

STUDIES OF NEOTROPICAL CADDIS FLIES, VII:  
TRICHOPTERA FROM MASATIERRA, ISLAS JUAN FERNANDEZ

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RESUMEN

De las tres especies de Trichoptera conocidas de las Islas Juan Fernández, se sinonimiza *Australomyia masatierra* Schmid (conocida sólo por sus machos) con *Vergger porteri* (Navas) (descrita sólo de ejemplares hembras). Se describen los estados larvarios, de pupa y cubierta pupal, de la especie en referencia, actualmente transferida al género *Magellomyia* Banks.

The only published report on the Trichoptera of the Juan Fernandez Islands is that of Schmid (1952) who reported *Vergger porteri* (Navas) and described two new species, *Australomyia masatierra*, and *A. masafuera*, all of which have now been transferred to *Magellomyia* Banks.

Significant new collections made on Masatierra by Tomas Cekalovic K. of the University of Concepción, Chile, have elucidated the relationship between *porteri* (known only from females) and *masatierra* (known only from males). Because there are neither differences between the sexes in the larval sclerites associated with the male and female pupae nor in the many larvae, and because these males and females have only been taken in conjunction with each other, it seems evident that only one species is present, and that *masatierra* (Schmid) must be placed in the synonymy of *porteri* (Navas).

*Magellomyia porteri* (Navas)

*Halesus porteri* Navas, 1907, Boll. R. Soc. Esp. Hist. Nat. 7: 397. Navas, 1908, Rev. Chilena Hist. Nat. 12: 64. Ulmer, 1912, Zeit. Insbiol. 8: 74. Ulmer, 1913, Deut. ent. Zeit. (1913): 403, 411.

*Vergger porteri* (Navas). Navas, 1918, Mem. Acad. Cienc. Barcelona 14: 362. Schmid, 1949, Acta Zool. Lilloana 8: 601. Schmid, 1950, Eos 25: 406. Schmid, 1952, Rev. Chilena Ent. 2: 29.

*Australomyia masatierra* Schmid, 1952, Rev. Chilena Ent. 2: 29. (New synonymy).

*Magellomyia porteri* (Navas). Schmid, 1955,

Mitt. Schweiz. Ent. Ges. 28: 54. Fischer, 1967, Trich. Catal. 7: 75.

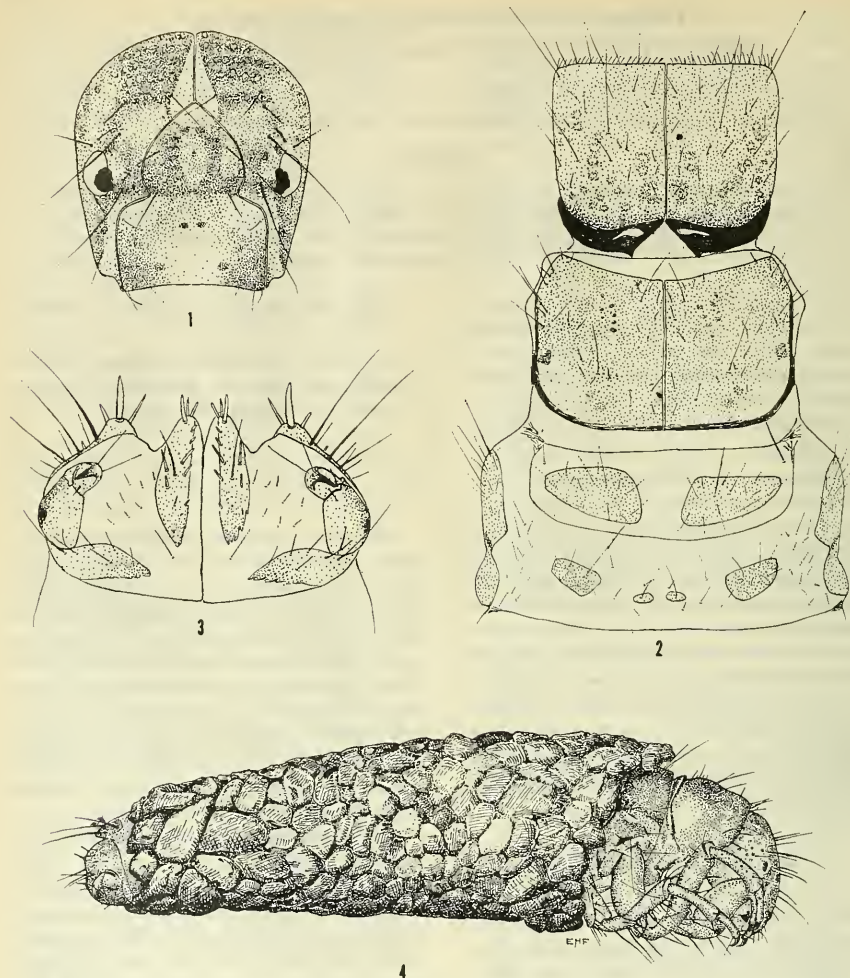
*Magellomyia masatierra* (Schmid). Schmid, 1955, Mitt. Schweiz. Ent. Ges. 28: 54. Fischer, 1967, Trich. Catal. 3: 74.

The adults, both male and female, have been well illustrated (Schmid 1952, 1955) and they are not further described here.

The larvae of *porteri* differ greatly from those of *M. illiesi* Marl., the only other species in the genus whose larvae are known in sufficient detail to permit comparison. In *illiesi* the head is granulate and has the frontal region concave and separated by a strong carina from the lateral area, whereas in *porteri* the head is rounded in a typical manner. The pupae of *porteri* have much longer, more slender apical processes with two apical and one sub-apical seta, rather than 5-6 setae scattered along the inner surface of the process.

