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GIPSY MOTH AND BROWN-TAIL MOTH INVESTIGATIONS

A. F. Burgess, Senior Entomologist, In Charge

Dr. I. M. Hawley, of Salt Lake City, Utah, J. G. Sanders, of Philadelphia, and Gonzalo Merino, in charge of Pest Control and Plant Quarantine at Manila, Philippine Islands, have recently visited the gipsy moth laboratory. S. A. Rohwer, E. B. O'Leary, and Dr. F. C. Craighead, of Washington, have also been in conference at the Melrose office within the month.

C. R. Addinall, chemist, of the Harvard Graduate School, has accepted a temporary appointment to conduct investigations of the injury caused by the reaction of lead and calcium arsenates on various types of foliage.

In the week of August 15 A. F. Burgess attended the annual meetings of the Northeastern Entomologists. The meetings included trips through the orchard sections, and visits to the entomological laboratories in southern Pennsylvania, western Maryland, Virginia, and West Virginia. On his return Mr. Burgess stopped for a day at Washington, to confer with Bureau officials.

A. F. Burgess, H. L. Blaisdell, E. B. O'Leary, and H. L. McIntyre, Supervisor, Forest Pest Control for the State of New York, held a meeting at Pittsfield, Mass., on August 24 to discuss cooperative plans of gipsy moth work in the State of New York.

J. V. Schaffner and C. M. Symonds, of the gipsy moth laboratory, conpleted on August 30 a two week's trip into New York State, collecting native larvae to determine the dispersion of an imported gipsy moth parasite, Compsilura concinnata. Although this tachinid is one of the best of the imported gipsy moth parasites, it is not dependent upon this host alone. It has been recovered from many native insects, and is known to be present at least 100 miles west of the gipsy moth dispersion line. Approximately 150 different collections were made. These were obtained from the southeastern, central, and northeastern parts of the State, along a route which included Monroe, Binghamton, Cortland, Sherburne, Cazenovia, Oneida, Syracuse, Parish, Rome, Pulaski, Watertown, Antwerp, Ogdensburg, Gouverneur, Potsdam, Malone, Paul Smiths, Champlain and Plattsburg. During the fall many parasite records are made from these collections, but in some cases the hosts must be held through the winter to obtain the parasites after hibernation.

JAPANESE BEETLE INVESTIGATIONS

Loren B. Smith, Senior Entomologist, in Charge

The season for the adult Japanese beetle is rapidly drawing to a close. The unusual cool weather of August and the exceptional amount of rainfall during the latter part of the month materially reduced the number of beetles. As a result, many temporary employees have been relieved of their duties in connection with this laboratory.

R. S. Lehman and F. Ching Woo have terminated their summer work on the parasites of the beetle. Mr. Lehman has taken a position at the Colorado Agricultural College, and Mr. Woo has returned to his home in Peyeechow, China.

C. H. McDonnell, who has been affiliated with the Physiological Section for the last four summers, has left here to spend a week in Washington with his father, C. C. McDonnell, of the Bureau of Chemistry and Soils. On September 9 he will return to Middletown, Conn., to resume his studies at Wesleyan University. Mr. McDonnell is the 1927 football manager for Wesleyan.

Leaving on August 23, E. R. Van Leeuwen, with O. G. Anderson, of the Pomology Department of Purdue University, motored to Michigan. Professor Anderson has been associated with the Beetle Insecticide Section during the last two months.

Nathan Tischler, temporary assistant in the Section of Ecology, has resigned to engage in teaching.

Walter E. Fleming recently visited the plant of the Baker Castor Oil Co., at Jersey City, N. J., and that of the Spencer Kellogg Co., at Edgewater, N. J., to obtain different grades of oil to use in a new carbon disulphide solution which seems promising as a soil insecticide.

Scouting in the present season has shown that the area in New Jersey and Pennsylvania in which the Japanese beetle is sufficiently numerous to inflict severe damage on economic plants has been somewhat extended. In central New Jersey the area in which the beetle is continuously distributed now extends entirely across the State to the ocean, in the region lying north of Mullica River and between that stream and Tom's River.

The observations made this season bear out the previously noted fact that the extension of range of the beetle proceeds most rapidly towards the east, and that it is relatively slow in other directions, especially towards the west.

