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# PSOCOPTERA FROM ROBINSON CRUSOE ISLAND, JUAN FERNANDEZ ARCHIPELAGO

By **I. W. B. Thornton and T. R. New**[1]

*Abstract.* Nine species of Psocoptera are recorded from Robinson Crusoe I in the Juan Fernandez Archipelago. They include 3 widely distributed species (2 species of *Cerobasis* and *Ectopsocus briggsi*), a species of *Peripsocus* known from the Chilean mainland, and a complex of 5 new endemic species of *Nothopsocus* (Elipsocidae), which are described herein. The new species are closely related to 1 of the 2 species from the Chilean mainland.

The Juan Fernandez Archipelago is a small group of oceanic islands situated some 666 km west of the mainland of Chile, of which country it is a national park. The largest island, Robinson Crusoe (formerly Mas a Tierra), is approximately 78°51′W and 33°37′S and is approximately 22 km long and (at most) 7.3 km wide (FIG. 1) (map adapted from CONAF 1976). It has a small treeless satellite island, Santa Clara, .5 km to the southwest. The 3rd island, Alexander Selkirk (formerly Mas a Fuera), which is uninhabited, lies some 180 km to the west and reaches 1650 m elevation. The maximum elevation of Robinson Crusoe is 915 m, and the climate is warm temperate. Rain occurs throughout the year, with more during winter, and the lower lying areas (especially on the west of the island) have a very dry summer and are severely eroded. Much of the flora—101 of 147 species of flowering plants—is endemic (Skottsberg 1956 *in* Kuschel 1963), and it appears that the southern Chilean element predominates in both the plants and the insect fauna, which show a similar degree of endemism (Kuschel 1963). About 500 people now live in the village of San Juan Bautista, Robinson Crusoe. In the 17th and 18th centuries the archipelago was visited by buccaneers; it was a wartime base in 1738 and was colonized for a time in 1750. In the 19th century the archipelago was the site of a penal colony; in 1885 there were some 54 inhabitants, and by 1940 the population had reached about its present size.

No identified Psocoptera have hitherto been recorded from any island in the Juan Fernandez group, although Kuschel (1963) noted 4 species of undefined status. As an adjunct to a study of the mainland Chilean Psocoptera (New & Thornton 1981), IWBT spent 10 days in December 1976 and January 1977 collecting for Psocoptera on Robinson Crusoe: FIG. 1 shows the collecting sites visited. This paper is a report on these collections. Holotypes of new species are to be deposited in the Bishop Museum, Honolulu (BISHOP) and paratypes in the Australian Museum, Sydney (AMS)

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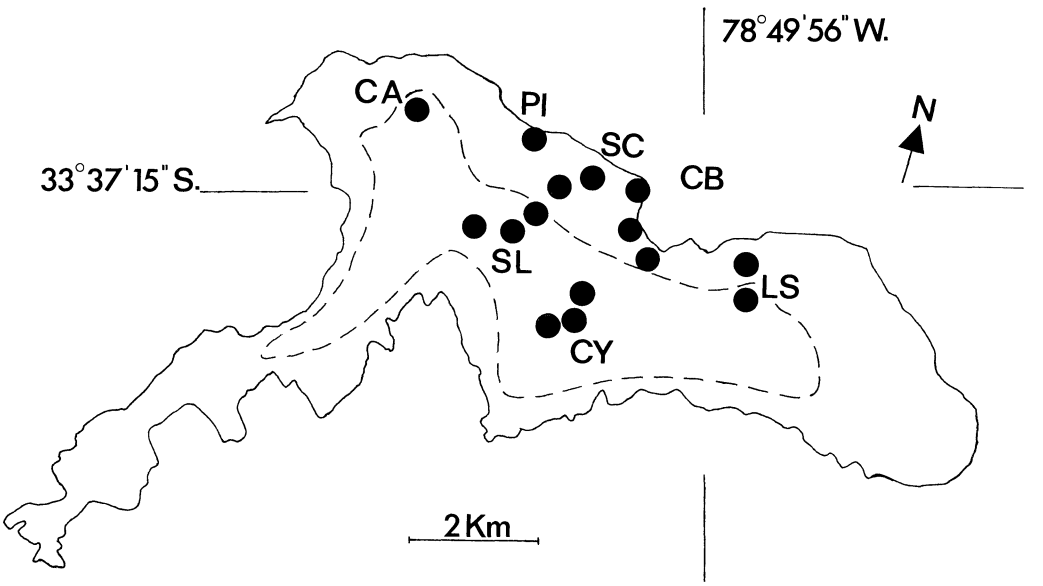


FIG. 1. Map of Robinson Crusoe Island, to show sites where collections were made: CA, Cerro Alto; CB, Cumberland Bay; CY, Cerro Yunque; LS, La Sentinela; PI, Puerto Ingles; SC, San Carlos Ridge; SL, Selkirk's Lookout. Contour 500 m. (Map adapted from CONAF 1976.)

and the British Museum (Natural History), London (BMNH). Dimensions are in mm, and abbreviations are as in New & Thornton (1981).

## Family TROGIIDAE

### **Cerobasis guestfalica** (Kolbe)

*Hyperetes guestfalicus* Kolbe, 1880: 132.
*Cerobasis guestfalicus:* Roesler, 1943: 13.

*Specimens examined.* ROBINSON CRUSOE I: 27♀, Puerto Ingles, nr Selkirk's Cave, Lombardy poplars, 7.I.1977.

This species is extremely widely distributed and is often associated with transport by human agencies. It is recorded from various mainland Chile localities by Badonnel (1971) and by New & Thornton (1981).

### **Cerobasis annulata** (Hagen)

*Clothilla annulata* Hagen, 1865: 122.
*Cerobasis annulata:* Smithers, 1967: 11 (full synonymy).

*Specimens examined.* ROBINSON CRUSOE I: 59♀, Cerro Alto, summit, 600 m, on *Nothomyrcia fernandeziana,* 7.I.1977.

