

## UNUSUAL DAMAGE TO POTATOES BY THE TWO-SPOTTED SPIDER MITE, *TETRANYCHUS TELARIUS* (L.), IN THE LOWER FRASER VALLEY<sup>1</sup>

H. G. FULTON<sup>2</sup>

Entomology Laboratory, Chilliwack, B.C.

Early in July, 1956, it was observed that the tops of late Netted Gem potatoes were browning and dying off in a 14-acre field at Sardis, British Columbia. Investigation showed that the damage was caused by large numbers of the two-spotted mite, *Tetranychus telarius* (L.)<sup>3</sup>. Infested areas were particularly noticeable at the edge of the field adjoining a ditch and hedge-row of weeds and brush. Later in July and during August similar damage was found in potato fields at Colebrook and Cloverdale. Although this mite has been recorded as a pest of potatoes in Washington and Idaho, this is the first time to the writer's knowledge that it has damaged potatoes in British Columbia. Large populations of the mite were also observed on sweet corn, pole beans, and marigolds at different locations.

1. Contribution No. 3648, Entomology Division, Science Service, Department of Agriculture, Ottawa, Canada.

2. Technical Officer.

3. Identified by C. V. G. Morgan, Entomology Laboratory, Summerland, B.C.

The factors favouring the outbreak are not clearly understood. The summer was generally hot and dry but no records were set. However, general weather conditions must have been favourable for the rapid multiplication of the mites. A possible contributory factor is the widespread use of DDT to control the tuber flea beetle. Various researchers have shown that use of DDT is followed by an increase in the abundance of mites. Some say that the natural predators are killed (Pickett, 1949); others claim that mites exposed to DDT lay more eggs (Hueck, 1955); still others state that the insecticide brings about changes in plant nutrition and composition (Klostermeyer and Rasmussen, 1953).

The situation is worth watching since one or more of the recently introduced control practices for other potato pests may favour increase of the mite.

### References

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### The Wharf Borer in a Vancouver Branch Library

In June, 1956, I was asked to investigate some beetles which the librarians of a branch library had found flying around the premises and had tentatively identified from literature as *Nacerda melanura* (L.), the wharf borer. Their identification was correct.

In volume 43 of the Proceedings of our Society, I published an article "An unusual record of the wharf borer in buried piling", reporting that this beetle bred at tidewater in piling that had been covered by a slab of concrete for thirty years. The branch

library is a one-storey, 1500 square foot building, located on top of a little hill with natural drainage on all sides. There is no basement and only small ventilator openings in front, so that most of the floor is over a dead air space. In February, 1957, the library was closed for 10 days for repairs to the floor and I was able to procure half a sinkful of sodden black lumber which the carpenters had thrown out from underneath the floor. Some 16 *N. melanura* emerged from this material in the course of the next six weeks.

Adults of both sexes are most erratic in their movements, tearing around in all directions and then suddenly becoming motionless. A beetle will cover a territory for a considerable period like a hound on a scent and then suddenly dart off to another piece of wood or down a larval or a termite burrow, to emerge shortly and repeat the performance. Adults apparently need no food. One or two males will follow a female for long periods. Eggs are laid singly or in small groups, as far down into crevices as females can place them with their considerably extendable ovipositors. The eggs are 1 to 1.2 mm. long, white, long-oval, slightly curved or straight-sided. They hatch in from 5 to 7 days and the white larvae, 1.5

to 2 mm. long wander for days on the surface of sodden wood before boring in. Of two females dissected, one was nearly spent and yielded 35 eggs while the other, heavily gravid, contained 215 eggs of a uniform size suggesting that the full quota must be laid in a relatively short time.

This record shows that the wharf borer is spreading in Vancouver and may turn up in sodden timbers in the underpinnings of buildings which have poorly ventilated or completely saturated air spaces under them. Since the larvae feed only in sodden, rotting timber, the beetle is an indication of decay and not a cause of it.—G. J. Spencer, Dept. of Zoology, University of British Columbia.

**A further note on *Laelius* sp., Hymenoptera: Bethyridae, a parasite on the carpet beetle *Anthrenus pimpinellae* Fabr.**

In Vol. 39 of the Proceedings of our Society I published a note with approximately the above heading except that the specific name of the beetle was given as *scrophulariae*, after an identification made for me by the late Ralph Hopping. At that time I had not taken *A. scrophulariae*, the Buffalo Carpet beetle, in this province, but within the last few years it has become established in homes in Mission and Haney. It may commonly be taken on white flowers at Mission, in summer.

From Hinton's book (Hinton, H. E. A monograph of the beetles associated with stored products. Vol. 1, Brit. Mus., 1945), I found that the beetles which Hopping called *A. scrophulariae* showed the colour patterns of *A. pimpinellae* var. *lepidus* Lec. Later when George Hopping arranged our beetles, he placed the specimens under *A. occidentalis* Csy.

This beetle is a scavenger in birds' nests, the larvae feeding upon feathers and the scales from pin-feathers left when fledglings have flown. I have reared them from cliff swallows' nests in the Chilcotin, and from tree swallows' and mountain blue birds' nests at Kamloops. Once at Quesnel I saw the blossoms of a small hawthorn swarming with beetles which had apparently just emerged from the cliff swallows' nests, which plastered the ends of a barn close by. The species is found at the Coast and is widespread in the Interior: I have specimens

from Quesnel, Riske Creek, Kamloops, Nicola, Vernon, Salmon Arm, Trinity Valley, Merritt, Spence's Bridge and Victoria.

In 1956 the Department of Zoology received several cabinets of bird and mammal study skins, bequeathed to the University by the late James Wynne of Enderby. One of the boxes of about 12 cu. ft. capacity held some loose bird skins and from the bottom of this box I collected 11 pupal cases of *A. pimpinellae* of which 9 contained the mass of tight silk threads, indicative of *Laelius* parasitism, bulging above the level of the old larval skin in which pupae of dermestids typically occur. In most cases, a short emergence tube of the parasite extended up from each mass, opening either forwards or backwards. Loosening the silk with needles revealed from two to four others, underneath each tube, indicating that each beetle pupa had supported from three to five parasites. This is the highest degree of parasitism by *Laelius* that I have encountered, namely nine out of eleven pupae or about 80 per cent. Enderby is between Armstrong and Salmon Arm in the North Okanagan, but according to Dr. O. Peck (Proc. Ent. Soc. B.C. 39: 21-22, 1942) Whittaker's type of *occidentalis* was taken from a window in Chilliwack, on the lower mainland. There is hope, therefore, that this parasite or a closely related species of *Laelius*, may become abundant in Vancouver where *Anthrenus verbasci* (L), the varied carpet beetle, is a household pest of the first magnitude.—G. J. Spencer, Dept. of Zoology, University of British Columbia.