

University, the nearest point to my collecting ground.

In August 1937, two thousand parasitized earwigs were released in two spots remote from my area and in July 1938, four thousand were released in four locations also far removed from my area.

In all, 37,019 prospective *D. setipennis* were released over a period of three years in the Greater Vancouver area.

Concerning the recovery of these parasites, seven years after 2,000 infested earwigs had been released in 1936 in my neighborhood, one puparium showed up in my garden; eight years afterwards, four puparia were found under similar collecting conditions, and nine years afterwards they had increased enormously, by October 1945 occurring freely everywhere and running up to 70.7 per cent in a given number of earwigs counted.

A second series, of 71 earwigs, collected in October 1945 in a garden at 20th Avenue and Dunbar, was maintained under similar conditions all winter and was finally counted at the same time as the above series. The collection point is 3,000 yards as the crow flies from my garden

and the only *setipennis* liberations made at all near it in the past were the 1,000 parasitized earwigs released respectively at 10th and Sasamat and at 8th and Tolmie in July 1936. This second series yielded eleven puparia, giving 15.5 per cent parasitism.

DISCUSSION:—Taking as a centre, a spot halfway between the 1936 liberation points at 10th and Sasamat and at 8th and Tolmie, in just over nine years the tachinid fly *Digonochaeta setipennis* had spread south and uphill about 1.26 miles and yielded 15.5 per cent parasitism of the European earwig; north and downhill and about 0.45 miles away, it yielded 70.7 per cent parasitism. Subtracting these percentages from 100 and considering the distances proportionately, from the liberation centre, the 15.5 per cent obtained 1.26 miles away is only 3.4 per cent decrease per mile less than that obtained 0.45 miles away.

Thus radiating out from a common centre of liberation, the fly parasitized earwigs south and uphill, only 3.4 per cent mile less than it did north and downhill, in a fairly uniformly built-over area of the city of Vancouver.

THE STATUS OF ANOBIUM PUNCTATUM, THE DEATH WATCH BEETLE, IN THE LOWER FRASER VALLEY IN 1946.

(Coleoptera: Anobiidae)

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In 1925 a round stick, apparently of alder wood, was brought to me from a farm on Lulu Island with the report that it was a piece of an old handle found lying around the barn. The wood was thoroughly perforated by borings and yielded a copious amount of fine dust. Three dead specimens of *Anobium punctatum* Degeer, the European death watch beetle, were obtained from the wood, but since I was new to the Province I did not appreciate the significance of the incident.

In a paper on Insects and other Arthropods in buildings in British Columbia (Proc. Ent. Soc. Brit. Col., 39: 23-29) I mentioned a record in New Westminster

of an insect infesting a piano which had been brought around the Horn 50 years before. Specimens of the beetle were not obtained but the account sent in of the borings and the dust extruded, suggested an infestation of *A. punctatum*. Treatment with orthodichlorobenzene was recommended and was apparently successful because no further complaints were received.

Another record mentioned in that article concerned the 3-ply hardwood back of a china cabinet which had been so riddled by borers that it collapsed and the owner had torn it off and replaced it. The cabinet had been purchased at an auction and had possibly been imported from Europe.

From that time up to 1944 no further infestations were encountered. In January and February 1945, however, three records were reported to me, two of them in one day; in two of these I obtained beetles or enough parts of beetles, to identify the insects definitely as *A. punctatum*. One record concerns massive antique carved oak chairs in a farm-house near Langley Prairie, from which the owner tapped out and sent to me a two-ounce bottle of boring dust which yielded the remains of approximately twelve beetles, all *A. punctatum*. The infestation seemed so active that I recommended fumigation with methyl bromide, which was apparently successful. The chairs were family heirlooms sent out from Germany some time ago, although the infestation became serious relatively recently.

The second of these 1945 reports concerns all of the 3-ply wooden walls of a basement room in a Vancouver home, which began to show small round holes and a little boring dust. There were relatively few holes but the owner became alarmed and began to tear out the 1/3-inch-thick plywood, only to find it a mere shell with the middle layer particularly, tunnelled in all directions and crumbling away. He sent in specimens of the damaged wood and one beetle which proved to be *A. punctatum*, but could offer no suggestion whatever as to the origin of the infestation.

The final record includes the entire basement woodwork of a house in North Vancouver where the owners noticed an increasing number of holes appearing in the 2- by 4-inch studding and shiplap and, on tapping with a hammer, found the timber a mere shell with the inside reduced practically to dust. Bit by bit, they located the worst areas of infestation and replaced them, heavily creosoting new wood and what remained of the old. Samples of wood sent in with copious boring dust and frass, showed that this same beetle was concerned.

In none of these records have the owners been bothered by adult beetles swarming around the house; only a few seem to come out of the timber and then only at odd times so that they never become conspicuous.

In the last two records involving the structural timbers, the owners declared that no antique furniture had been stored in the basements so it would appear that the infestations were of local origin and that this beetle has become established in the Lower Fraser Valley where the mild climate would seem to favour its development.

A. punctatum or the death watch beetle is an insidious insect whose damage inside timber is far greater than the small number of exit holes would indicate, and the public will have to be warned to be on the lookout for it.

ON THE OVIPOSITION HABITS OF DARGIDA PROCINCTA (Lepidoptera: Phalaenidae).—At dusk on the evening of July 10, I was watering my lawn in Vancouver with a fine mist spray, when several moths flew into the orbit of the spray and started ovipositing in the short lawn grass. Each moth hovered a little and then settled for five or six seconds with the tip of her abdomen protruded and inserted into the bases of the grass leaves and then moved to another spot a few inches away to repeat the manoeuvre, always within the limits of the falling water. By slowly shifting the hose back and forth, I was able to govern the movements of the moths which persistently followed the zone of the spray. After proving that the falling water was apparently a necessity for the act of oviposition, I pounced on one of the moths and the others flew away.

In the insect collections of the Museum of Zoology

1 Essig, E. O., 1926. Insects of Western North America, p. 684. MacMillan.

at this University, I found three specimens of this moth taken, respectively, at Princeton, July 23, and at Victoria, August 6 and September 15, and these, with my record of July 10, show a wide range in this Province, both in time and in territory.

The moth is *Dargida procincta* (Grote), the olive green cutworm of which Essig¹ says—"it has a wing expanse of 45 mm., is dark brown with olive tints, and with cream cross and longitudinal lines on the fore wings. The mature caterpillars are 30-35 mm. in length, dark olive green with a pale dorsal line and three greenish lateral lines separated by brownish grey. They are often serious pests to wild and tame grasses in meadows and pasturelands in Oregon, Washington and British Columbia, but are also known in California and Colorado."

Judging by my record, the moths of the olive green cutworm oviposit at dusk during rain: egg-laying seems dependent on the falling of the rain.—G. J. Spencer, Department of Zoology, University of British Columbia, Vancouver, B.C.