The earliest record for this year of third-instar grubs of the new generation was obtained on August 22. The earliest date of this event in previous years was August 16, 1926, a fact indicating that the prevailing cool summer has resulted in a slight retardation of the growth of the larvae.

Tiphia popilliavora, an imported parasite of the Japanese beetle, which was recovered for the first time last season, has made excellent progress during the present season. It has now been recovered from three of the four original liberations, and is abundant over an area of more than three square miles. At the center of the colony it has been destroying as many as 25 Japanese beetle larvae per square yard of ground. Without seriously depleting the "mother" colony, enough material has been collected for nine new colonizations widely scattered over the heavily infested area.

C. P. Clausen plans to leave India early in October for a visit to the United States. He will bring with him a large consignment of Popillia parasites reared in India during the summer months.

L. B. Smith and W. E. Fleming spent August 29 in Washington, D. C., for conferences relative to investigations of soil insecticides.

V. I. Safro has been engaged by the New Jersey Department of Agriculture, and assigned to work on the suppression of the Japanese beetle. The plan of organized community control, leading toward a general campaign of suppression in the heavily infested area, was developed during the past year by the Research staff at the Japanese Beetle Laboratory.

TAXONOMIC INVESTIGATIONS

S. A. Rohwer, Senior Entomologist, in Charge

A. B. Gahan will go to Europe early in September to study types of chalcid and braconid parasites in the collections of various museums. As it is necessary that he be given an opportunity to prepare himself for this trip, he has been relieved of administrative work. Dr. Harold Morrison has been selected to assist in administrative work and to act in charge in Mr. Rohwer's absence.

Dr. E. A. Chapin reports that the Dimmock notes, described in the Monthly Letter for June, have been placed in order in temporary binders, and are now available for anyone who wishes to consult them.

Miss Kathleen Doering, of the University of Kansas, visited the Division recently and spent some time examining types of Cercopidae and other Hemiptera in the collections.

Dr. T. V. Ramakrishna Ayyar, of the Madras Agricultural Department, Coimbatore, S. India, spent August 4 studying the collection of chalcids with Mr. Gahan.

Gonzalo Merino, of the Bureau of Agriculture, Manila, P. I., visited the Division August 1 to meet the specialists and observe the methods of preserving specimens. Mr. Merino was especially interested in coleopterous larvae, and spent considerable time in consultation with Dr. Böving.

TRUCK-CROP INSECT INVESTIGATIONS

J. E. Graf, Senior Entomologist, in Charge

B. L. Boyden, of the Tampa, Fla., laboratory, attended the sixth annual meeting of farmers and fruit growers at Gainesville, Fla., August 8 to 13, where he presented a paper on the sweet potato weevil.

J. E. Graf visited Riverton, N. J., on August 9, where tests in trapping and controlling the Japanese beetle were under way at the Japanese Beetle Laboratory.

N. F. Howard, of the Columbus, Ohio, Mexican bean beetle laboratory, attended the meetings of the Northeastern Entomologists held at Gettysburg, Pa., and other points, August 17 to 19. Before returning to Columbus he visited Washington for conference.

W. H. White visited the Chadbourn, N. C., laboratory August 18 to 23, to discuss with W. A. Thomas research on the strawberry root louse, and other problems under way there. Serious losses to strawberry plantings have occurred in the Chadbourn section, and the cause has not been definitely determined. The indications are, however, that the strawberry root louse is a factor, and experiments will be inaugurated shortly to determine the extent of its responsibility.

The temporary appointment of Dr. Clay G. Huff, who was appointed to undertake an investigation of the effect of bacteria on the development of the seed corn maggot at the Chadbourn, N. C., laboratory, was terminated on August 22. Dr. Huff will now be associated with the Zoological Department of the University of Georgia, at Athens.

C. F. Henderson, Agent, who spent several months in the Argentine Republic, studying the natural enemies of the sugar-beet leafhopper, returned to the United States via New York in the early part of August. En route to Berkeley, Calif., where he will continue his investigations on the sugar-beet leafhopper, he stopped off at Washington and discussed with some of the entomologists the results of his survey. He was unable to locate the sugar-beet leafhopper in Argentina.

