

A New Species of Peloridiidae (Homoptera: Coleorrhyncha)

With a Key to the New Zealand Species

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Abstract

A new species of *Oiophysa* Drake and Salmon is described, apparently most closely related to *O. distincta* Woodward from the South Island. The material was collected by Dr. Cumber from two localities in the East Central part of the North Island, both new for this family. The New Zealand species of Peloridiidae are keyed out.

ACKNOWLEDGMENTS

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Genus *OIOPHYSA* Drake and Salmon, 1950.

Oiophysa cumberi sp. nov. Fig. 3.

Sub-brachypterous: Median length 2.41 mm (♂), 2.44 mm, 2.51 mm (♀); total length 2.53 mm (♂), 2.56 mm, 2.63 mm (♀); greatest width across tegmina 1.44 mm (♂), 1.44 mm, 1.52 mm (♀).

HEAD anteriorly deeply emarginate, broadly U-shaped, the median incision over one-third total length of head (0.35–0.37); anterior margin biarcuate, the right and left halves nearly evenly convex, extending anterior to level of front margin of eyes. Width across eyes 1.02–1.05 mm, median length 0.21–0.24 mm; ratio, width:length 4.94 (♂), 4.50, 4.33 (♀). Frontal membrane about 0.3 times as long in middle as total median length of head; anterior margin micropunctate and very shortly ciliate; posterior margin with a row of punctures, small and obscure mesially, larger and more distinct laterally. Crown with a low median carina extending on to frontal membrane; laterally and posteriorly rather coarsely punctate. Posterior margin nearly straight, carinate. Postero-lateral margins and eyes distant from paranota; the former very shortly serrate-ciliate, sinuate, more or less convex basally. Antennae not or scarcely extending laterally beyond mesial margin of eyes; apical segment 0.13–0.15 mm long. Eyes extending posteriorly beyond lateral margins of head. Rostrum reaching hind coxae.

PRONOTUM more than 3.5 times as wide across paranota as long in middle (♂ 1.36 mm. 0.37 mm; ♀ 1.44 mm:0.37 mm, 1.45 mm:0.39 mm). Median carina narrow in middle, not reaching posterior margin, before which it expands laterally for a short distance; in front expanding to form a triangular raised area with base along entire anterior margin. Disc strongly declivous on each side of carina and sub-circularly depressed, but raised anteriorly and posteriorly. A row of punctures along each side of carina; distinct punctures behind carina; postero-lateral angles of disc coarsely punctate. Anterior margin between paranota nearly straight; posterior margin broadly concave. PARANOTA raised anteriorly; lateral and postero-lateral margins nearly straight, the postero-lateral angles between them usually more or less acutely rounded (ca. 60°–70°). The main veins irregularly branched and anastomosed, dividing all or most areolae into areolets.

SCUTELLUM triangular, anteriorly depressed in middle as in *distincta*.

TEGMINA very similar to those of *distincta* in shape and venation. Costal margin bisinuate both from above and from side, concave and elevated before middle and again shortly before

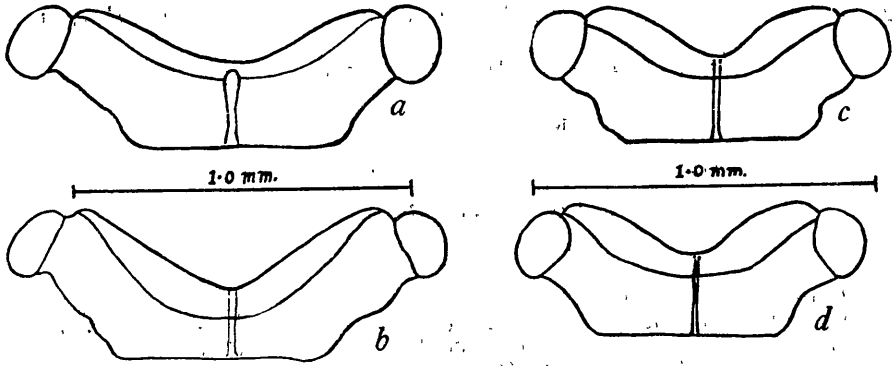


FIG. 1.—Outline of head, to show variations. a, b, *Oiophysa distincta* Woodward; c, d, *O. cumberi* sp. nov.

