A NEW SPECIES OF *Centrodora* (HYMENOPTERA: APHELINIDAE) PARASITIC UPON THE EGGS OF *Scolypopa australis* WALKER (HEMIPTERA : RICANIIDAE)

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Summary

A new species of *Centrodora* Foerster 1878, is described.

INTRODUCTION

During an investigation into the bionomics of the Passion Vine Hopper *Scolypopa australis* Walker and its natural controls, R. A. Cumber discovered a species of *Centrodora* parasitic upon its eggs. As the species appears to be an important factor in the regulation of *Scolypopa* the following description is presented in order that it may be recognised.

Perkins (1906) erected the genus *Paraphelinus* for the species *xiphidii* a parasite of the eggs of *Xiphidium varipenne* Swezey in Hawaii. In 1918 Mercet synonymised this genus with the European *Centrodora* Foerster.

Girault (1913) described (*Paraphelinus*) *Centrodora australiensis* from Queensland but later in the same year (1913a) synonymised *Paraphelinus* Perkins with *Aphelinus* Dalman in the statement "The forms named *Paraphelinus* Perkins intergrade with the forms of *Aphelinus* Dalman as the Australian species show, so that obviously there are not two genera represented by them. *Paraphelinus* must therefore fall as a true synonym of *Aphelinus*." This synonymy was not justified as *Centrodora* is not closely related to *Aphelinus*. It is now generally accepted that, although there is an intergradation with other genera, particularly *Aphytis* Howard and *Tumidiscapus* Girault, the yellow and pale coloured species of *Centrodora* can be separated on morphological and biological grounds. After proposing the synonymy with *Aphelinus* Girault described five pale coloured or yellow species, viz, *haeckeli, grotiusi, darwini, minutissimus, newtoni,* and in 1915 added *miltoni* and *ruskini*. Compere (1955) has shown that *grotiusi, minutissimus* and *newtoni* are more properly placed in *Aphytis*. *Aphelinus darwini* was described as being like *grotiusi* with "forewings broader", and *ruskini* as having "form as in *fuscipennis*" (i.e., *Aphytis diaspidis* Howard) so that these also are probably referable to *Aphytis*. If the remaining species of this group are referable to *Centrodora* the species described in this paper can be distinguished from them on colour which is given as golden (or orange) yellow and immaculate for *miltoni* and *haeckeli* (and also for *australiensis*) whereas the new species is dull dusky yellow with a discernible darker

pattern on the thorax and margins of the abdomen, similar to and rather darker than that of *C. xiphidii* (which is also known from New Zealand as a parasite of the eggs of *Xiphidium semivittatum* Walker). It can be further distinguished from *haeckeli* in which the ovipositor is not extruded, and from *australiensis* in which the second funicle segment is distinctly larger than the first. Hosts are not known for Girault's species (from Australia) and insufficiently detailed descriptions are given for a determination of their correct generic positions.

Centrodora scolypopae new species

FEMALE

0·9–1·1 mm in length including the ovipositor. General colour dull yellow. The dorsum of thorax darker (brown) except for a broad median stripe and lateral margins of scutellum which are paler; tegulae brown; centre of metanotum and lateral one eighth of propodeum, dark; lateral margins of gaster dark. Forewings faintly embrowned, darker under marginal vein, darkest under junction with submarginal vein.

HEAD (Fig. 1, f, h): As wide as thorax; from above a little less than half as long as wide; from front, wider than deep; inner orbits of eyes on vertex almost parallel but tending to diverge slightly posteriorly. On vertex, a row of six stout setae behind ocelli and a row of minute setae on rounded edges of occiput; five or six setae laterad to anterior ocellus and three or four rows of setae from anterior ocellus to anterior of vertex. Frons carries about 12 setae along the eye orbits from level of anterior ocellus to genal keel, the lower seven or eight setae being finer and almost hyaline. Five or six pairs of setae between antennal sockets; one pair on clypeal edge and five inside genal keel. Area between sockets and lower face, which is slightly depressed, is a darker colour with a faint reticulation. Mandibles typical for genus, three dentate with the inner tooth well developed. (Fig. 1, g.)