K. L. Cockerham, of Biloxi, Miss., reports that E. Mortensen, Assistant Entomologist, representing the Commonwealth of Australia, paid his station a visit on August 24. Mr. Mortensen is engaged in investigations on the prickly pear, and has spent some time in this country collecting specimens.

S. E. Crumb, of Clarksville, Tenn., and F. S. Chamberlin, of Quincy, Fla., are now temporarily located at Tampa, Fla., where they are conducting experiments on vacuum fumigation for the control of the cigarette beetle.

Messrs. Street, Wolcott, Olney, and Thorne, of the New York Agricultural Committee of the National Canners Association, visited the Geneva, N. Y., laboratory in the latter part of August, and discussed the Mexican bean beetle insecticide tests with Rodney Cecil.

R. E. Campbell, of Alhambra, Calif., reports that Dr. Demetrio D. de Torres, Agricultural Engineer, of the National Museum of Natural Sciences, Madrid, Spain, visited his laboratory in the early part of August.

TROPICAL AND SUBTROPICAL PLANT INSECT INVESTIGATIONS

A. C. Baker, Senior Entomologist, in Charge

James Zetek, of the field station at Ancon, Canal Zone, recently spent several weeks in the Rio Grande Valley of Texas, investigating conditions with respect to possible infestation by the Mexican fruit worm. In the last week in August he left for Tampico, Mexico, to determine the fitness of this locality as a site for a research laboratory on the fruit worm. After visiting Tampico he will return to his laboratory in the Canal Zone.

Miss B. M. Broadbent left Washington on August 20 for Santa Cruz, Calif., where she will spend some time assisting Dr. Cole in his work on bulb pests. She will then proceed to New Orleans, where she will conduct studies on ornamentals at the laboratory there.

About the middle of August Dr. C. A. Weigel visited the Long Island bulb region and inaugurated a number of experiments on hot-water sterilization of narcissus bulbs.

During the second week in August Dr. Bliss, of the New Orleans laboratory, made a trip through the Gulf region, stopping at Bay St. Louis, Gulfport and Biloxi, Miss., in the interest of the camphor scale investigations. He improved this opportunity to visit the men at the Truck Crop laboratories at Gulfport and Biloxi.

F. D. Holdaway, of Australia, and Demetrio Delgado de Torres y de Quiros, of Madrid, Spain, were visitors at the New Orleans laboratory in August.

H. H. Bliss, of Sandusky, Ohio, has been given a temporary appointment as Field Assistant at the New Orleans laboratory for the latter part of the summer.

FOREST INSECT INVESTIGATIONS

F. C. Craighead, Senior Entomologist, in Charge

Dr. F. C. Craighead spent the early part of August inspecting the Forest Service control work on the Colorado National Forest, and conferring with Dr. M. W. Blackman, who is conducting biological studies there on the Black Hills beetle. In the latter part of August he spent a week reviewing the work on two projects in the New England States -- the white pine weevil and the bronze birch borer.

William Middleton attended the meetings and field trip of the Northeastern Economic Entomologists, leaving Washington August 17 and returning August 19.

On July 10 Stanley Garthside, Forest Entomologist, from Sydney, Australia, arrived in Asheville and spent a few days at the Bent Creek Laboratory to note what entomological investigative projects were being conducted there. Mr. Garthside is traveling under the auspices of the Australian Government, and expects to visit stations in various parts of the United States, Canada, and Europe, before returning to Australia in 1928. He has just completed some studies at Cornell University, and expects to attend the University of Minnesota this fall, to continue his studies.

On July 14 J. A. Beal, R. E. Balch, and R. A. St. George, in company with Dr. C. F. Korstian, Dr. and Mrs. Hesselman, from Roumania, and Dr. R. M. Nelson, visited the release cutting poplar plots located at the foot of Lookingglass Rock in the Pisgah National Forest. The poplar was looking especially promising, as well as the black locust. The latter species was protected by hardwoods for several years, and now occupies the upper story and is free from borers. Practically all of the locust observed growing in the open and not protected by shade is severely damaged by locust borers. These observations reaffirm Dr. Craighead's conclusions that shade is an important factor in protecting young locust trees from injury by borers.

On July 15, 17, and 18 an outbreak of the hickory barkbeetle, (Eccoptogaster quadrispinosus) was discovered at Swannanoa, N. C. It has been in progress since the fall of 1925, when severe drought weakened many hardwoods and conifers. The outbreak was rapidly increasing in size, and if it had not been checked would undoubtedly have killed all of the hickories in its vicinity within the next two or three years.