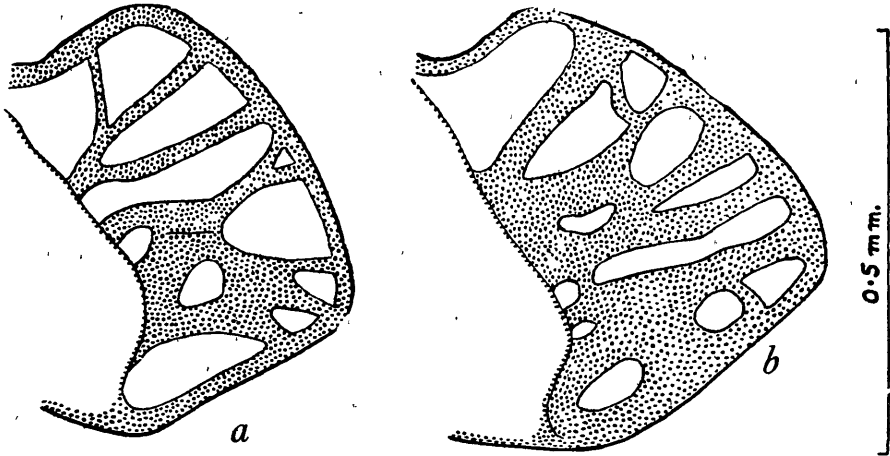


FIG. 2.—*Oiophysa cumberi* sp. nov., right parantotum. a, ♂; b, ♀.

apex, the subapical emargination being much the deeper, so that apices appear narrowly produced. Veins mesad of R less strongly elevated than in *distincta*. Cell 2 m nearly equal to apical radial cell. 9–11 costal cells; 4–5 radial cells; costal cells and the subcostal cell wide; 2 m much larger than subapical radial. Anterior width across tegmina greater than across middle (♂, 1.44 mm:1.39 mm; ♀, 1.44 mm:1.35 mm; 1.52 mm:1.41 mm).

ABDOMEN relatively broader than in *distincta*, about half as wide again as long between anterior margin of sternum III and apex of sternum VII in female, of sternum VIII in male. Segment III as in *distincta*. **Female:** Postero-lateral angles of tergum VIII rounded, but little produced. Posterior margin of sternum VII less prominently produced posteriorly in middle than in *distincta* but strongly and convexly produced ventrad. Venter of segment VII relatively broader than in either *distincta* or *fuscata pendergrasti*, about 2.6–2.7 times as wide at base as long in middle. Segment IX with outer ventral margin, viewed from side, shallowly concave before apex; posterior lateral extension broadly rounded as seen from side. Valvifers and valvulae similar to those of *distincta*, though smaller. Anal tube nearly cylindrical, tapering only slightly to base and apex; no pronounced dorsal swelling. **Male:** Tergum VIII similar to that of *distincta*, except that posterior margin nearly straight; 1.5 times as long as tergum VII. Venter of segment VIII, basal width 2.85 times median length, 2.1 times length of sternum VII. Pygophor 1.2 times as long as wide, proportionately shorter than in *distincta*, particularly the part basad of the lateral shoulders, which are more evenly rounded than in *distincta* or *pendergrasti*; sides basad of shoulders more concave than in *distincta*; posterior median process

