who with a group of scientists had been studying a transect on Sierra de Tancitaro, 300 miles northwest of Mexico City, and which blew up in February to make Mexico's newest volcano but which also completely destroyed his happy hunting grounds. In addition there was Captain Middlekauff of Cornell with whom I had some interesting chats on falconry or ospringing and Mr. Roth who did the work on Oenocytes of Tenebrio. Major Carpenter head of the lab. left just before our arrival on account of the death of his wife and he did not return until our last day. Lt. Col. Freeborn (namesake Anopheles freeborni of the west coast) gave us an interesting talk and led an interesting evenings round table one night. Another night Lt. Col. Bleu led the discussion.

"Georgia was very lovely in her early spring clothes with three kinds of violets to garland her and lovely Dogwood to filaree her hair. I shall never forget one hugh Dogwood in a forest of budding deciduous trees in a small valley where burbled a stream and the striking picture of contrast that a hugh mass of snowy dogwood blossoms made against the dark of the forest.

Another memorable event occurred shortly ago, on April 19 when my wife Mary Ann arrived from Phoenix, Arizona. It was one week short of six months since I had said good bye to her at Tacoma the end of October. I am writing this at our cottage by the beach where we hope the cooling ocean breezes will help us survive a torrid Florida summer.

"Since some or many of our group may get overseas before the end of our present conflict and bring back interesting collections from farflung points I am wondering if I might be granted the privilege of studying any Orthopteran material that may be given to Entomological museum of the University of Minnesota.

"If also any men overseas want to do me a big favor they can do so by collecting me anything in the Orthopteran line, especially grasshoppers. And if in return they let me know their wants I shall be glad to return the favor."

Lester Tjernlund, U. S. Marine Corps.

An item in the St. Paul paper of April 7, 1943 reports that Lester Tjernlund, whom a number of you know, has been killed in action. No details were given and it is not known what part of the world he was in but the supposition is that he was in the South Pacific.

Captain F. G. Wallace, April 1, 1943 - 1st Medical General Laboratory, Fort Sam Houston, Texas.

"If last November some one had told me that we would still be here on April 1 I would have thought it was a joke - as it is it really is an April fool's joke. I am taking a group of three men up to one of the laboratories for evening work in parasitology for two weeks. I have finished my lectures on parasitology to the whole company (with very discouraging results on the examination). Barrett is now giving a series on entomology and is doing a very good job.

"Last week we walked 18 miles out to Camp Bullis where we bivouaced in pup tents and then walked back the next day. We were camped right out in the woods and had a good chance to see some of the Texas countryside. Saw a deer, chased armadillos and collected scorpions under rocks despite the fact that there were nearly continuous hard storms and we nearly floated away. I was surprised that armadillos are so common - in a 15 minute walk you see two or three."



"The 15th Medical General Laboratory has been activated here for some months. As far as we know it is only the second such laboratory, ours being the first. Everything indicates that we are destined for foreign service but that is only a rumor. We are starting to become cynical - looking forward to a tour of the battlefields after the war or to the distinction of becoming the oldest residents of Dodd Field (the tent city Annex to Ft. San Houston, where we live)."

A recent letter from Wallace under date of April 17 reports his promotion to a Captain. Congratulations from all of us.

#### Late News Items

Ensign C. Gordon Fredine, April 22, 1943 - H-V (S), U.S.N.R., Medical School, Naval Medical Center, Bethesda, Maryland.

"Well - I did it, and here I am. When the time came they gave me very little time to make up my mind - and not much more to wind up affairs at good old Purdue. I have been here since April 12 and only a lowly Ensign - but I'm very pleased to be in the Medical Corps. They are doing their best to make a malarialogist out of me. It seems that both the Army and Navy are pretty worried about malaria."

"It looks as though I won't be here very long - any by July 1 I expect to be on my way some place near the equator. There is just a slight chance that I will be stationed at some established post like Casa Blanca - but most likely I will be attached to a Marine outfit somewhere in the South Pacific - Africa or So. America. So I'm going to travel - and soon. No indoctrination - no physical training - no nothing but malaria - mosquitoes - control - prevention - treatment and gen. epidemiology. I see vivax, falciparum, malariae and ovale all night! They really give us the works. We will go out in units of one officer and two corps men - using C.B.s and Marines for labor.

"The School and equipment is marvelous - and a finer bunch of men I never saw. I feel good about everything."

Winston Elkins, 73rd Bombardment Squadron, A.P.O. 948, C/o Postmaster, Seattle, Washington.

Bud Elkins is in Alaska, or at least that was where he was last heard from.

Captain Ashley B. Gurney's latest address is: -23rd Malaria Survey Unit, Malaria Training Center, H. O. Staging Area, New Orleans, La.

Major Marshall Hertig has left Washington for the Gorgas Memorial Laboratory, Panama, Republic of Panama.