Of possible evolutionary interest is the fact that the larvae of *porteri* construct a case considerably shorter than the body. In the majority of the Limnephilidae the case is longer than the body and the larva can withdraw totally inside the case, which obviously cannot be done by the larvae of *porteri*. Possibly some predator is lacking in the streams of the Juan Fernandez Islands.

Larva. Length to 18 mm., width 3 mm. Head brown, irregularly maculate with yellowish and fuscous; muscle scars darkly margined; Fig. 1. Surface of head minutely spiculate, except for muscle scars. Mouthparts as in Figs. 6-8; mandibles symmetrical. Thoracic sclerites fuscous, pronotum slightly paler, Fig. 2; entire surface, both membranous and

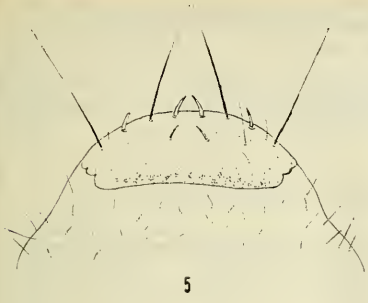


## EXPLANATION OF ILLUSTRATIONS

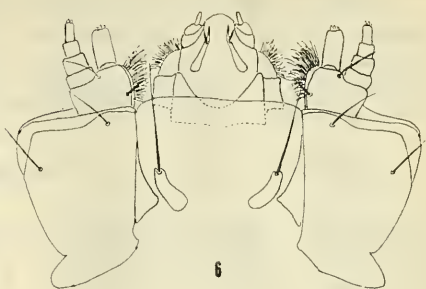
Figs. 1-4. *Magellomyia porteri* (Nav.). 1, larval head, anterior. 2, larval thorax, dorsal. 3, larval tenth segment, ventral. 4, larva and case, lateral (drawn by Elsie H. Froeschner).

Figs. 5-15. *Magellomyia porteri* (Nav.). 5, larval ninth tergum, dorsal. 5, larval maxillolabium, ventral.

7, larval labrum, dorsal. 8, larval mandible, ventral. 9, larval hind femur and trochanter, posterior. 10, larval mid femur and trochanter, posterior. 11, larval fore femur and trochanter, posterior. 12, pupal mandible, dorsal. 13, pupal apical processes, dorsal. 14, pupal labrum, dorsal. 15, pupal hook plates, dorsal (indicating segment and anterior or posterior position).



5



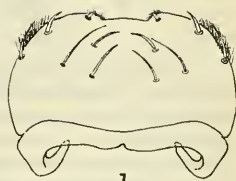
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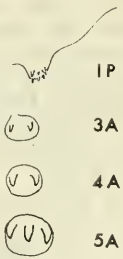
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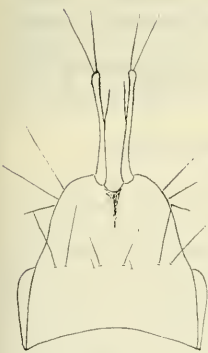


1P

3A

4A

5A



13



14



5P



6A



7A

15

sclerotized, densely covered with minute spicules. Prosternal horn as long as gular suture; prosternal plate present. Spacing humps of first abdominal segment low; segment with many setae, larger of which arise from small sclerites. First, ninth, and tenth abdominal

segments covered with minute spicules, anterior half of second and eighth segments with more scattered, very minute spicules. Gills densely branched; diagram representing numbers found on one specimen and undoubtedly subject to much variation:

GILL DIAGRAM

I	II		III		IV		V		VI		VII		VIII	
	19	28	25	19	17	13	15	8	10	6	10		3	3
	8		6		2									
		10		6										
	20	25	19	22	13	17	12	11	10	11	10		6	5

Oval sclerotized rings present ventrally on segments 2-7. Segments 8-10 with numerous short setae. Ninth tergum and tenth segment as in Figs. 3, 5.

Pupa. Length 13-16 mm., width 2-3 mm. Labrum and mandible as in Figs. 12, 14. Head with one seta between mandible and eye, 3 pairs on face, 1 pair between bases of antennae, and 2 pairs posteriorly. Second antennal segment with about 8 small setae dorsally. Forecoxae with 8-10 setae, midcoxae with 10-12 setae. Swimming fringe well developed on tarsi of midlegs. Hookplates as in fig. 15; those of female averaging 1-2 more hooks per plate. Gills essentially as in larvae. Apical processes as in Fig. 13.

Case. Length to 13 mm., width 4 mm. Constructed firmly of sand grains. Cylindrical, slightly tapered and curved. Larval case shorter than larva, so that both head and thorax and apical abdominal segments project from

their respective ends; Fig. 4. Pupal case 20 mm. by 7 mm. Constructed loosely of large sand grains. Cylindrical, completely enclosing the pupa. Without anterior or posterior sieve membranes.

Material: Islas Juan Fernández, Masatierra, Plazoleta del Yunque, 12 April 1967, T. Cekalovic K., 2 ♂ 4 ♀. Estero en Punta Pangal, 5 April 1967, T. Cekalovic K., 20 larvae, 2 prepupae, 11 ♂ 7 ♀ pupae.

Other than from Masatierra, the species is known only from the two female types from Valparaiso on the Chilean mainland.

## LITERATURE CITED

- SCHMID, F. 1952. Los insectos de las Islas Juan Fernández. 4. Trichoptera. Rev. Chilena Ent. 2: 29-34.
- 1955. Contribución a l'etude des Limnophilidae (Trichoptera). Mitt. Schweiz. Ent. Ges. 28 (suppl.): 1-245.