

COLEOPTERISTS AND COLEOPTERA COLLECTIONS IN THE PACIFIC NORTHWEST

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Last May I finished the first draft of the text of Part I, the first 650 species, of my **Coleoptera of the Pacific Northwest**. The manuscript was based primarily on a study of my own collection together with some correspondence with Mr. Gordon Stace Smith of Creston, B. C., Mr. Kenneth M. Fender of McMinnville, Ore., and Mr. Merton C. Lane of Walla Walla, Wash. My next job was to check my account against as much additional Northwestern material as possible, to accomplish which I proposed to visit the various Northwestern collections, check off the readily verified Northwestern species, and borrow for identification the unnamed or doubtfully named species. My paper today is a brief account of my travels in the furtherance of this objective, and is offered in the hope that it may throw some light on the status of one aspect of Northwestern entomology in the year 1949.

My first trip was into northwestern Oregon, and my first visit was to Oregon State College in Corvallis, June 16 and 17. The beetle collection is housed in trays in about 150 glass topped drawers. It is in charge of Dr. W. J. Chamberlin, who has taught forest entomology at the College since 1916 and is the author of several important entomological books, the most recent being a text on **Insects Affecting Forest Products and Other Materials**. He has specialized on Buprestidae and Scolytidae, his Buprestidae having recently been sold to the California Academy of Sciences. Oregon specimens in the College's collection are only moderately numerous, and I came to feel that my own collection of Oregon beetles is virtually as representative as theirs. The individual specimens are, however, curated with great care, each specimen bearing a determination label together with the name of the determiner. Elsewhere in the Northwest I found this procedure employed only at the Univer-

sity of Idaho and by Stace Smith.

In Corvallis I stayed with Frank Beer, who took a Master's degree under my direction in 1939, and, after teaching high school for a number of years at Grants Pass and Salem, has been instructing in general science at the Oregon State College. Beer has a small but beautiful collection, primarily of Buprestidae, but likewise of Scarabaeidae (including rare Oregon Pleocomma material), Elateridae, and Cicindalidae. Beer took me on a delightful collecting trip the second afternoon to Mary's Peak, 4097 feet high, about 15 miles west of Corvallis.

June 18 and 19 I spent with Kenneth Fender in McMinnville, Oregon. Fender is a rural mail carrier, and both he and his wife, Dorothy, are enthusiastic naturalists and the authors of numerous papers. Their interesting home on the southern outskirts of town, by the side of an inviting creek, is overrun with zoological material. Dorothy specializes on earthworms. Both she and Kenneth specialize on the Lycidae-Lampyridae - Cantharidae group of beetles, and I hope they will do the portion of these families in my book. Kenneth likewise has a general collection of Oregon beetles—probably the best in existence—arranged in trays in 20 or 30 large insect boxes. Sunday we had excellent collecting in the Yamhill River bottom near Dayton.

My second trip was east of the Cascade Mountains. On July 24 I drove to Walla Walla where I stayed with M. C. Lane, who has been in charge of wireworm investigations in eastern Washington for the United States Bureau of Entomology and Plant Quarantine for 30 years. Lane became interested in beetles through Dr. E. C. Van Dyke, and is one of the most energetic, persistent, and expert beetle collectors known to me. His general beetle collection (mostly of Northwestern material) numbers over 100 insect

boxes, about three-fourths Adepaga, and his Elateridae, in which he has specialized, are arranged in trays in about 30 drawers and about 25 insect boxes, including many undescribed species. Lane is today one of the foremost authorities on both the taxonomy and biology of the Elateridae, and I hope that he will do the Elateridae in my book. Two of Mr. Lane's associates, Horace P. Lanchester and Edward W. Jones, have beetle collections. Lanchester likewise specializing on the Elateridae.

In College Place I visited Walla Walla College. This is a Seventh Day Adventist school. Their zoologist, Dr. Ernest Booth, is beginning an insect collection, having 17 drawers and 25 or 30 boxes of beetles. I did not meet Dr. Chalmer Chastian of Dr. Booth's staff, but last November I studied a collection of Blue Mountain Scolytidae made by him; but I did meet Gayle H. Nelson, one of Dr. Booth's graduate students, who had about 50 boxes of beetles, and is greatly interested in them. Nelson is located this year at Washington Missionary College, Takoma Park, Maryland; but he hopes to return to the Northwest. All in all, the Seventh day Adventists are doing right well by the study of beetles!

