ERECHTHIAS FULGURITELLA WALK. (LEPIDOPTERA) INHABITING PINE CONES

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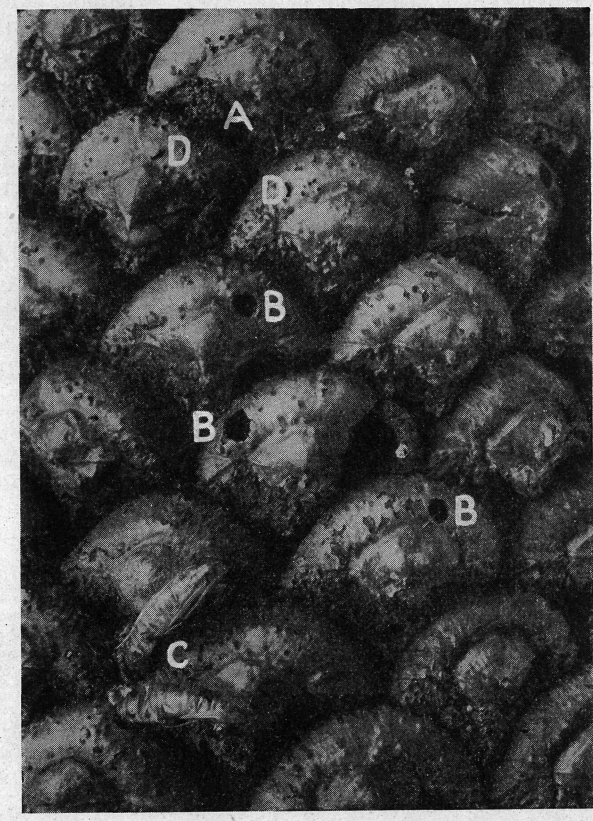
Summary

Associated with cones of *Pinus radiata*, a native moth, *Erechthias fulguritella*, is recorded from the Nelson Province. Its larvæ invariably destroy the seed in infested cones, but have a negligible effect at present on seed production.

UNTIL now nothing has been recorded about the host association of a native species of moth, *Erechthias fulguritella*, which was described in 1863 by Walker(1). Accompanying a description of this species, Hudson(2) contributes the following information: "This rather obscurely marked species has occurred at Wellington, Christchurch, Dunedin, Lake Wakatipu, and Invercargill, but is rarely met with. The perfect insect appears from November till February and frequents forest or scrub." In his "Supplement," Hudson(3) remarks: "Also from Wyndham and Te Anau - Manapouri district, where common."

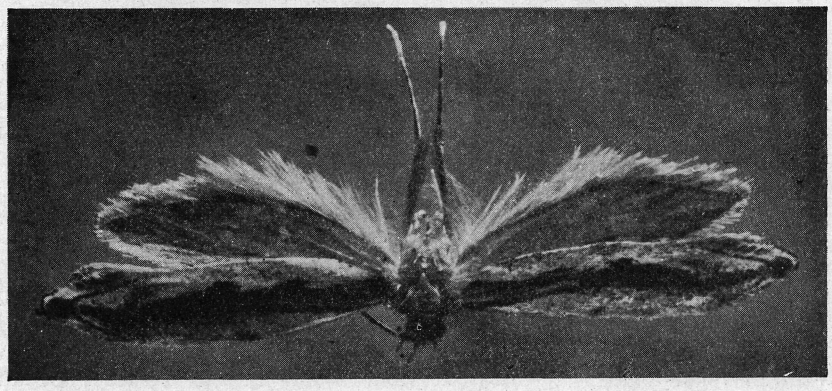
The writer is able to add Nelson to these localities by the collection of a single specimen in October, 1926. In late August and early September of 1942 the author was investigating the position of the Ichneumon parasite, *Rhyssa persuasoria*, in relation to its host, the horntail borer, *Sirex noctilio*, in a pine plantation consisting mainly of *Pinus radiata* at Waiwhero, about four miles south of Motueka, in the Nelson Province. Certain pine cones on trees felled and remaining intact on the forest floor from the previous season showed a remarkable lightness in weight when compared with others and were of a distinctive colour. These facts, associated with external evidence of frass from larvæ feeding within, led to the collection of a number of cones. These cones were kept in glass containers, and in November adults of *E. fulguritella* appeared from some of them, accompanied by a Bethylid, *Parasierola*, which is probably parasitic on the larvæ. *E. fulguritella* larvæ feed inside the cone, generally on the bract and ovuliferous scales in the vicinity of their points of contact, and invariably destroy the seeds. Adults emerge at any point on the outer exposed surface of the bract scales, and the moth pupæ project for three-quarters of their length (Fig. 1). There is possibly an association between the light-weight cones and their infestation by the fungus *Diplodia pinea* (Desm.) Kickx, as practically every light-weight cone showed externally pycnidia of *D. pinea* (Fig. 1). Birch(4) believes that the fungus occurs as a saprophyte of the seed coats and in the interior of dead seed. Those lightweight cones not occupied by *E. fulguritella* contained mainly living, but also a few dead, seeds. The effect of *E. fulguritella* as a controlling agent in *Pinus* seed production is negligible owing to the small number of cones attacked.