The southern pine beetle (Dendroctonus frontalis Zimm.) which has been rather inactive since spring, was discovered in numbers in the last two or three weeks.

BEE CULTURE INVESTIGATIONS

James I. Hambleton, Apiculturist, in Charge

Dr. A. E. Lundie, formerly connected with the Division of Bee Culture Investigations, and now Apiculturist of the Union of South Africa, reports in a recent letter that about five and one-half times more beekeeping equipment was sold in South Africa in 1926 than in 1923. This fact is excellent indication of the progress Doctor Lundie is making in promoting apiculture. He also says that the two films on beekeeping from the United States Department of Agriculture were shown in connection with the Witwatersrand Agricultural Society Show in Johannesburg.

While on an extended trip through a number of the Eastern States Dr. E. F. Phillips visited the Bee Culture Laboratory for several days in August.

Senor Demetrio D. de Torres Y de Quiros, Ingeniero Agronomo, Del Musea Nacional de Ciencias Naturales, Madrid, Spain, who has just finished graduate work in economic entomology at Cornell University, recently consulted with various members of the Bee Culture staff in regard to apicultural work in this country.

A large and successful interstate beekeepers' meeting was held at Hamilton, Ill., August 9, 10 and 11. C. P. Dadant, editor of the American Bee Journal, and one of the pioneer beekeepers in this country, and his sons, were hosts to many of those who attended. The Department of Agriculture was represented by Jas. I. Hambleton.

E. L. Sechrist judged the bee and honey exhibit at the Ohio State Fair on August 29 and 30. This fair has one of the largest and best bee and honey exhibits in the United States. The exhibit this year was one of unusual interest because of the fact that the premium lists on honey were based on the United States standard grades for honey, which have just been announced.

There are indications that the United States standard grades for honey are attracting considerable attention in a number of foreign countries. The following paragraph in recent correspondence with a domestic firm indicates the receptive manner in which these grades are considered by the trade:

"We appreciate very much indeed the work the U. S. Department of Agriculture has done in inaugurating uniform methods for grading honey, because heretofore you never knew what you received when you bought a certain quantity of honey; the opinions as regards color differed too much. We are now buying honey from the producers on basis of Department of Agriculture certificate final, and we are trying to make our European customers agree to the same terms."

COTTON INSECT INVESTIGATIONS

INVESTIGATIONS OF INSECTS AFFECTING MAN AND ANIMALS

J. L. Webb, Associate Entomologist, Acting in Charge

Demetrio D. de Torres, of Spain, paid a short visit to the Dallas, Tex., Laboratory in August, and F. G. Holdaway, of the Australian Council for Scientific and Industrial Research, also spent two days at Dallas, after which he visited the field laboratories at Uvalde and Sonora. Both men were interested in the poultry parasite investigations, and Mr. Holdaway was especially interested in the studies of the screw worm fly and other blow flies, on account of a somewhat similar problem which is serious with the sheep raisers of Australia.

A new dusting airplane was purchased for the Cotton Insect field station at Tallulah, La., from the Keystone Aircraft Corporation, Bristol, Pa. R. L. Mitchell, airplane pilot stationed at Tallulah, flew the plane from Bristol to Tallulah.

J. K. V. Stewart, a temporary field assistant stationed at Tallulah, resigned on August 10.

LIBRARY

Mabel Colcord, Librarian

NEW BOOKS

Agricultural insecticide and fungicide manufacturers' association.
Bulletin No. 6, 35 p. Philadelphia, Pa., May, 1927.

Amoreux, P. J.
Notice des insectes de la France réputés venimeux. 302 p. Paris, Rue et Hôtel Serpente, 1789.

Baitsell, G. A.
Manual of biological forms. Rev. ed. 411 p. New York, Macmillan Co., 1927.

Bouvier, E. L.
Étude sur les Cératocampidés de la collection Charles Oberthür. Annales des Sciences Naturelles. Zoologie, v. 10, fasc. 2, p. 233-288, pl. I-III, 1927.