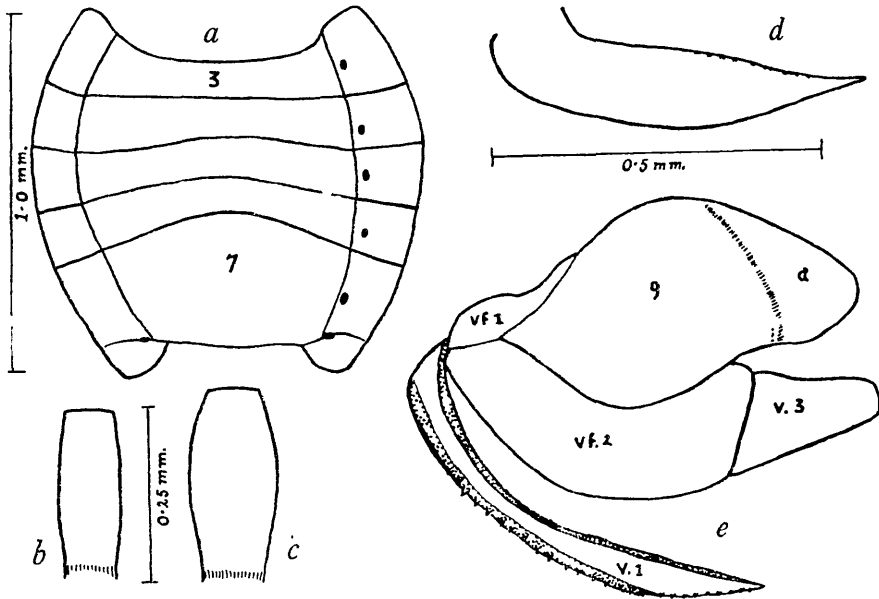


FIG. 4—Abdomen and terminalia, ♀. a, *Oiophysa cumberi* sp. nov., abdomen, ventral, sterna 3-7, b, *O. cumberi*, anal tube; c, *O. distincta* Woodward, anal tube; d, *O. cumberi*, left 2nd valvula, lateral, e, *O. cumberi*, 9th segment (lateral), with left 1st valvifer and 1st valvula and left 2nd valvifer and 3rd valvula

a, apical lobe of 9th segment, v.1, 1st valvula; v.3, 3rd valvula; vf.1, 1st valvifer; vf.2, 2nd valvifer; 9, 9th segment.

resembles that of *distincta* and differs from that of *pendergrasti* in being subacute at apex. Claspers (harpagones) smaller, thinner, more laterally flattened than in *distincta*; apex, seen from inner aspect, not truncate as in *distincta*, but rounded, though more narrowly so than in *pendergrasti*. Aedeagus similar to that of these two forms. Anal tube short, stout, ovate with both ends truncated, widest at basal quarter; sides more convex than in *distincta*; narrowing more abruptly at apex than in *pendergrasti*; dorsally swollen at base.

COLOUR: Ochraceous, varyingly infuscated, especially on scutellum, base of tegmina and costal veinlets, sometimes extensively melanic; membranes of head and paranota and at least costal and subcostal cells and apex of tegmina pale. Eyes reddish brown.

LOCALITIES. North Island: Holotype female, paratype female, 15.2.1957. Pohokura (Taupo-Napier Road, between Rangitaiki and Tarawera, mixed forest, ca 2,000ft). Allotype male, 15.2.1957, Kaimai Range (saddle, Tauranga-Matamata Road, mixed forest, 1,700ft). All collected R. A. Cumber.

TYPES. Holotype and allotype deposited in the collections of the Entomological Research Station, D.S.I.R., Nelson; paratype female at Entomology Division, D.S.I.R., Palmerston North.

DISCUSSION

Peloriidiids have not previously been collected in the areas in which these specimens were found; in fact the whole of the central part of the North Island, south of Mt. Te Aroha, east of Ohakune, and north of the Tararua Ranges, has not up till now been worked for this family.

O. cumberi appears to be most closely related to *distincta* Woodward, from the S.W. part of the South Island. We thus now know of two species or subspecies pairs, each with one representative in the South Island and another, apparently widely separated from it geographically, in the North Island. The other pair is *fuscata*