This species is also relatively widely distributed but has not been recorded from Chile. The specimens are considerably paler than European specimens examined, but presence of an interrupted frontal "anchor" mark and small wing pads strongly suggest they are referable to *annulata.* Genitalia are as in European specimens. It is, however, possible that they represent an island form.

## Family Ectopsocidae

**Ectopsocus briggsi** McLachlan

*Ectopsocus briggsi* McLachlan, 1899: 277.

*Specimens examined.* ROBINSON CRUSOE I: 36♂,114♀, Cumberland Bay, San Juan Bautista, dead branches (*Eucalyptus globulus*) 30.XII.1976; 14♂,21♀, Plazoleta del Yunque, *Nothomyrcia fernandeziana,* 1.I.1977; 3♀, Cerro Yunque Ridge, 450 m, *N. fernandeziana,* 6.I.1977.

This species is extremely widely distributed in the temperate parts of the world and has been taken in many places on the Chilean mainland, although it is not yet known from Easter I. Its presence on Robinson Crusoe may be the result of human-aided dispersal. *E. briggsi* is usually associated with senescing or dead foliage.

## Family Peripsocidae

**Peripsocus nitens** Thornton & Wong

*Peripsocus nitens* Thornton & Wong, 1968: 129 (♂,♀, Hawaii, New Zealand).—New & Thornton, 1981 (♂,♀, Chile).

*Specimens examined.* ROBINSON CRUSOE I: 3♂,7♀, Cumberland Bay, San Juan Bautista, introduced trees, 30.XII.1976; 1♀, Plazoleta del Yunque, *Nothomyrcia fernandeziana,* 1.I.1977; 2♂,117♀, Pangal, and La Sentinela, 100–300 m, *N. fernandeziana,* 3.I.1977; 3♀, Cerro Yunque, 250 m, 5.I.1977.

This is the same species as that abundant on the Chilean mainland (New & Thornton (1981) and is provisionally identified as *P. nitens,* although there are slight differences in the form of the subgenital plate (figured by New & Thornton 1981) from that described for the type.

## Family Elipsocidae

The following 5 species form an endemic complex of *Nothopsocus* Badonnel (1967), a genus known only from Chile. Generic placement is discussed for the mainland *N. badonneli* New & Thornton by New & Thornton (1981). The following species are all very similar to *N. badonneli* and are separated primarily on details of the female gonapophyses.

Females of the 5 species of *Nothopsocus* on Robinson Crusoe may be separated by

characters given in the following key. All are distinct on gonapophyses shape from the 2 mainland species.

KEY TO ♀ *Nothopsocus* ON ROBINSON CRUSOE I

1. External valve of gonapophyses large; rounded or triangular ..... 2
   External valve of gonapophyses reduced; slender or tapered ..... 3
2. Forewing with narrow band of pigment across wing from base of pterostigma to nodulus ..... **selkirki, n. sp.**
   Forewing without such transverse band ..... **cooki, n. sp.**
3. External valve of gonapophyses strongly produced to dorsal rounded process (FIG. 11) ..... **cinqueportsae, n. sp.**
   External valve of gonapophyses very strongly tapered (FIG. 14, 24) ..... 4
4. Apical region of areola postica and adjacent region of cell $M_3$ strongly darkened in forewing .. **skottsbergi, n. sp.**
   Apical region of areola postica, and adjacent region of cell $M_3$ scarcely darkened in forewing .. **defoei, n. sp.**

## **Nothopsocus selkirki** Thornton & New, **new species** FIG. 2–7

*Coloration.* Pale buff. Eyes black. Ocelli pale, in black annuli. Face pale: postclypeus with faint traces of about 6 slightly darkened striae each side of midline. Central region of frons, in front of median ocellus, dark brown. Dorsal rim of antennal socket dark brown. Vertex dark brown behind ocelli and, less conspicuously, dorsal to eyes. Palpi pale. Antennae basally dark brown, flagellum beyond $f_2$ pale. Thoracic nota dark brown; sutural areas pale; pleura pale. Legs pale, tarsi slightly darkened. Forewing pale, with grayish-brown shading over apical ½ of pterostigma and (♀) near fork of M and $Cu_1$ and along part of $Cu_{1a}$. Hindwing unmarked. Abdomen with traces of dark brown patches across anterior tergites. Genital segments slightly darkened.

♀. Forewing as in FIG. 2. Subgenital plate (FIG. 4) with apex distinctly bilobed, each lobe bearing 4 or 5 marginal setae. Gonapophyses (FIG. 5): ventral valve very narrow apically; dorsal valve with small ventral lobe, external valve very large, hatchet-shaped, setose on apical ½, few marginal setae. Epiproct deep, rounded. Paraproct large, with field of about 22 trichobothria. Tarsal claw with pulvillus slightly expanded at apex.

♂. Forewing as in FIG. 3. Hypandrium bluntly rounded. Phallosome (FIG. 6): broad, frame with median anterior flange; apex as in FIG. 6, with slight premarginal rugosity on lateroapical lobes. Radular sclerites complex (FIG. 7). Epiproct rounded. Paraproct: margin with 2 small hyaline cones separated by a slender seta; a field of about 30 trichobothria.

*Dimensions.* ♀. B 2.80, FW 2.63, HW 1.92, $f_1$ 0.540, $f_2$ 0.375, $f_1/f_2$ 1.440, F 0.555, T 1.050, $t_1$ 0.345, $t_2$ 0.060, $t_3$ 0.090, $t_1/t_2$ 5.750, $t_2/t_3$ 0.667, ct 16.0.0. ♂. B 2.65, FW 2.44, HW 1.82, $f_1$ 0.630, $f_2$ 0.420, $f_1/f_2$ 1.500, F 0.540, T 1.065, $t_1$ 0.345, $t_2$ 0.060, $t_3$ 0.075, $t_1/t_2$ 5.750, $t_2/t_3$ 0.800, ct 17.0.0.