Box, H. E.
Notas sobre dos insectos perjudiciales a las matas de cafe en Venezuela. 19 p., 10 fig. Caracas, Empresa et Cojo, 1927.

British Museum (Natural History).
Catalogue of the type specimens of Lepidoptera Rhopalocera in the British Museum. Pt. III, Nymphalidae, by A. G. Gabriel. 128 p. London, British Museum (Natural History), 1927.

Brittain, W. H.
The cabbage maggot. 53 p. (inc. 3 pl.), 15 tab. (Nova Scotia Dept. of Nat. Res. Bulletin No. 11.) Nova Scotia, Dept. of Nat. Res. 1927.

Cassino, S. E.
The naturalists' directory. 315 p. Samuel E. Cassino, Salem, Mass., 1927.

Combes, Marguerite.
Sur la "Répugnance des fourmis à se laisser choir" étudiée par Sir John Lubbock. Annales des Sciences Naturelles. Zoologie, v. 10, fasc. 2, p. 223-231, 1927.

Congresso Brasileiro de Hygiene, 3d, Sao Paulo, 1926.
Terceiro congresso brasileiro de hygiene, São Paulo, 4al2 novembro de 1926. 86 p. São Paulo, Brasil, 1927.

France. Département des Deux-Sèvres. Direction des Services Agricoles.
...Le doryphore dans les Deux-Sèvres en 1925. 15 p. Rennes, Imprimeries Réunies (Société cooperative) 1925.

Garman, Philip.
The Odonata or dragonflies of Connecticut. 331 p., 67 fig., 22 pl. Hartford, State Geol. & Nat. Hist. Survey, 1927. [Conn. State Geol. & Nat. Hist. Survey Bul. 39 (Guide to the Insects of Connecticut, Pt. V).]

Ghosh, C. C.
Instructions on beekeeping. 8 p., 11 figs. Rangoon, Supt. Govt. Printing and Stationery, Burma, 1926. (Dept. Agr. Burma, Bulletin 17.)

Ghosh, C. C.
Instructions on silk-worm rearing. 20 p., 19 figs. (Dept. Agr. Burma, Bulletin 21.) Rangoon, Supt. Govt. Printing and Stationery, Burma, 1926.

Gimmerthal, B. A.
...Beitrag zu einer künftig zu bearbeitenden Dipterologie Russlands, Nos. 1-3, 1845-1847.

Hardenburg, E. V.
Bean culture. 238 p., illus. New York, Macmillan Co., 1927. (Chapter X, Insects and their control, p. 100-113.)

Houlbert, C.
Thysanoures-Dermaptères et Orthoptères de France et de la Faune Européenne, v. 2. 357 p. Paris, Gaston Doin et Cie, 1927. (Encyclopedie scientifique.)

Huffel, G.
Economie forestière. Ed. 2, v. 1, pt. 1. 342 p. Paris, Lucien Laveur, 1910.

International Cotton Congress.
Official report of the International Cotton Congress held in Egypt, 1927, by the International Federation of Master Cotton Spinners' and Manufacturers' Associations. Under the high patronage of H. M. Fouad I, King of Egypt. 263 p., illus. 1927. (Williams, C. B., Destruction of pink boll-worm, p. 49-52.)

Kniphofio, I. H.
De Pediculis inguinalibus insectis et verminibus homini molestis. 51 p., 3 tab. Erfvrti Stanno Heringiano, Acad. Typogr. 1759.

Lefort, G.
Le doryphore de la pomme de terre. 16 p. 1926(?).

Lindner, Erwin.
Die Fliegen der palaearktischen Region. Lfgs. 16-19, Trypetidae, p. 1-221, Taf. 1-17. Stuttgart, E. Schweizerbart, 1927.

London School of Tropical Medicine.
Researches in Polynesia and Melanesia...in 1924, 1925. Parts I-IV (relating principally to medical entomology). By P. A. Buxton and G. H. E. Hopkins. 260 p., 12 pl. 89 tab. 43 figs. London, School of Tropical Medicine, 1927. Bibliography: p.232-256.

Louisiana Planter and Sugar Manufacturer Co., Inc.
The reference book of the sugar industry of the world. V. 5, No. 5, July, 1927.

McCourtie, W. B.
Where and how to sell manuscripts; a directory for writers. Ed. 4, 482 p. Springfield, Mass., The Home Correspondence School, [circa 1927].