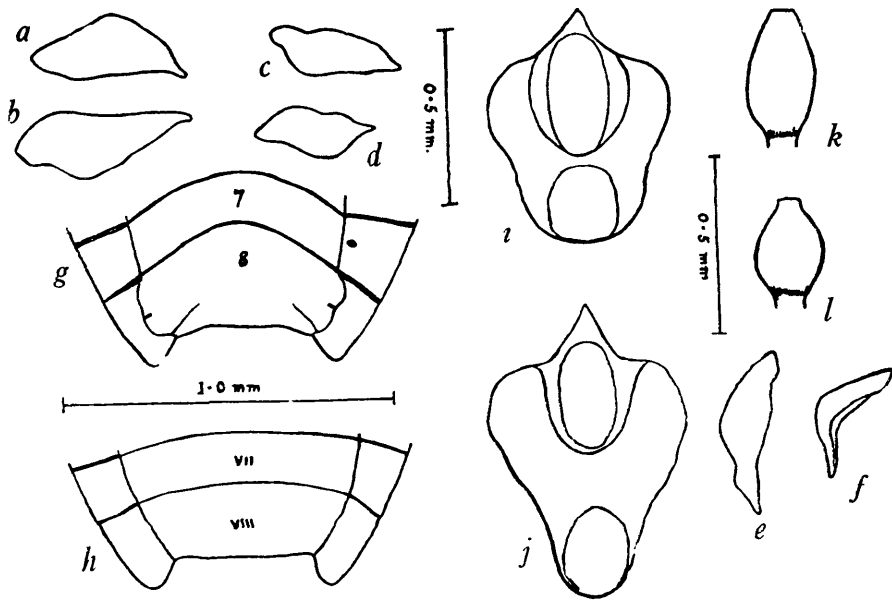


FIG. 5.—Terminalia, ♂. a, b, e, right clasper, *Oiophysa distincta* Woodward; c, d, f, right clasper, *O. cumberi* sp. nov.; a, c, lateral; b, d, inner aspect; e, f, dorsal; g, h, *O. cumberi*, apex of abdomen; g, ventral; h, dorsal; i, j, pygophor, dorsal; i, *O. cumberi*; j, *O. distincta*; k, l, anal tube; k, *O. distincta*; l, *O. cumberi*.

Drake and Salmon, from Nelson, South Island, and *fuscata pendergrasti* Woodward, from Coromandel Peninsula, North Island. On available evidence, *cumberi* and *distincta* appear to have diverged further than have *pendergrasti* and *fuscata*, and to have attained specific distinctness. However, as indicated earlier (Woodward, 1956: 49, 50), a detailed study of the terminalia of South Island *fuscata* might yet show *pendergrasti* to be best regarded as a species. Interbreeding experiments would provide more decisive evidence in both instances.

Cumberi resembles *distincta* in the tegminal, pronotal and paranotal characters, though the former does vary in the degree of posterior angulation of the paranota. Both species are also rather variable in the precise shape of the anterior and the postero-lateral margins of the head. Such variations are illustrated in figs. 1, 2. As with other Peloridiids, they are often not quite bilaterally symmetrical. In both species the posterior process of the pygophor is acute, differing from the more rounded apex of *pendergrasti*. Differences between *cumberi* and *distincta*, and characters in which both differ from other species of *Oiophysa* are listed in the description and the key. The narrowly rounded apex of the claspers of *cumberi* could have been derived from a truncate apex as seen in *distincta* by a rounding off of the inner angulated margin.

Corrigendum. In the description of *O. fuscata pendergrasti* (Woodward, 1956, p. 49, second line of paragraph on Abdomen) "87" should read "67".

With the number of species of Peloridiidae now described from this country, it has been thought desirable to include a key tabulating the main distinctive features so far as they are known. Figures explaining the venation will be found in Evans (1939) and Woodward (1956); figures of the terminalia involved are given in the latter paper, with references to further descriptions and figures under each species heading.