Holotype ♀, ROBINSON CRUSOE I: San Carlos Ridge, 320 m, beating *Nothomyrcia fernandeziana* and *Drimys confertifolia,* 4.I.1977 (BISHOP 12,089). Paratypes: ROBINSON CRUSOE I: 47♂,58♀, same data as holotype; 6♂,10♀, Cumberland Bay, San Juan Bautista, *Cupressus macrocarpa* and pears, 30.XII.1976; 10♂,14♀, Selkirk's Lookout, E face, 550 m, ferns, 31.XII.1976; 1♂,5♀, Plazoleta del Yunque, *Nothomyrcia fernandeziana,* 1.I.1977; 1♂,1♀, Selkirk's Lookout, W face, 550 m, 2.I.1977; 1 ex, San Carlos Ridge, 380 m, 4.I.1977; 4♂,2♀, Cerro Yunque, 400 m, *N. fernandeziana,* 5.I.1977; 2♂, Cerro Yunque Ridge, 600 m, mainly *N. fernandeziana,* 6.I.1977; 1♀, Cerro Alto, summit, 600 m, *N. fernandeziana,* 7.I.1977.

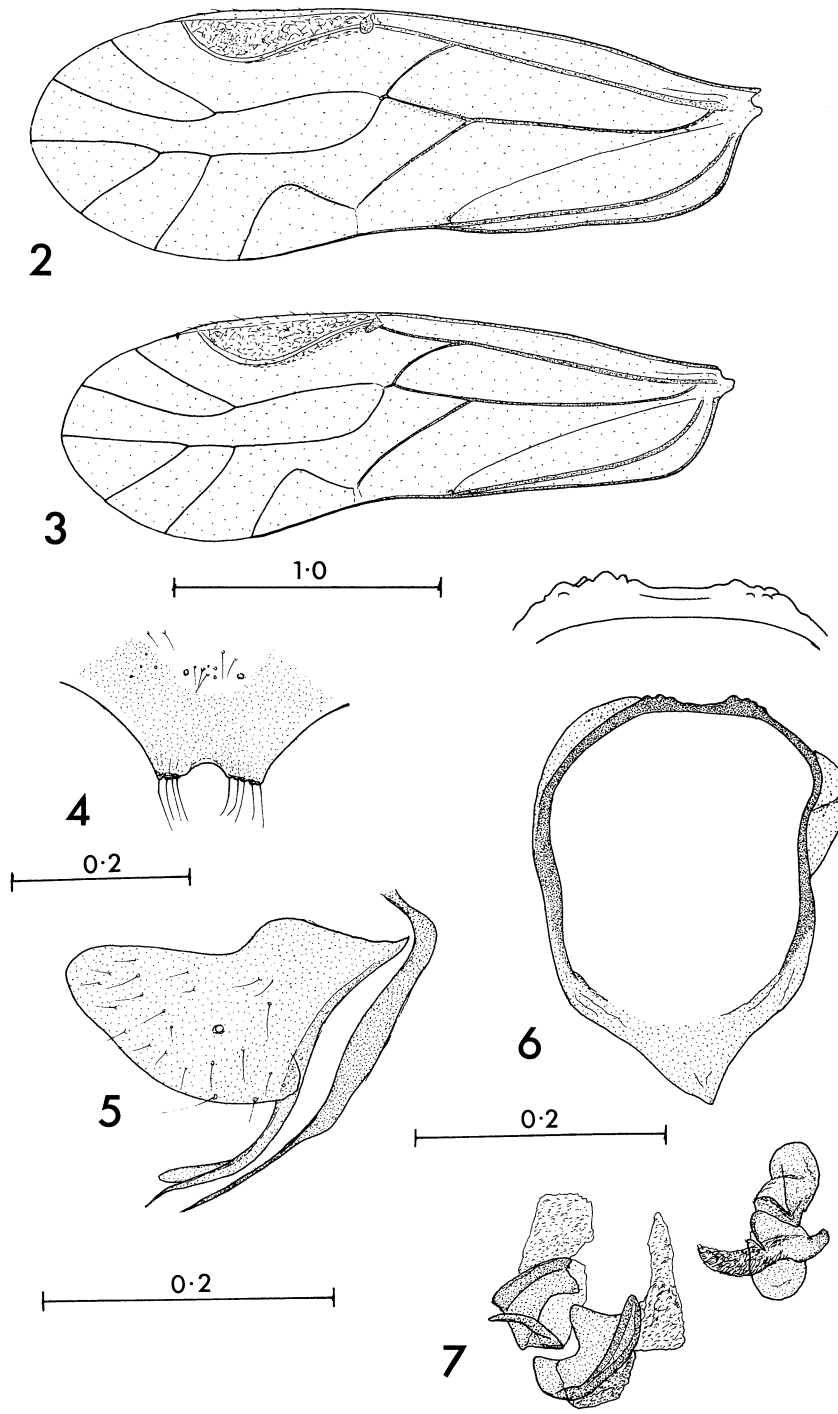


FIG. 2–7. *Nothopsocus selkirki:* **2,** ♀ forewing; **3,** ♂ forewing; **4,** subgenital plate; **5,** gonapophyses; **6,** phallosome, with insert of apex; **7,** radular sclerites. (Scales in mm.)

## **Nothopsocus cinqueportsae** Thornton & New, **new species** FIG. 8–12

*Coloration.* Buff. Eyes black. Ocelli in black annuli. Labrum grayish brown, anteclypeus pale. Postclypeus grayish brown, with traces of 6–8 striae each side of midline. Central region of frons dark grayish brown, as is area between eye and antennal socket. Vertex with dark grayish-brown patch in midline behind ocelli; posterior border darkened; 6–8 small dark brown patches dorsal and posterior to each eye. Apical segment of maxillary palp dark grayish brown. Antennae wholly dark brown. Thorax dorsally dark grayish brown; sutural areas and pleura pale. Legs predominantly pale; base and apex of tibiae dark brown; tarsi darkened. Forewing (FIG. 8, 9) with very dark shading over apical ½ of pterostigma, at apex of areola postica, at nodulus and in angle before fusion of Rs and M: in ♀ the latter markings extended towards the nodulus to form a band across the wing. Hindwing slightly shaded with gray in anterior region. Abdomen pale, traces of dark grayish-brown annuli around posterior of each segment; genital segments dark brown.

