

WEEVILS INJURIOUS TO TEA.

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A case was recently investigated by the writer, in which weevils were reported as damaging two-year-old tea stumps in a clearing of some 15 acres on the top of a ridge 5600 ft. high.

At the time of report, large numbers of the weevils had already been collected by hand, but even so it was found, on examination shortly afterwards, that every plant bore from two to four or even more weevils. In this instance, prompt measures were applied, and the advent of several rainy days served to disperse the insects without much loss to the plants. A number of the latter, however, suffered much defoliation before the pest was controlled. In a case such as this, the insects feed mainly on the buds and young shoots, so that, if abundant, and allowed to continue unchecked, it is possible that considerable damage to the plants attacked may ensue.

The infested area was bordered by low jungle, but although search was made, no trace of the weevils was found on jungle plants. It is not certain, therefore, whether infection occurred from the neighbouring jungle, or whether the weevils, possessing wings, arrived from a more distant region.

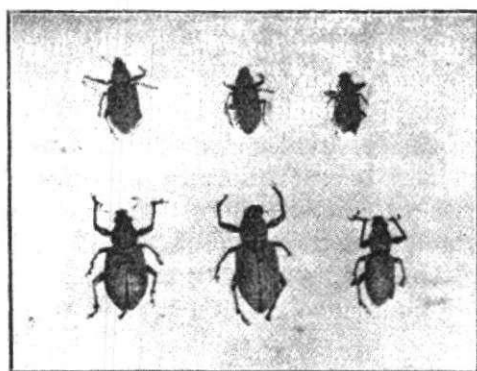


Fig. 3. Lower, *Astycus apicatus*. Upper, *Astycus immunis*. x 1½.

Two species of weevils were concerned in this instance, *Astycus apicatus* Mshll. and *A. immunis* Walk. Weevils are minor pests of tea in Ceylon, and very few records of outbreaks exist. According to the Government Entomologist, who has kindly furnished me with information from the Department of Agriculture records, only six reports of *Astycus* spp. have been received during the last twenty years. Attacks are usually confined to foliage in an early stage of growth; thus tea stumps, seedlings, and bushes newly pruned have all been recorded as suffering from weevil damage. At the same time,

species of *Astycus* occasionally attack the younger growth on mature bushes, and one species of a different genus appears to prefer the older leaves.

Brachyaspistes (Brachyaspistes) tibialis Jek. was the name recorded for a species seen by Green in 1899 attacking young tea plants, but it has since been ascertained that this species is identical with *Astycus immunis*. The plants in question were three months from pruning, and Green described the weevils as devouring all the new shoots, leaving the stumps bare of foliage.

Astycus lateralis F., a recorded pest in Ceylon, has also been described as attacking tea in India. In 1897 it was reported on an Indian estate, where it "was said to come by night in thousands and simply strip the bushes" (Watt and Mann, 1903).

A larger species, *A. chrysochlorus* Wied., known as the Green Beetle, has been said to strip the young leaves from tea shoots in India.

At least one other species has been recorded as a pest of tea in Ceylon. *Mylocerus curvicornis* F., a well-known pest of green manures, also occasionally turns its attention to tea, but from the few records that exist it is evident that little damage is caused, the insect apparently preferring the older leaves of the bush.

As regards the alternative food plants of these weevils in Ceylon, little information is available, and it is probable that the recorded list is far from complete. *Astycus immunis* has been recorded on Acacia, and a variety, *A. immunis* var. *bilineatus* Mshll., has recently been observed by the writer attacking dadap (*Erythrina lithosperma*). *A. lateralis* is a pest of teak (*Tectona grandis*) in India, and *A. chrysochlorus* has been reported there on rubber (*Hevea brasiliensis*) and *Pithecolobium Saman*. *Astycus* spp. have been recorded on jak (*Artocarpus integrifolia* L.), (*Ficus Carica* L.) and rose (*Rosa indica* L.). *Mylocerus curvicornis* is a notable pest of dadap, and has also been seen to feed on Albizzia, Acacia, *Gliricidia maculata* and cacao.

A brief description of the Ceylon species follows. In each case the general colouring of the body is derived from the scales that cover it. In all the species, considerable variation in size occurs, while the male weevil is smaller and slighter than the female.

Astycus apicatus Mshll. Uniform grey colouring, usually with a bluish tinge; average length $7\frac{1}{2}$ -9 mm.

Astycus lateralis F. Pale metallic green; average length 8-10 mm.

Astycus immunis Walk. Colour varying greatly, from bronze-yellow to bright metallic green. Smaller than the preceding; average length 6-7 mm.

A. immunis var. *bilineatus* Mshll. Bright metallic green, with a lighter green stripe on each elytron.

Mylocerus curvicornis F. Greyish-white, with grey flecks on the elytra. Average length 7-8 mm.

One of the chief requirements for the control of an insect pest is usually a more or less complete knowledge of its life-history. Unfortunately, little is known regarding the life-histories of the weevils which attack tea. Bred in captivity by the writer, eggs have been laid freely, and the larvae have hatched out, but owing, apparently, to their inability to find suitable food, they have never developed beyond the first instar.

In the case mentioned at the beginning of this article, where *Astycus apicatus* and *A. immunis* were taken on the same plants, the two species were bred up together, and the eggs, which were oval and yellowish white, were laid in clusters either on the surface of the soil or in the soil itself. The tiny, yellow, legless larvae, on hatching out, at once worked their way into the soil, and wandered through it evidently in search of food. Experiments were carried out with the object of discovering their natural food, but none of the substances submitted, which included tea rootlets and portions of older roots, were touched by the larvae. From these observations, it is probable that the eggs are laid normally in the soil, and the larvae live in the same medium; the latter evidently feed little, if at all, on the roots of tea, but probably on the roots of other plants, as yet unknown.

The only methods of control, therefore, that suggest themselves at the present stage are the collection of the weevils, and the application to the plants of some substance poisonous to the insects. Hand-collection may be of decided value, if applied early, as shown by the writer's experience. As regards a "stomach-poison" for the weevils, copper arsenite mixed with three times the quantity of powdered slaked lime should be dusted over the plants after a preliminary spraying with water: this treatment is advisable only on young plants or bushes just coming out of pruning. Care must be exercised in the use of copper arsenite, owing to its highly poisonous nature.