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A new parasitic eulophid (Hym., Chalcidoidea) associated with Nothofagus in New Zealand

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The author describes the new genus *Zealachertus* and the new species *Z. nothofagi* obtained from *Proteodes carnifex* BUTLER (Lep., Oecophoridae) on *Nothofagus cliffortioides.*

Mrs MARIANNE HORAK, Dept. of Entomology, Swiss Federal Institute of Technology, Zurich, when studying the moth *Proteodes carnifex* BUTLER in New Zealand in 1968, reared numerous specimens of a eulophid parasite from the pupae. She sent the material to me for identification and as the parasite proved to be without a name, the genus and species are described herewith as new to science.

The Eulophidae of the southern Pacific are still little known and what has been published on them is often obscured by misinterpretations or wrong classification. A great number of genera and species were described from Australia, mainly by A.A. GIRAULT. Recently I have had opportunity to study briefly the types of his Eulophidae (the results are being published elsewhere) and could thus exclude the possibility that the genus treated here was given a name in Australia. Otherwise, to some extent the Hawaiian and Micronesian Eulophidae have been reviewed. Our genus would run in the Hawaiian paper (YOSHIMOTO, 1965: 682) to *Elachertus* SPINOLA, but only because of an erroneous statement that the funicle in that genus is three-segmented. Both species listed there, however, do belong to *Elachertus,* as placed by their author P.H. TIMBERLAKE, who described the funicle in the females as four-segmented. In the same paper *Pauahiana* YOSHIMOTO might be considered, because the drawing *(l.c.,* p. 676, fig. 3b) shows percurrent notaular grooves. However, as proved by the text and confirmed by my study of two paratypes, this is an artist's imagination. A similar key to the Micronesian genera (YOSHIMOTO & ISHII, 1965: 129) has only the interpretation of *Euplectrus* WESTWOOD correct, but all the other included genera (of which *Cirrospiloideus* ASHMEAD is now a synonym under *Stenomesius* WESTWOOD) are known to me as different from our genus.

In New Zealand, at least a half of the relatively few Eulophidae known belong to species introduced from elsewhere, mostly from Europe. These include also the only recently identified *Chrysocharis pubicornis* (ZETTERSTEDT), a parasite of dipterous leaf-miners, reared from *Phytomyza* sp. by A.M. WATT many years ago and from mines on *Cineraria* leaves at Brown's Bay near Auckland, XII. 1948, by R. HARRISON. The new genus apparently has no close relatives in the fauna of the northern hemisphere.

Zealachertus gen. n.

Type-species: *Zealachertus nothofagi* sp. n.

The genus belongs to Eulophinae, Elachertini, i.e. to a group with the antennae in both sexes simple, the submarginal vein in the forewing smoothly joining the parastigma, and the notaular grooves percurrent. There are only a few genera possessing a 3-segmented funicle in both sexes. *Zealachertus* differs from all of them mainly by the strong reduction in the size and density of setae, the unusual form of head and pronotum (this with a median depression on collum), and by the raised reticulation on thorax. In this group the sculpture of thorax, in conjunction with other characters, seems to be relatively important in the generic classification.

Head dorsally and most of thorax raised-reticulate (of varying density), dull, without conspicuous bristles. Head slightly hypognathous (fig. 2), vertex behind ocelli long, moderately sloping to low occiput. Eyes nearly bare, subcircular, prominent. Malar space flat, long; scrobes smooth, virtually reaching ocellus; clypeal margin slightly produced and slightly reflexed; tentorial pits conspicuous, near to mouth margin; mandibles toothed. Antennae inserted slightly below ocular line, interantennal space convex; formula 11133; flagellum in both sexes slightly clavate, in male slenderer.