♀. Subgenital plate (FIG. 10) with apex transverse; 3 or 4 marginal setae each side of midline. Gonapophyses (FIG. 11): ventral valve very slender; dorsal valve slender and strongly lobed, elongate; external valve extended dorsally, sinuously rounded. Epiproct deep, rounded. Paraproct broad, with field of about 24 trichobothria. Tarsal claw with pulvillus slightly expanded at apex.

♂. Hypandrium transverse. Phallosome frame (FIG. 12) broad, somewhat narrowed anteriorly, apex strongly transverse. Radular sclerites complex. Epiproct trapezoidal. Paraproct with field of about 23 trichobothria.

*Dimensions.* ♀. B 2.80, FW 2.92, HW 2.30, $f_1$ 0.495, $f_2$ 0.270, $f_1/f_2$ 1.833, F 0.540, T 1.035, $t_1$ 0.285, $t_2$ 0.060, $t_3$ 0.105, $t_1/t_2$ 4.750, $t_2/t_3$ 0.571, ct 14.0.0. ♂. B 2.55, FW 2.49, HW 1.92, $f_1$ 0.540, $f_2$ 0.300, $f_1/f_2$ 1.800, F 0.495, T 0.975, $t_1$ 0.300, $t_2$ 0.060, $t_3$ 0.105, $t_1/t_2$ 5.000, $t_2/t_3$ 0.571, ct 14.0.0.

Holotype ♀, ROBINSON CRUSOE I: Cumberland Bay, San Juan Bautista, *Cupressus macrocarpa* and pears, 30.XII.1976 (BISHOP 12,090). Paratypes: ROBINSON CRUSOE I: 1♀, same data as holotype; 3♂,5♀, Plazoleta del Yunque, *Nothomyrcia fernandeziana,* 1.I.1977; 3♂,14♀, San Carlos Ridge, 320 m, 4.I.1977; 1♀, Cerro Yunque, 400 m, *N. fernandeziana,* 5.I.1977; 4♀, Cerro Alto, summit, 600 m, *N. fernandeziana,* 7.I.1977.

This species is named after the ship from which Alexander Selkirk was landed in 1704.

## **Nothopsocus defoei** Thornton & New, **new species** FIG. 13–15

♂♀. *Coloration.* Buff. Eyes black. Ocelli pale, in dark annuli. Labrum grayish brown; anteclypeus pale. Postclypeus dark grayish brown, with traces of 6–8 striae each side of midline. Frons darkened in central region and across anterior border. Genae pale. Vertex darkened behind ocelli, across posterior border and (more faintly) in patches dorsal to eyes. Palpi dark grayish brown. Antennae grayish brown. Thorax dark brown, sutural areas paler. Legs whitish buff, with extremities of tibiae dark brown, whole of tarsi dark brown. Wing shading as in *cinqueportsae.* Forewing as in FIG. 8, 9. Abdomen as *cinqueportsae,* but bands rather darker.

♀. Subgenital plate (FIG. 13): apex transverse, with 4 marginal setae each side of midline. Gonapophyses (FIG. 14): ventral valve long, slender; dorsal valve long, with small pointed lobe; external valve small, tapered to narrow rounded dorsal apex, setae on central region. Epiproct deep, rounded. Paraproct broad, with field of about 26 trichobothria and 2 setae without basal rosettes. Tarsal claw with pulvillus slightly expanded at apex.

♂. Hypandrium transverse. Phallosome frame (FIG. 15) very broad; apex distinctly concave between rugose lateral lobes. Radular sclerites complex. Epiproct trapezoidal. Paraproct with field of about 28 trichobothria.

*Dimensions.* ♀. B 3.50, FW 3.54, HW 2.68, $f_1$ 0.735, $f_2$ 0.450, $f_1/f_2$ 1.633, F 0.645, T 1.365, $t_1$ 0.345, $f_2$ 0.075, $t_3$ 0.120, $t_1/t_2$ 4.600, $t_2/t_3$ 0.625, ct 13.0.0. ♂. B 3.20, FW 3.16, HW 2.40, $f_1$ 0.795, $f_2$ 0.465, $f_1/f_2$ 1.710, F 0.600, T 1.230, $t_1$ 0.345, $t_2$ 0.075, $t_3$ 0.105, $t_1/t_2$ 4.600, $t_2/t_3$ 0.714, ct 14.0.0.