July 26 Lane drove Lanchester and me to Wallowa Lake in northeastern Oregon. There we met James H. Baker, a grocer of Baker, Ore. Mr. Baker has a very fine collection of Northwestern Geometridae, but under Lane's influence, he has been collecting Elateridae and Carabidae. I am urging him to begin accumulating beetles in general against the day when I shall want to borrow them for my **Coleoptera of the Pacific Northwest**. Baker is another very energetic fellow, and at Wallowa Lake he and Lane soon disappeared *up* the trail, leaving Lanchester and me far far behind! The day was only middling, but we got our share of beetles.

At Pullman, Wash., July 27-28, I stayed with Dr. Maurice T. James, the dipterist, who is in charge of the insect collection at the State College of Washington. The beetles are in trays in about 170 drawers plus 60 or 75 boxes

of unnamed specimens. They represent the accumulation of many years and successive curators: C. V. Piper, A. L. Melander, J. F. G. Clark, R. D. Shenefelt, R. L. Webster,—but none of these men have been coleopterists. Since my coming to the state in 1927, I have always found the State College most cooperative and have felt free to use the collection just as though it were my own.

In the afternoon James and I drove to the University of Idaho at Moscow, eight miles away. The beetle collection there is arranged in trays in about 60 not too densely filled drawers and some 25 boxes of unnamed specimens and is in charge of Prof. H. C. Manis. Likewise in the Department of Entomology I met A. S. Waltz and Wm. F. Barr, both of whom lent me material (about an insect box each) from their private collections. Barr is especially interested in Buprestidae, and is this year on leave working on his doctorate at the University of California.

In the evening, James took me to call on N. M. Downie. Downie is doing personnel work in the Department of Education at the State College of Washington, but he is coleopterist on the side! His collection numbers about 16 very crowded drawers and a dozen boxes. It includes an extensive series of species that he collected in Turkey, but he is giving most of this material to me and to the State College, and is concentrating on Nearctic specimens.

June 28 I drove north, arriving after dark at the home of Gordon Stace Smith, a mile or so north of Creston, B. C. I had visited Stace Smith first the previous September, and was looking forward to working with him again in his spacious living room with its windows looking westward over the broad expanse of the Kootenay Valley with the Nelson Range of mountains beyond. It made one itch to go collecting, but I reflected that the coleopterological exploration of this corner of the Northwest is in most competent hands.

Mr. Stace Smith is a retired mining foreman and had formed two beetle collections; nearly a hundred boxes of beetles from British Columbia, where he

has lived most of his life, and about 45 boxes of beetles from Quebec, collected during a five years sojourn in that province. The latter collection, however, he was selling to the California Academy of Sciences to give him increased facilities for the British Columbia series. Stace Smith's collection of British Columbia beetles is probably the best extant collection from the province.

We got to work on the beetles almost as soon as I arrived, and by the next afternoon had finished checking the portion of his collection on Adephaga. The next morning I was once more under way. The afternoon I spent with Loyal Weitz in his home on the south side of Spokane. Mr. Weitz is in charge of the Underwood Typewriter Agency in Spokane. His avocational interest in biology has crystallized on the beetles, of which he is forming a collection, especially encouraged by Mr. M. C. Lane. Mr. Weitz is the sort of person who would be particularly helped by a general handbook of the beetles of the region.

That same evening I had dinner with Prof. and Mrs. Robert W. Rogers of the Eastern Washington College of Education in Cheney. Rogers had taken a Master's degree under my supervision in 1947, and, while not himself forming a beetle collection, has been most helpful in supplying me with specimens from the vicinity of Cheney and north Idaho. The next morning I drove to Seattle after a most enjoyable and profitable week.

No survey of Northwestern beetle collections could be complete without a visit to the California Academy of Sciences in San Francisco. Consequently, on Aug. 14, Estelle (Mrs. Hatch) and I left for the south. The second night out, at Medford, Oregon, we called on Mr. Fred Lawrence, for whom I had named some beetles back in the thirties. Lawrence is a sign painter by trade, an artist and a collector of butterflies and beetles by avocation. He has 20 or 25 drawers of beetles, mostly from Medford, in nicely constructed little wooden trays. Due to lack of contact with others of similar interest and the absence of usable literature from which he might have made his own identifications, he

has lost most of his former interest in his collection. A proper reference book on our beetle fauna might well have turned him into a contributor to our science.

After an hour or so with Mr. Lawrence, we called on Mr. L. G. Gentner. Gentner is entomologist at the Southern Oregon Experiment Station at nearby Talent. At home he is a specialist on flea beetles, having 50 or 75 boxes of specimens, including nearly all known North American species, many of them undescribed. I have hopes that Mr. Gentner will be willing to write the portion on Alticinae in my **Coleoptera of the Pacific Northwest**.