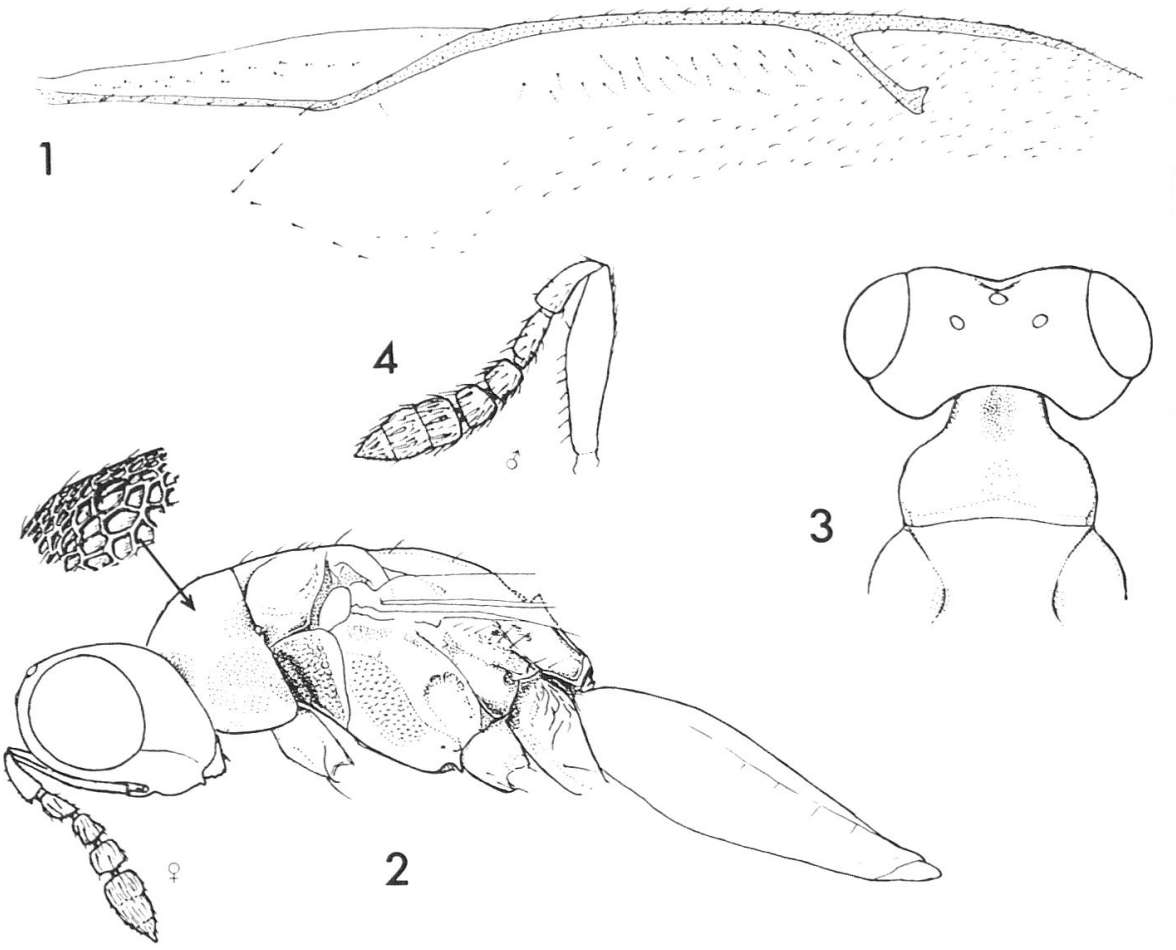

Fig. 1–4: *Zealachertus nothofagi* gen. & sp. n. 1, forewing venation; 2, body of female in lateral view; 3, head and part of thorax in dorsal view; 4, male antenna.

Pronotum much narrower than mesoscutum, bell-shaped (fig. 3), anteriorly on collum with distinct median depression; hind margin emarginate; surface scattered with short inconspicuous hairs but without any admarginal bristles. Notaular grooves linear, curved, posteriorly diverging, before apex deepened in broad shallow depression; mid lobe with 3–4 pairs of dark short setae. Axillae hardly advanced, straight anterior margin scarcely longer than distance between them. Scutellum subtransverse; sublateral grooves wide apart, shallow (sculpture at them looser, more striate), joined across by fine admarginal groove. Dorsellum large, reticulate. Propodeum mainly smooth, with sharp median carina expanded anteriorly into small triangle with raised sides, just behind broad raised basal cup; no distinct channels at sides but just mesad of each spiracle a longitudinal carina; from carina towards the raised petiolar margin an oblique depression delimiting broad supracoxal flange; hairs only outside of carina. Prepectus large, reticulate. Dividing mesopleural groove slightly sinuate making ventral lobe of upper mesopimeron very narrow (fig. 2). Legs normal; mid and hind tibiae much longer than femora; hind tibial spur short; tarsi short. Postmarginal vein about half as long as the long marginal vein and more than twice as long as the stigmal; latter hardly knobbed (fig. 1).

Gaster sessile, in female flat-oval, dorsally collapsing; first tergite covering slightly more than one-third of gaster, its apical margin almost straight. In male gaster similar but narrower.

Zealachertus nothofagi sp. n.

♀: 1.6–2.3 mm. Dark bluish, laterally merging with (on ventral side predominantly) green or bronze; scapes and legs except for most part of each coxa dark testaceous, scapes sometimes infuscate. Wings hyaline.

Relative measurements of head: width 46, length (dorsally) 21.5, height 31, breadth of vertex 27, POL 9.5, OOL 6.5, eye 18:17 (hardly higher than broad), malar space 13.5, mouth width 14, scape length 19, flagellum plus pedicellus 36.5. Genae in facial view strongly converging, almost straight, broadest far behind malar groove. Clypeus dorsally not well delimited. Lower face with obliterated fine rugulose sculpture, rather shiny; frons more coarsely reticulate, at sides of median ocellus almost squamose; vertex mainly granulate-reticulate, meshes enlarged laterally on upper temples. For antenna see fig. 2. Thorax dorsally about 1.77 times as long as mesoscutum broad. Scutellum faintly depressed and granulate along middle; part between grooves about 1.4 times as long as broad. Gaster 1.35–1.45 times as long as broad, smooth and virtually bare.

♂: 1.5–1.8 mm. Very similar to female but colour generally more greenish, gaster narrower and antennae (fig. 4) slenderer and slightly more hairy; scapus slightly stouter and paler; first funicular segment slender, nearly as long as pedicellus, its apical truncation much less distinct than in female.

Gregarious parasite in pupae of *Proteodes carnifex* BUTLER (Lep., Oecophoridae) on leaves of *Nothofagus cliffortioides*. From each parasitized pupa emerged between 7 ♀ (or 6 ♀ plus 1 ♂) and 16 ♀ plus 2 ♂, in one pupa exceptionally more males, 8 ♀ plus 6 ♂.

Holotype ♀ (plus 151 ♀ and 25 ♂, paratypes): New Zealand: St. Arnaud Range nr. Nelson, 1500 m, Rotoiti, ex pupae collected II. and III. 1968 (M. HORAK). Holotype deposited in the Brit. Museum Nat. Hist., London; paratypes also in DSIR, Auckland; USNM, Washington; CSIRO, Canberra; Dept. Entomology, Zurich.

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