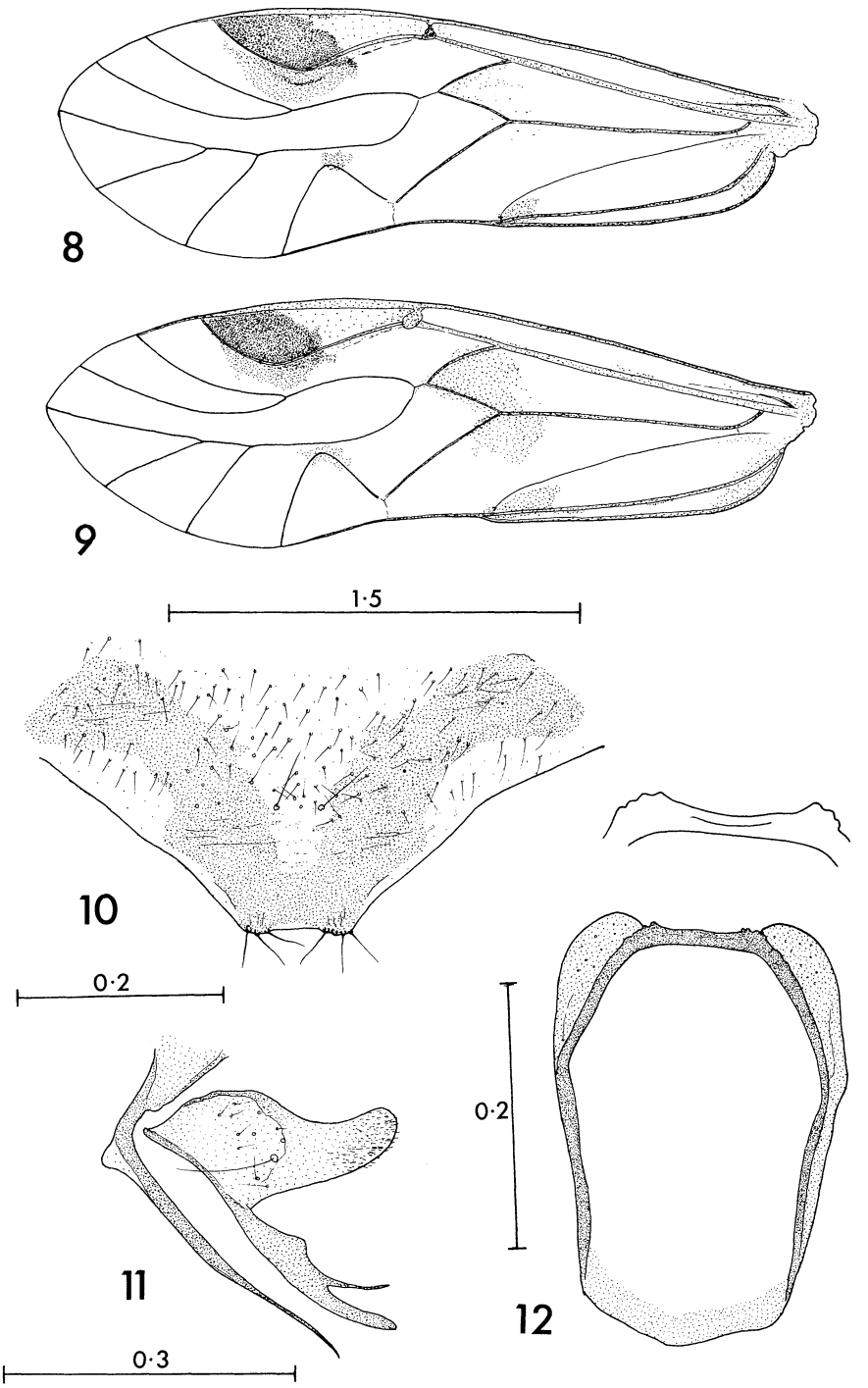


FIG. 8–12. *Nothopsocus cinqueportsae:* **8,** ♀ forewing; **9,** ♂ forewing; **10,** subgenital plate; **11,** gonapophyses; **12,** phallosome, with insert of apex. (Scales in mm.)

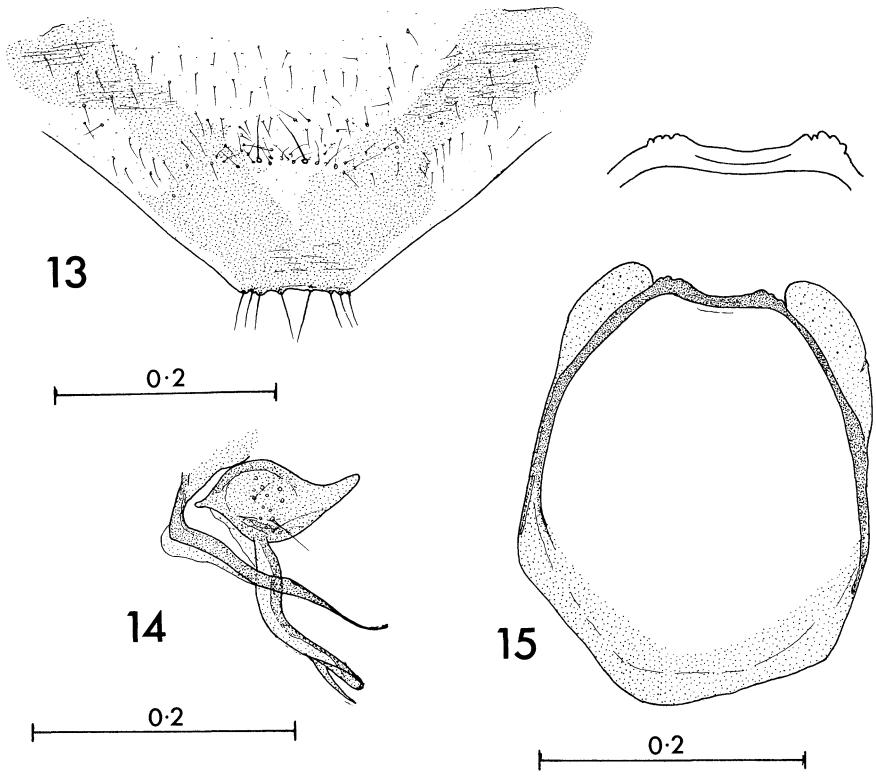


FIG. 13–15. *Nothopsocus defoei:* **13,** subgenital plate; **14,** gonapophyses; **15,** phallosome, with insert of apex. (Scales in mm.)

Holotype ♀, ROBINSON CRUSOE I: Cerro Yunque, 400 m, *Nothomyrcia fernandeziana,* 5.I.1977 (BISHOP 12,091). Paratypes: ROBINSON CRUSOE I: 5♂,9♀, same data as holotype; 3♂,1♀, Selkirk's Lookout, E face, 550 m, *Nothomyrcia fernandeziana,* 31.XII.1976; 1♀, Plazoleta del Yunque, *N. fernandeziana,* 1.I.1977; 6♂,6♀, Selkirk's Lookout, W face, 550 m, 2.I.1977; 4♂,6♀, San Carlos Ridge, 320 m, *N. fernandeziana* and *Drimys confertifolia,* 4.I.1977; 4♀, Cerro Unque Ridge, 600 m, mainly *N. fernandeziana,* 6.I.1977; 6♂,4♀, Cerro Alto, summit, 600 m, *N. fernandeziana,* 7.I.1977.