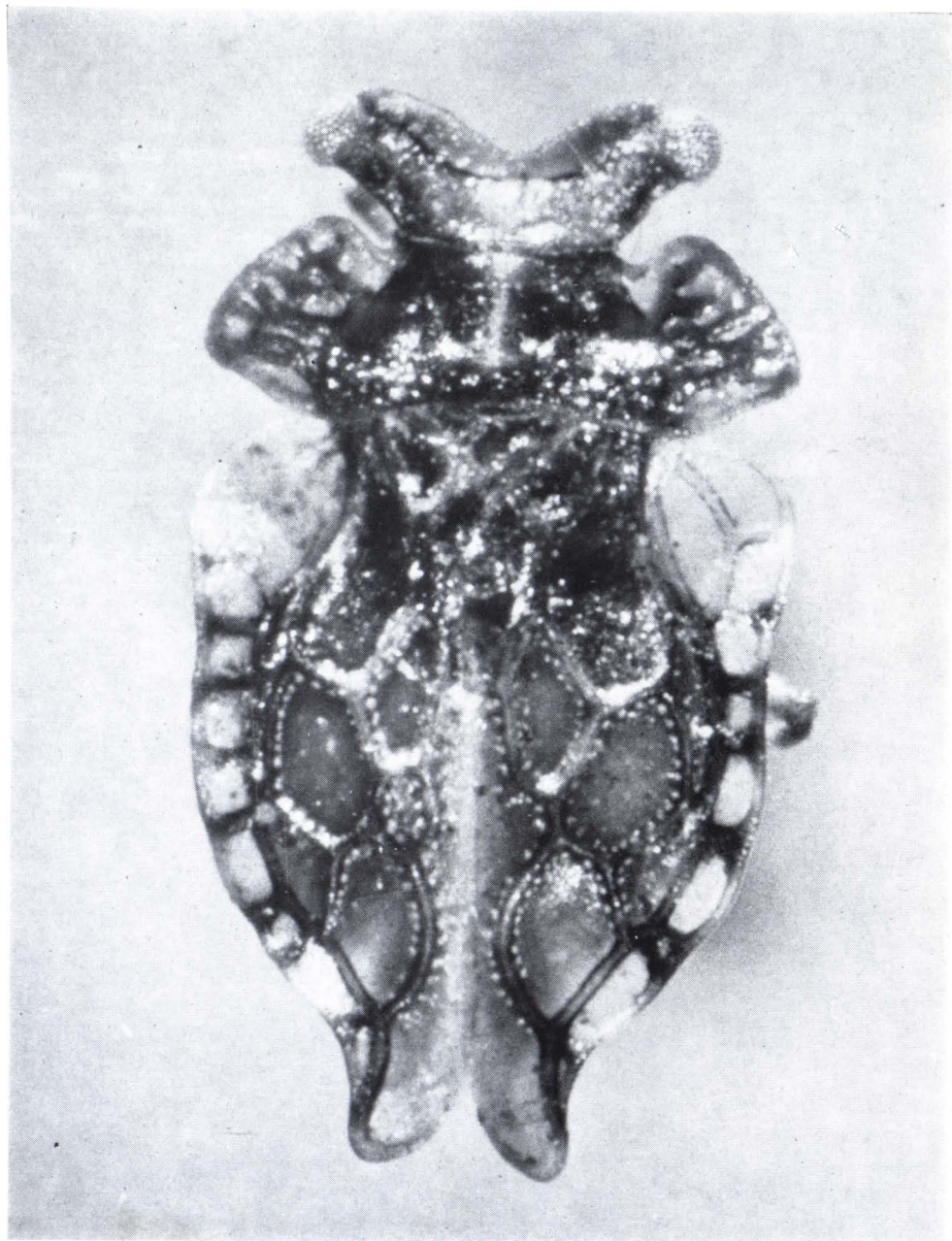


FIG. 3.—*Oiophysa cumberi* sp. nov. Holotype ♀.

Photograph, E. W. Hollywood.



KEY TO NEW ZEALAND PELORIDIIDAE

1. Eyes and postero-lateral margins of head touching or nearly touching paranota; head with two thin anterior areolae half or more than half as long as entire median length of crown. Pronotum with no or very few distinct punctures. Tegmina with costal margins not or scarcely sinuate; except for anal region, few or no cells margined with distinct punctures, apex of M ends on C beyond junction of R with C; usually with a single median cell, occasionally two cells, very rarely three.
- Postero-lateral margins of head angled away from paranota so that eyes are distant from the latter; head with an anterior "membrane" much less than half as long as entire median length of crown. Pronotum with numerous distinct punctures. Tegmina with costal margins sinuate; all cells mesad of R margined with distinct punctures; apex of M ends on R before its junction with C; always with three median cells.
- Xenophyes Bergroth* 2
2. Eyes projecting behind beyond the adjacent postero-lateral angles of head. Median carina of pronotum broadly rounded. Apical junction of Cu1 and Cu2 + 1A within basal third of tegmen. Costal area wide, at middle of tegmen one third or more width of tegmen, costal veinlets and areolae very distinct. Subcostal cell large, as wide as or wider than the first costal. Aedeagus sigmoidally curved in side view, ventral membrane not visible from above. Anal tube of male broadest near basal third, considerably narrowed toward apex. Widespread throughout New Zealand.
- Eyes not projecting behind beyond the postero-lateral angles of head. Median carina of pronotum sharp and narrow. Apical junction of Cu1 and Cu2 + 1A about half way along tegmen. Costal area narrow, at middle of tegmen about one-sixth width of tegmen, costal veinlets and areolae, except basally, usually indistinctly defined. Subcostal cell small, narrower than first costal. Aedeagus not sigmoidally curved, ventral membrane visible from above as two wing-like lateral lobes. Anal tube of male with sides nearly parallel, apex broadly rounded, not tapering. Recorded only from Stewart Island.
- Otophysa Drake and Salmon* 3
3. Pronotum about three times as wide as long in middle. Width across tegmina near base less than or subequal to width at middle. Tegmina with costal margins not strongly bisinuate, either basal half or apical half nearly straight. Postero-lateral angles of paranota more or less rectangularly rounded.
- Pronotum at least three and a-half times as wide as long in middle. Width across tegmina near base distinctly greater than width at middle. Tegmina with costal margins markedly bisinuate, strongly excavated both before middle and before apex. Postero-lateral angles of paranota usually acutely rounded (ca 60°-70°).
- Xenophyes cascus Bergroth*
- Xenophyes stewartensis Woodward*
- 4
- 6