MacLeod, Julius.
The quantitative method in biology. Ed. 2. 228 p. New York, Longmans, Green & Co., 1926.

Malpighi, Marcelli.
...Dissertatio epistolica de Bombyce. 100 p., 12 pl. Londini, Joannem Martyn & Jacobium Allestry, 1669.

New York Academy of Sciences.
Scientific survey of Porto Rico and the Virgin Islands, v. 9, No. 1, Mammals of Porto Rico living and extinct - Chiroptera and Insectivora. By H. E. Anthony. 96 p., 28 fig., 15 pl. Academy of Natural Sciences, New York, 1925.

New York State Department of Health.
Standard methods of the Division of Laboratories and Research of the New York State Department of Health. 704 p., illus. Baltimore, Williams & Wilkins Co., 1927.

Ontario Department of Agriculture.
Fifty-seventh annual report of the Entomological Society of Ontario, 1926. 63 p. Toronto, The United Press, 1927.

Parsons, J. H.
An introduction to the study of colour vision. Ed. 2. 323 p., 94 fig., col. pl. Cambridge, University Press, 1924. (Cambridge psychological library.)

Pawlowsky, E. N. and Stein, A. K.
Experimentelle Untersuchung über die Giftwirkung von Paederus fuscipes Curt. (Coleoptera, Staphylinidae) auf den Menschen. Archiv für Schiffs-und Tropen-Hygiene, v. 31, heft 6, p. 271-282, 4 fig., 1927.

Saint-Hilaire, K.
Histo-physiologische Studien über die Spinndrüsen der Tenthredinidenlarven. Zeits. f. Wissenschaftliche Biologie. Abt. B (Zeits. f. Zellforschung und mikroskopische Anatomie) v. 5, heft 4, p. 449-494, 89 fig., 1927.

Schulze, Paul.
Biologie der Tiere Deutschlands... Lfg. 25. (Teil 18: Pseudoscorpiones, von A. Kästner; Teil 40: Ipidae, von Heinrich E. Wichmann; Lampyrinae von R. Vogel.) p. 1-68; 347-391. Berlin, Gebrüder Borntraeger, 1927.

Senguerdii, Wolferdi.
Tractatus physicus de Tarantula. 87 p. Lvgdvni, Bat. Gaasbeeckios, 1668.

Sklenar, O. G.
Mein Bienenmütterchen seine Zucht und Pflege. 171 p. 1922.

Smeathmann, Heinrich.
...Ueber die Termiten Afrikas und anderer heissen Klimate. 112 p., 2 pl., Göttingen, Johann Christian Dieterich, 1789.

South London Entomological and Natural History Society.
Proceedings, 1926-27. 155 p., 11 pl. London, Pub. at the Society's Rooms, 1927.

Stichel, Wolfgang.
Illustrierte Bestimmungs-Tabellen der deutschen Wanzen (Hemiptera-Heteroptera), Lfg. 5 ser. Anonychia Reuter (Forsetzung). p. 121-146, fig. 318-381. Berlin-Hermsdorf, W. Stichel, 1927.

Strickland, E. H.
Wireworms of Alberta (a preliminary report). 18 p. Edmonton, Univ. of Alberta, 1927. (Univ. of Alberta. College of Agr. Research bul. no. 2.)

Trautmann, W.
Die Goldwespen Europas. Weimar, G. Uschmann, 1927(?). 194 p. 4 pl. (2 col.).

Wheeler, W. M.
Les sociétés d' insectes. 468 p., 61 fig. Paris, Gaston Doin et Cie, 1926. (Index bibliographique, p. 399-444.)

Wilder, J. J.
Wilder's system of beekeeping. 93 p., illus. Waycross, Georgia, 1927.

Zander, Enoch.
Bienen und Bienenzucht. 102 p., 41 fig. Leipzig, B. G. Teubner, 1919.

Zander, Enoch.
Obstbau und Bienenzucht. 48 p., 22 fig. Stuttgart, Eugen Ulmer, 1922.

Ziegler, A., and Branscheidt, P.
Pollenphysiologische Untersuchungen an Kern und Steinobstsorten in Bayern und ihre Bedeutung für den Obstbau. 104 p., 4 pl. Berlin, Paul Parey, 1927.