## **Nothopsocus cooki,** Thornton & New, **new species** FIG. 16–20

*Coloration.* Buff. Eyes black. Ocelli pale, in dark annuli. Labrum dark brown, anteclypeus pale. Postclypeus dark grayish brown, with traces of about 6 striae each side of midline. Frons darkened centrally and across anterior border. Genae pale. Vertex strongly darkened: a block of small dark brown patches near midline behind ocelli, across posterior border and behind and dorsal to eyes; ocellar surround dark brown. Apical segment of maxillary palpi dark gray. Antennae very dark brown. Thorax dark brown, with narrow paler sutural areas. Legs pale, extremities of tibiae and whole of tarsi very dark brown. Forewing shading as in FIG. 16, 17: dark pigment behind apex of pterostigma, at apex of areola postica and in narrow band from base of pterostigma to nodulus. Hindwing pale. Abdomen with irregular grayish-brown bands across all tergites; genital segments darkened.

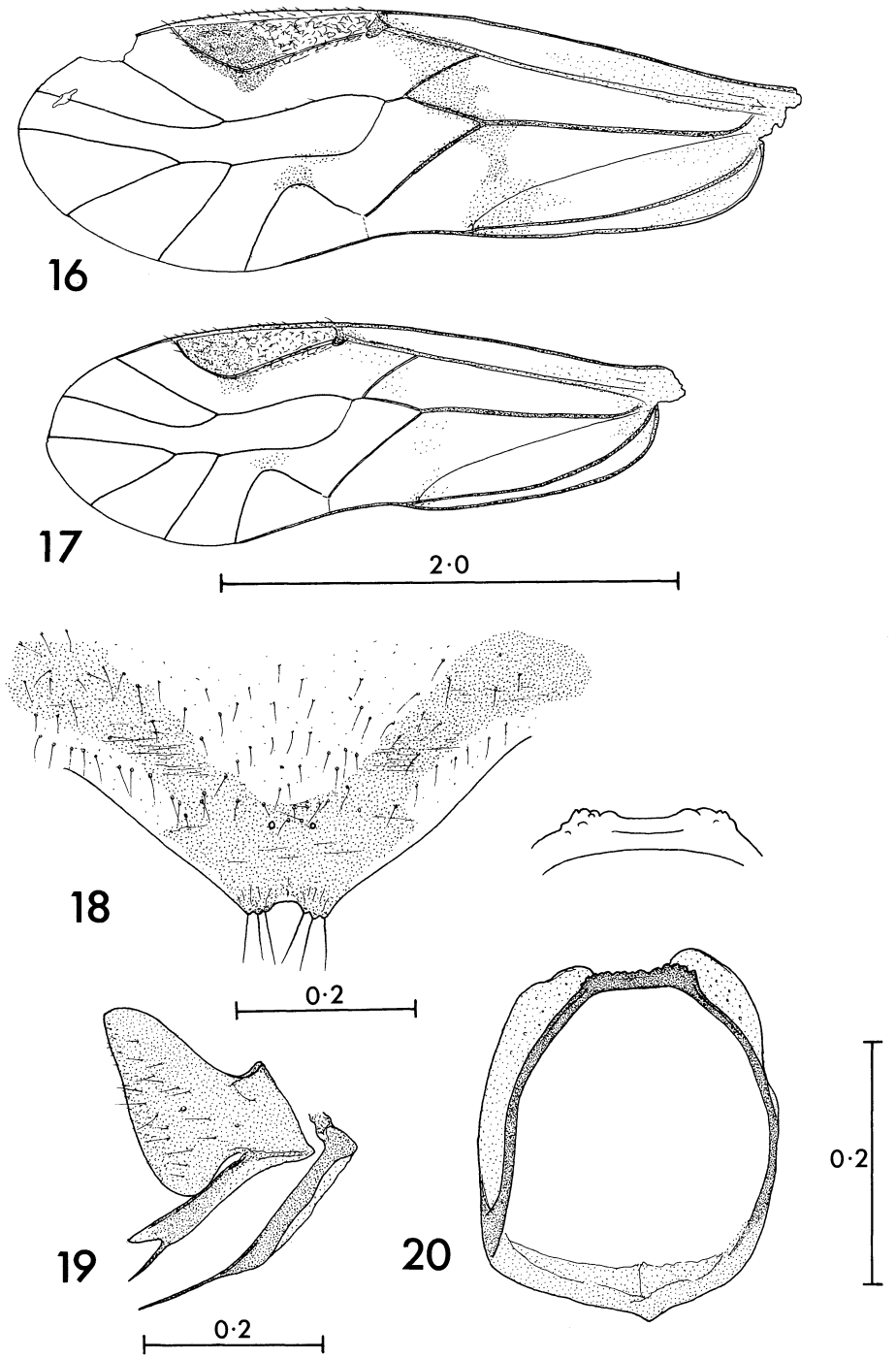


FIG. 16–20. *Nothopsocus cooki:* **16,** ♀ forewing; **17,** ♂ forewing; **18,** subgenital plate; **19,** gonapophyses; **20,** phallosome, with insert of apex. (Scales in mm.)

♀. Subgenital plate (FIG. 18) with apex bilobed, each lobe with 3 marginal setae. Gonapophyses (FIG. 19): ventral valve long, very slender at apex; dorsal valve with rounded apex and slender ventral projection; external valve large, hatchet-shaped, setose. Epiproct deep, rounded. Paraproct broad, with field of about 24 trichobothria and 1 or 2 setae without basal rosettes. Tarsal claw with pulvillus slightly expanded at apex.