4. Head with anterior membrane about half as long in middle as rest of crown; not coarsely punctate toward eyes; with three large punctures behind membrane on each side. Pronotum with disc slightly rugulose, rather finely punctate posteriorly; median carina (as delimited on each side by a row of punctures) wide; paranotal areolae wide, largely rectangular. Tegmina with costal margins in dorsal view nearly straight to middle, shallowly concave beyond middle; the membrane margining cross veins of costal area not fuscous (though veins themselves may be fuscous). Recorded from Nelson Province

Oiophysa ablusa Drake and Salmon

Head with anterior membrane one-third or less as long in middle as rest of crown; rather coarsely punctate toward eyes; with a row of numerous small punctures behind membrane on each side. Pronotum with disc coarsely punctate posteriorly and especially on postero-lateral angles; median carina very narrow; paranotal areolae more irregularly arranged and mostly divided into areolets. Tegmina with costal margins in dorsal view shallowly concave before middle, nearly straight beyond middle; cross veins of costal area margined on membrane with dark fuscous

Oiophysa fuscata Drake and Salmon 5

5. Anterior margin of head shallowly excavated, biarcuate, the median notch shallowly V-shaped, so that "membrane" is not much shorter in middle than elsewhere. Cell 2 m of tegmen larger than apical radial and much larger than subapical radial. Larger; total length about 3.0 mm; width across tegmina about 1.65 mm. Recorded only from Mt. Arthur Tableland, Nelson, South Island

O. fuscata fuscata Drake and Salmon

Anterior margin of head deeply excavated, broadly and deeply U-shaped in middle, where "membrane" is only about half as long as beyond the U. Cell 2 m of tegmen much smaller than apical radial and subequal to or smaller than subapical radial. Smaller, total length about 2.65-2.7 mm; width across tegmina about 1.48-1.55 mm. Recorded only from Coromandel Peninsula, North Island

O. fuscata D. and S. *pendergrasti* Woodward

6. Head wider (1.22-1.38 mm across eyes); right and left halves of margin of anterior excavation nearly straight. Apical segment of antennae long (0.20-0.21 mm), extending to basal third or half of eye. Claspers of male larger, stout, not strongly flattened laterally, apices obliquely truncate seen from inner aspect. Abdomen of female (measured as in description) about $\frac{1}{2}$ - $\frac{1}{4}$ as wide again as long. Total length about 2.64-3.31 mm; width across tegmina about 1.56-2.20 mm. Recorded only from Southland, South Island

Oiophysa distincta Woodward

Head narrower (1.02-1.05 mm across eyes); right and left halves of margin of anterior excavation convex. Apical segment of antennae shorter (0.13-0.15 mm), not or scarcely extending beyond base of eye.

Claspers of male smaller, thinner, and laterally flattened, apices narrowly rounded in lateral aspect, not truncate. Abdomen of female (see description) about half as wide again as long. Total length about 2.53–2.63 mm; width across tegmina about 1.44–1.52 mm. Recorded only from east central part of North Island

Oiophya cumberi sp. nov

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