ANTENNAE (Fig. 1, a): Differs from typical species of the genus in that the apex of the club is not narrowly produced and hooked. Scape about six times as long as wide and equal in length to pedicel and funicle combined. Pedicel about four times longer than width at apex. First two funicle segments slightly wider than long (5 : 4), third segment widening towards apex, less than twice as long as wide (7 : 12) and with one longitudinal sensorium. Club two and a half times longer than third funicle, three times longer than wide and with about six longitudinal sensoria.

THORAX (Fig. 1, h): Pronotum with a stout lateral seta on each side near spiracular emargination; a smaller stout seta about half way between posterior lateral angle and middle; five setae, one each side, irregularly disposed on anterior surface. Reticulation obvious but broken at mid line where pronotum is very short. Scutum a little wider than long (9 : 8) with four pairs of dorso-central and one pair of humeral setae. Scutellum as wide as scutum but shorter (11 : 16) bearing moderately long anterior and posterior pairs of setae. Parapsides with two pairs and axillae with one pair of setae. Metanotum short, dark coloured and reticulate except laterally. Propodeum about one and a half times longer than metanotum and with

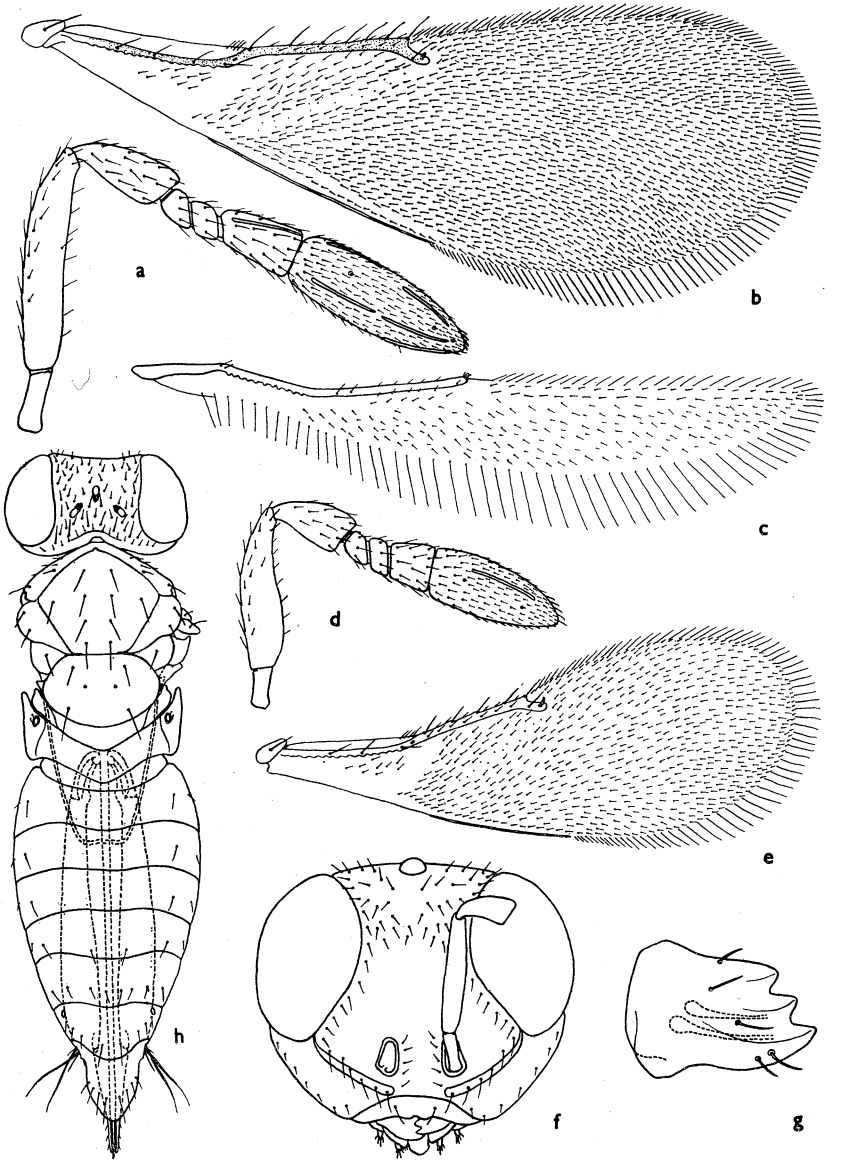

FIG. 1—*Centrodora scolypopae* new species. a Female antenna; b & c Female forewing and hindwing; d Male antenna; e Male forewing; f Female head, face view; g Female mandible; h Female—head, thorax, and abdomen.

obscure lateral folds; beyond each fold surface is coarsely reticulate and darker.