♂. Hypandrium transverse. Phallosome frame (FIG. 20) very broad, with apex transverse: lateral rugose areas to apex relatively prominent. Radular sclerites complex. Epiproct rounded. Paraproct with field of about 30 trichobothria.

*Dimensions.* ♀. B 2.85, FW 3.06, HW 2.40, $f_1$ 0.555, $f_2$ 0.300, $f_1/f_2$ 1.850, F 0.585, T 1.170, $t_1$ 0.345, $t_2$ 0.060, $t_3$ 0.090, $t_1/t_2$ 5.750, $t_2/t_3$ 0.667. ♂. B 2.80, FW 2.54, HW 2.01, $f_1$ 0.720, $f_2$ 0.390, $f_1/f_2$ 1.846, F 0.525, T 1.110, $t_1$ 0.345, $t_2$ 0.045, $t_3$ 0.090, $t_1/t_2$ 7.667, $t_2/t_3$ 0.500, ct 16.0.0.

Holotype ♀, ROBINSON CRUSOE I: Plazoleta del Yunque, *Nothomyrcia fernandeziana,* 1.I.1977 (BISHOP 12,092). Paratypes: ROBINSON CRUSOE I: 4♂,4♀, same data as holotype; 1♀, Pangal and La Sentinela, 100–300 m, *N. fernandeziana,* 3.I.1977; 1♂,4♀, Cerro Yunque, 400 m, *N. fernandeziana,* 5.I.1977; 1♂, Cerro Yunque Ridge, 600 m, mainly *N. fernandeziana,* 6.I.1977; 8♂,12♀, Cerro Alto, summit, 600 m, *N. fernandeziana,* 7.I.1977.

The species is named after John Cook, a buccaneer who is reputed to have used the island as a refuge.

**Nothopsocus skottsbergi** Thornton & New, **new species** FIG. 21–25

*Coloration.* Buff. Eyes black. Ocelli pale, in black annuli. Face with labrum dark, anteclypeus pale. Postclypeus with traces of 6–8 striae each side of midline. Central region of frons darkened. Vertex with darker brown markings behind ocelli, across posterior border and dorsal posterior to eyes. Apical segment of maxillary palpi and whole of antenna very dark brown. Thorax dark brown, with sutural areas paler. Legs pale, except for extremities of tibiae and whole of tarsi very dark brown. Forewing with strongly contrasted brown markings as in FIG. 21, 22: dark marking behind pterostigma almost reaching radial fork; apex of areola postica and adjacent region of cell $M_3$ dark; strong band (♀) from base of pterostigma to nodulus. Hindwing pale. Abdomen pale, with dorsal grayish-brown bands across most tergites, and terminalia darkened.

♀. Subgenital plate (FIG. 23) with apex transverse, with 3 or 4 marginal setae each side of midline. Gonapophyses (FIG. 24): ventral valve slender; dorsal valve elongate, with long slender process; external valve small, tapered dorsally. Epiproct deep, rounded. Paraproct with field of about 22 trichobothria. Tarsal claw with pulvillus slightly expanded at apex.

♂. Hypandrium transverse. Phallosome (FIG. 25) broad, apex transverse, with strongly developed rugose lateral areas. Radular sclerites complex. Epiproct rounded. Paraproct with field of about 30 trichobothria.

*Dimensions.* ♀. B 2.80, FW 2.68, HW 2.01, $f_1$ 0.450, $f_2$ 0.270, $f_1/f_2$ 1.667, F 0.450, T 0.915, $t_1$ 0.285, $t_2$ 0.075, $t_3$ 0.090, $t_1/t_2$ 3.800, $t_2/t_3$ 0.833, ct 13.0.0. ♂. B 2.85, FW 2.83, HW 2.20, $f_1$ 0.930, $f_2$ 0.510, $f_1/f_2$ 1.823, F 0.555, T 1.200, $t_1$ 0.375, $t_2$ 0.060, $t_3$ 0.090, $t_1/t_2$ 6.250, $t_2/t_3$ 0.667, ct 16.0.0.

Holotype ♀, ROBINSON CRUSOE I: San Carlos Ridge, 320 m, 4.I.1977 (BISHOP 12,093). Paratypes: ROBINSON CRUSOE I: 2♀, same data as holotype; 1♂, Cumberland Bay, San Juan Bautista, *Cupressus macrocarpa* and pears, 30.XII.1976; 1♂, Selkirk's Lookout, E face, 550 m, *Nothomyrcia fernandeziana,* 31.XII.1976; 1♀, Selkirk's Lookout, W face, 550 m, 2.I.1977; 1♂, Cerro Yunque, 400 m, *N. fernandeziana,* 5.I.1977.

This species is named for the Swedish botanist C. Skottsberg, who worked extensively on the flora of the island and of mainland Chile.

Of the 9 species found, 3 are of widespread occurrence in many parts of the world

