

## Studies of Neotropical Caddisflies, XLIII : Trichoptera collected in Chile by S. JACQUEMART from 1975 to 1977

by Oliver S. FLINT, Jr.

### Abstract

Twenty species of Trichoptera are recorded from mainland Chile, the Juan Fernandez Islands and the Island of Mocha. *Oxyethira (Oxytrichia) inaequispina* n. sp., from El Loa Province, Chile, is described and the male figured, and the male of *Ochrotrichia (Metrichia) thirysae* (JACQUEMART) is refigured (family Hydroptilidae). In the genus *Mastigoptila*, *Antoptila duplicicornuta* SCHMID is synonymized with *Mortoniella ruizi* NAVÁS (family Glossosomatidae).

**Key-words :** Trichoptera, *Oxyethira*, *Ochrotrichia*, *Mastigoptila*, Chile.

### Résumé

Vingt espèces de Trichoptera sont signalées sur le continent chilien, les Iles Juan Fernandez et l'île de Mocha. L'espèce *Oxyethira (Oxytrichia) inaequispina* n. sp., de la province El Loa, Chili, est décrite et le mâle figuré; le mâle de *Ochrotrichia (Metrichia) thirysae* (JACQUEMART) est redessiné (famille des Hydroptilidae). A l'intérieur du genre *Mastigoptila*, *Antoptila duplicicornuta* SCHMID est mis en synonymie avec *Mortoniella ruizi* NAVÁS (famille Glossosomatidae).

**Mots-clés :** Trichoptera, *Oxyethira*, *Ochrotrichia*, *Mastigoptila*, Chili.

Serge JACQUEMART of the Institut Royal des Sciences Naturelles de Belgique made several collecting trips to Chile, where, to judge from his station notes, he concentrated on collecting soil arthropods, caddis flies and other aquatic insects. His first trip began on the last days of December, 1974, and ended in early April, 1975. On this trip he travelled widely in southern Chile and Argentina, reaching as far south as Punta Arenas on the Straits of Magellan, after which he apparently travelled to Easter Island. In 1976 he spent about a month on the Juan Fernandez Islands, primarily on Robinson Crusoe (Masatierra), but also a few days on Alexander Selkirk (Masafuera). That year he also collected (dates unknown) on Easter Island, Peru and northern Chile. His final trip to Chile was from mid-September to the end of December, 1977. This trip was mostly in northern Chile, from Arauco north to Santiago, and in the Province of El Loa, with a visit to the Island of Mocha. Thus, in these three trips he covered Chile from the Straits of Magellan to Peru, and the Islands of Mocha, Robinson Crusoe, Alexander Selkirk and Easter. He died in 1980, before finishing work on the Trichoptera

taken on these travels; only a short paper [JACQUEMART 1980b] on the immature stages of *Magellomyia masatierra* (SCHMID) and *M. masafuera* (SCHMID), and a second [JACQUEMART 1980a] describing *Ochrotrichia (Metrichia) thirysae* (JACQUEMART) resulted from his field work. In 1981, Dr. G. MARLIER suggested that I complete the study of the Trichoptera taken on these expeditions and prepare a report on them. This offer was most kindly renewed by Dr. B. GODDEERIS when my report was finally completed. The Trichopterous fauna of Chile has been studied extensively in recent years by FLINT, HOLZENTHAL and SCHMID; consequently the majority of species are described, although their distributions are still only partially known. The material collected by JACQUEMART helps fill in the recorded distributions of a number of species, and adds the first records from far northern Chile and the Island of Mocha (38°22'S, 73°54'W), both previously unexplored. The collections from the Province of El Loa, in the mountains northeast of Antofagasta, reveal a rather depauperate fauna: only the hydrobiosid *Cailloma lucidula* (ULMER), and the hydroptilids *Ochrotrichia thirysae*, *O. neotropicalis* (SCHMID), *Oxyethira inaequispina* new species, and *Neotrichia* species being found. The leptocerid *Triplectides jaffueli* NAVÁS and larvae of a species of the hydropsychid genus *Smicridea* were found on Mocha. Some material was kept for the National Museum of Natural History (indicated by the initials NMNH), and the remainder has been returned to the Institut Royal des Sciences Naturelles de Belgique (IRSNB). His station notes, a copy of which were sent to me by Dr. MARLIER, are rather incomplete, often lacking dates, provinces, and utilizing local place names that are often difficult to locate. I have placed most of the collecting sites closely enough so that I could add their provincial locations, and may have added further locality data (within brackets), and attempted to at least bracket the collecting date.

### Family Hydrobiosidae *Cailloma lucidula* (ULMER)

*Atopsyche lucidula* ULMER, 1909: 73.  
*Cailloma lucidula* (ULMER). - FLINT, 1974a: 476-480.

This species is widely distributed in Chile and Argentina, northwardly from Santiago and Mendoza, respectively, and in Bolivia, Peru and Ecuador. This collection from the Province of El Loa is the northernmost collection known for Chile. They are also interesting in that the female pupae have short wingpads, a condition not hitherto known in the genus.