At the University of California at Davis we called the next afternoon on Mr. A. T. McClay. McClay is a preparator in the Department of Entomology and an inveterate beetle collector, having a couple of hundred boxes of mounted and much unmounted material. While an insecticide salesman some years back, he collected extensively around Medford, Ore., and I have this winter had the privilege of studying a box or so of his Oregon Carabidae.

The next morning (Aug. 17) we arrived at the California Academy of Sciences, and were given a most cordial welcome by Dr. Edward S. Ross, curator of insects. Mr. Hugh B. Leech, who has charge of Coleoptera, and Dr. Edwin C. Van Dyke. At the Academy of Sciences is one of the world's great beetle collections. It contains about a million and a half specimens in about 1500 drawers and 500 to 1000 boxes. Its basis is the collection of Dr. Van Dyke, who gave his collection to the Academy in 1924, with the understanding that he would have full use of it during his life. And still, at the age of 81, Dr. Van Dyke was coming to the Academy every day to work on his collection. Van Dyke's example induced Dr. F. E. Blaisdell (1862-1946) and others to take similar action.

The Northwestern material in the Academy derives largely from the collections of Dr. Van Dyke and Ralph Hopping, and from Hugh Leech's hydrocoleoptera. Van Dyke came first to the Northwest with the Sierra Club in 1905, when they camped at Paradise

Park on Mt. Rainier before there was anything but a trail into the area; and every few years since, he has made additional excursions into the region, his collecting being confined for the most part to south of the international border.

Ralph Hopping (1868-1941), a former member of this Society, from 1919 to 1939 was entomologist in charge of the Dominion Forest Insect Laboratory at Vernon, B. C. He assembled an extensive collection of Coleoptera, much of it from British Columbia, that came to number about 10,000 species and 97,000 specimens. With the exception of a portion belonging to the Vernon laboratory, it was purchased by the California Academy in 1948, and is gradually being absorbed in the general collection of the Academy.

Hugh Leech will be remembered by many here as the energetic and efficient secretary and editor of our Society. Since 1947 he has been happily employed as associate curator of insects at the Academy. He lives at rural Mill Valley, about 12 miles north of the Academy across the Golden Gate Bridge. His collection of about 130 boxes of water beetles, rich in British Columbia material, has been transferred to the Academy.

After returning from California, there remained only a trip into southwestern British Columbia to complete my survey of Northwestern beetle collections. Taking advantage of our Thanksgiving holiday, Estelle, our daughter, and I took the night ferry for Victoria. Nov. 24 I spent with Mr. G. A. Hardy at the Provincial Museum. Mr. Hardy has a collection of 50 or more double boxes of beetles, and has

specialized, as we all know, on Cerambycidae, Buprestidae, and Elateridae. The museum has several collections that have been given to it, but so far these remain in their original boxes and have not been organized into a single whole.

The next day we drove north along Vancouver Island nearly to Wellington where we had lunch with Mr. Richard Guppy, Mrs. Guppy, and her sister. Mr. Guppy is another member of this Society. He has a chicken ranch, and has a collection of Vancouver Island Coleoptera and Lepidoptera. His beetles fill about a dozen boxes and drawers and is quite complete, considering the restricted area of his specialization. Mr. Guppy sells Vancouver Island insects to interested parties.

That evening we ferried over from Nanaimo to Vancouver, where we were entertained by Prof. and Mrs. G. J. Spencer. Prof. Spencer is in charge of the insect collections at the University of British Columbia. The beetles were arranged in 25 or 30 drawers some years ago by Mr. George R. Hopping, son of Ralph. Prof. Spencer introduced us to W. Lazorko, M.D., a refugee from Lemberg, Galicia, who had been in Canada about 18 months, in Vancouver about 11 months. He has a collection of some 300,000 beetles, 50,000 of them mounted, and 5000 or 6000 specimens from Vancouver. He is specially interested in the Carabidae and may well be heard from scientifically when he becomes settled in the New World.

This concludes my account. I do not assert to have mentioned all the Coleopterists in the Pacific Northwest, but only those I encountered in 1949.

UPON THE MATING HABITS OF *THERMOBIA DOMESTICA* PACK (*Thysanura: Lepismidae*)*

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In the course of a study of the bio-nomics of *Thermobia domestica* Pack, the firebrat, it was frequently noted that females follow males for long periods of time. Under the impression that this

chase was some part of mating reactions, the performance was watched until it reached a climax. The process or "love-dance" may last one and one-half to two hours and is somewhat as follows:

* Contribution No. 294, Department of Entomology, University of Illinois, being a revised portion of a Master's Thesis presented to the Department.