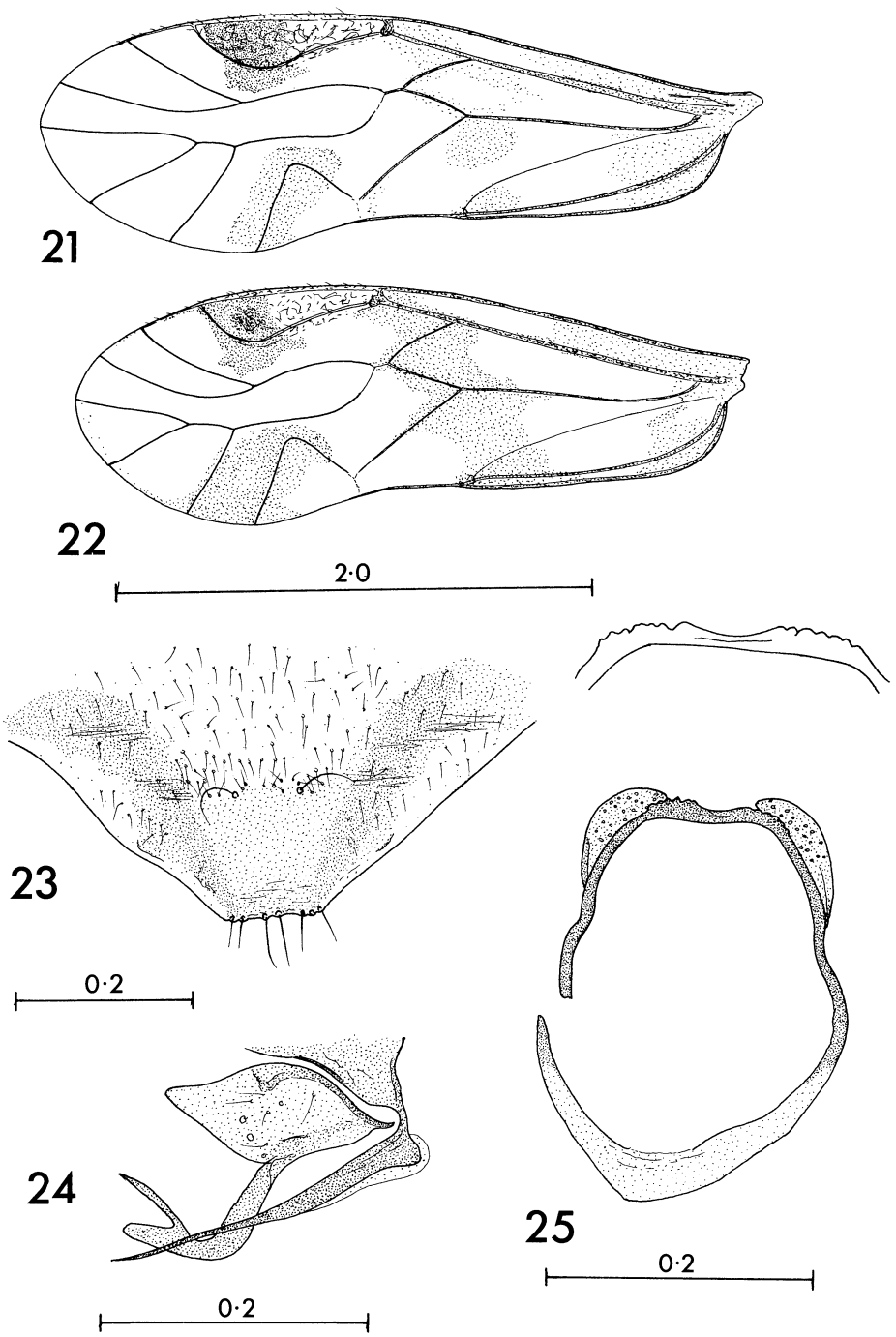


FIG. 21–25. *Nothopsocus skottsbergi:* **21,** ♂ forewing; **22,** ♀ forewing; **23,** subgenital plate; **24,** gonapophyses; **25,** phallosome, with insert of apex. (Scales in mm.)

and their dispersal has probably been aided by man, 1 is widely distributed in Chile, and 5 (*Nothopsocus* species) form an endemic complex of Elipsocidae. The *Nothopsocus* species are clearly extremely closely related and appear to have only 2 near relatives on the Chilean mainland. Thus, *Nothopsocus badonneli* New & Thornton is known only from 3 specimens taken in Concepcion (that is, a coastal locality) and appears to be very local, or tenuously established on the mainland, and *N. oxyurus* Badonnel is known from a single female captured in the Nahuelbuta National Park to the south of Concepcion. All 5 *Nothopsocus* species on Robinson Crusoe occur widely on undisturbed highland vegetation, and 2 were not collected around the village in Cumberland Bay, although this area was thoroughly investigated. In contrast, *Drymopsocus,* a genus related to *Nothopsocus,* has 4 species on the Chilean mainland where it is widely distributed on many native vegetation types; the genus apparently does not occur on Robinson Crusoe. It is tempting to speculate that *Nothopsocus* and *Drymopsocus* fill comparable niches on arboreal foliage in the 2 areas.

Although the insect faunas of Juan Fernandez and of southern Chile are generally considered to be closely interrelated (Kuschel 1963), many litter-dwelling elements of southern Chile appear to be absent. Chile has a well-developed fauna of litter-frequenting psocids (Badonnel 1963, 1967, 1971), but these were not specifically searched for on Robinson Crusoe. It is, however, noteworthy that the 3 most abundant and widely distributed arboreal psocids of Chile [*Caecilius ornatipennis* (Blanchard), *Ptenopsila delicatella* (Blanchard) and *Haplophallus chilensis* Thornton and Lyall] were not found and that no representatives of their respective families were collected on Robinson Crusoe. *C. ornatipennis* is not as "typically Magellanic" as the other 2 species, which have been collected on the southwest extremities of the mainland, and is more typical of Valdivian forests.

Three species of Psocoptera (unidentified) were recorded from San Ambrosio in the Desventuradas group (26°19′S, 79°47′W) by Kuschel (1963), and Kuschel suggested that the terrestrial fauna of the Desventuradas is closely related to that of Juan Fernandez. It has not been possible to trace the San Ambrosio material: it is not present in the Universidad de Chile (Santiago) collections (visited by T.R.N.), much of which are now not in existence (Etcheverry, pers. commun. to T.R.N., 1976).

Easter I, some 3750 km from the mainland, is known to support 4 species of psocids (Mockford 1972, Campos & Peña 1973), none of which is recorded elsewhere in Chile, although 3 of the 4 genera occur on the mainland.

Of the other "offshore islands" of western South America, only the Psocoptera of the Galapagos have been seriously appraised (Thornton & Woo 1973). They recorded 40 species of which 1, an undescribed *Peripsocus* "very similar to *P. nitens*" and collected at altitudes of about 500 m and above, may prove to be the same species as that represented on Robinson Crusoe. The 2 faunas do not otherwise overlap: Elipsocidae are not known from the Galapagos.

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