ABDOMEN (Fig. 1, h): Elongate, acuminate, almost twice as long as wide and with ovipositor extruded. The first five tergites of the gaster equal in length; tergites six and seven a little longer and narrowing posteriorly. Setae arranged 2,2 : 2,2 : 2,2 : 2,1,1,2 : 8 : 3,1,1,3 : 4,4. Dorsal surface smooth, faintly reticulate on darker lateral margins.

WINGS (Fig. 1, b, c): Forewings about three times as long as wide (excluding marginal fringe). Seven stout setae on marginal vein, four on submarginal; about 10 small setae below the distal end of submarginal vein, base of wing otherwise bare; six or seven lines of setae basad of speculum, these are slightly coarser than those on disc. Marginal fringe longest on posterior apical angle, about one-eighth of greatest width of wing. Speculum complete but obscure. Hindwings long and narrow about seven times as long as wide and with seven or eight rows of setae at widest part.

MALE

Usually much smaller than females; commonly less than two-thirds their length (0·5–0·7 mm); yellow in colour without any distinct pattern; abodomen only a little longer than thorax; wings shorter and broader (Fig. 1, e).

ANTENNAE (Fig. 1, d): Similar to those of female but all segments are proportionately shorter and wider. Scape four times longer than wide and as long as pedicel and funicles combined; pedicel twice as long as wide at apex; first two funicles almost twice as wide as long; third almost quadrate; club a little more than three times the length of the third funicle and more than twice as long as wide (21 : 9).

SPECIMENS STUDIED

Described from nine females (holotype and paratypes) and five males (allotype and paratypes) reared (between 21.i.63 and 25.ii.63) from eggs of *Scolypopa australis* collected by R. A. Cumber at Paihia on 7.ix.62. All specimens mounted on slides and deposited in the collection of Entomology Division, D.S.I.R., Nelson. Other material examined: Four females and one male reared (March 1961) from *?Scolypopa* eggs in lemon wood, collected by E. W. Valentine, Tauranga, 20.ii.61 (recorded by Valentine (1963) as *Centrodora* spA); seven females and five males reared (February–March 1963) from *Scolypopa* eggs in stems of *Fuchsia excorticata* (Forst.) collected by B. B. Given, Waipoua, 9.x.62; nine females and three males reared (January–February 1963) from *Scolypopa* eggs in stems of *Pteridium esculentum* L. collected by R. A. Cumber, Hukerenui, 16.x.63; 38 females and two males from *Scolypopa* eggs collected by R. A. Cumber, Sydney, Australia, March 1965.

REFERENCES

COMPERE, H. 1955: A Systematic Study of the Genus *Aphytis* Howard. (Hymenoptera : Aphelinidae) with descriptions of New Species. *Univ. Calif. Publs. Ent. 10 (4)*: 271–319.

GIRAULT, A. A. 1913: Some Chalcidoid Hymenoptera from North Queensland. *Arch. Naturgesch, 79A* 6: 70–90 (p. 74).

GIRAULT, A. A. 1913a: Australian Hymenoptera Chalcidoidea—IV. *Mem. Qd. Mus. 2*: 140–296 (pp. 180–4).

GIRAULT, A. A. 1915: Australian Hymenoptera Chalcidoidea—VII. *Mem. Qd. Mus. 4*: 1–184 (pp. 45–7).

*MERCET, R. G. 1918: *Boln. R. Soc. esp. Hist. nat. 18*: 105–9.

PERKINS, R. C. L. 1906: Leaf Hoppers and Their Natural Enemies (Pt. VIII Encyrtidae, Eulophidae, Trichogrammatidae). *Sug. Plr's Ass. Exp. Stn. 1 (8)*: 239–67 (p. 264).

VALENTINE, E. W. 1963: New Records of Hymenopterous Parasites of Homoptera in New Zealand. *N.Z. Jl Sci. 6*: 6–13.

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*Not seen.