The description given by Hudson(2) of the adult of *E. fulguritella* is: "The expansion of the wings from $\frac{1}{2}$ in. to $\frac{5}{8}$ in. The fore wings are pale brownish-ochreous with the costal area more or less clouded with darker brown; there are several cloudy blackish streaks in the disk, extending from the base to the apex, the lowest of these emitting three blunt projections



[*Photo by Miss V. Robinson, Cawthron Institute.*

FIG. 1.—Pine cone showing—A, larval frass; B, emergence holes; C, empty pupæ of *E. fulguritella;* and D, pycnidia of *Dip lodia pinea.*



[*Photo by Miss V. Robinson, Cawthron Institute.*

FIG. 2.—Adult of *E. fulguritella,* tricolour variety.

towards the dorsum; the dorsal area is very pale brownish-ochreous, often almost white; there is a black spot at the apex. The hind wings are very pale greyish-brown, darker towards the apex." In certain particulars this description does not adequately cover the many variations of colour disposition and their intensities. Many specimens have the middle—base to apex—of the fore wings of a uniform unstreaked darker-brown colour with the costal area clouded in a much lighter shade of brown, giving a very marked three-colour zoning to the wings. In others the lowest part of the middle darker marking, instead of having three blunt projections towards the dorsum, has three more acute markings directed sharply towards the base of the wing with the very narrow intersecting areas white in colour. Other variations also exist. The adult insect is shown in Fig. 2.

REFERENCES

(1) WALKER, F. (1863): List of Specimens of Lepidopterous Insects in the Collection of the British Museum, Part 28, 548.
(2) HUDSON, G. V. (1928): "Butterflies and Moths of New Zealand," 366.
(3) ——— (1929): *Ibid.*, Supplement, 463.
(4) BIRCH, T. T. C. (1936): *Diplodia pinea* in New Zealand. *N.Z. State Forest Service Bull. 8*, 8.

NOTE ON *BIRONELLA (BRUGELLA) HOLLANDI* TAYLOR

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Summary

The Anopheline genus *Bironella* has its centre of distribution in New Guinea. *Bironella (Brugella) hollandi* Taylor was described from Kavieng, New Ireland, and has the most easterly distribution of any member of the genus. The following note records its known distribution in the Solomon Islands, and gives some information on its biology and a description of the egg.

IDENTITY

SPECIMENS from the Solomons were found to fit the description of *B. hollandi* fairly closely. Mr. D. J. Lee kindly supplied drawings of the male genitalia of the type which confirmed the identification as *hollandi*. A male reared from the egg at Vella Lavella was found to be identical in male genitalia with males from Banika and Guadalcanal.

DISTRIBUTION

This species was first taken in the Solomons by Major W. G. Downs, United States Army Medical Corps, on Banika Island, in the Russell Group. The writer also secured specimens from Banika and later found the species to be common in jungle streams on Guadalcanal. It was later taken in Vella Lavella, and specimens from Mono Island in the Treasury Group were seen. Major Downs later reported it from New Georgia and Bougainville. No sign of it was seen on Nissan or Green Island, where there was no suitable water.