*Material :*

Chile, Prov. El Loa, Tumbre [23°21'S, 67°48'W], 3200 m, October 1977, S. Jacquemart Mission 1977, station 14, 1 ♂ adult, prepupae, pupae, 5 ♂♂ and 8 ♀♀ metamorphotypes (2 larvae, 2 ♂♂ and 3 ♀♀ metamorphotypes NMNH).

**Cailloma pumida** Ross

*Cailloma pumida* Ross, 1956 : 125. - FLINT, 1974a : 480-482.

This species is found primarily south of the range of *C. lucidula*, but does overlap with it between the Provinces of Elqui and Santiago in Chile. Although I cannot separate the females of the two species, the specimen here recorded is from far to the south of the known range of *lucidula* and may thus be ascribed to *pumida* with confidence.

*Material :*

Chile, Prov. Osorno, [Route 215], toward Parque Nacional Puyehue, [end of January] 1975, S. Jacquemart Mission 1975, station 52A, 1 ♀.

**Metachorema griseum** SCHMID

*Metachorema griseum* SCHMID, 1957 : 383.

The species is common in Chile south from the Province of Curicó and in the lakes region of adjacent Argentina.

*Material :*

Chile, Prov. Bío-Bío, falls of the Laja, 10 January 1975, S. Jacquemart Mission 1975, station 4A, 2 ♂♂ and 1 ♀.

**Neoatopsyche chilensis** SCHMID

*Neoatopsyche chilensis* SCHMID, 1955a : 126.

As with the previous species, this too is common in Chile from the Province of Curicó south and in the lakes region of adjacent Argentina.

*Material :*

Chile, Prov. Bío-Bío, falls of the Laja, 10 January 1975, S. Jacquemart Mission 1975, station 4A, 4 ♂♂.

**Family Glossosomatidae**  
**Mastigoptila ruizi** (NAVÁS)

*Mortoniella ruizi* NAVÁS, 1933 : 110.

*Antoptila duplicicornuta* SCHMID, 1964 : 311 (New Synonymy).

*Mastigoptila ruizi* (NAVÁS) - FLINT, 1974b : 86.

In 1975 I studied the type series of *M. ruizi* located in the Deutsches Entomologische Institut (now Institut für Pflanzenschutzforschung der Akademie der Landwirtschaftswissenschaften der DDR, Abteilung der Insekten), Eberswald, DDR, and labeled a lectotype, which designation has not been published until now. The lectotype and 7 males with identical data are all the species more recently described as *duplicicornuta*; an additional 3 males in the series are *M. brevicornuta* SCHMID.

The species is common in Chile from the Province of Choapa south to Chiloé and in adjacent Argentina.

Lectotype male, labeled : "Bío-Bío : Chile Ruiz Coll. I. 28", "A. Faz : Chile", "Mortoniella Ruizi Nav. P. Navas S.J. det.", "Típo", "LECTOTYPE ♂ *Mortoniella ruizi* Navas By Flint 1975". In collection D.E.I.

*Material :*

Chile, Prov. Bío-Bío, falls of the Laja, 10 January 1975, S. Jacquemart Mission 1975, station 4A, 3 ♂♂ and 4 ♀♀.

**Family Philopotamidae**  
**Dolophilodes (Sortosa) chilensis** (NAVÁS)

*Dolophilus chilensis* NAVÁS, 1918a : 10.

*Sortosa chilensis* (NAVÁS) - SCHMID, 1949 : 316.

The species is frequently collected near small, forested streams over much of Chile and adjacent Argentina. It is known from the Province of Petorca south into Palena in Chile.

*Material :*

Chile, Prov. Arauco or Malleco, Parque Nacional de Contulmo [this National Park straddles the provincial border just east of Contulmo], 17 December 1977, S. Jacquemart Mission 1977, station 53, 6 ♂♂ and 2 ♀♀.

**Family Polycentropodidae**  
**Polycentropus** sp.

There are seven species of *Polycentropus* described from Chile. All are based on the structure of the male genitalia; the females have not been differentiated yet. Thus the specimen cannot be determined to species at this time.

*Material :*

Chile, Prov. Cautín, toward Lake Tilquilca [en route between Lake Caburga and Villarrica], [between 12 and 14] January 1975, S. Jacquemart Mission 1975, station 9, 1 ♀.

**Family Hydroptilidae**  
**Neotrichia sp.**

Only a single species of this genus has been recorded from Chile, *N. chilensis* FLINT. It, however, is only recorded from the Province of Linares in Chile and Neuquén in Argentina, far to the south of El Loa where this material was taken. It seems quite probable that these belong to a second species, but lacking males it is impossible to identify them with certainty.

*Material :*

Chile, Prov. El Loa, Tumbre [23°21'S, 67°8'W], 3200 m, October 1977, S. Jacquemart Mission 1977, station 14, larvae, prepupae, pupae, 3 ♀♀ metamorphotypes. Prov. El Loa, Guatín, Puritama brook, circa 3200 m, 1 November 1977, S. Jacquemart Mission 1977, station 24, 1 larva, 4 pupae, empty cases.

**Ochrotrichia (Metrichia) thirysae (JACQUEMART)**  
Figures 1, 2

*Metrichia thirysae* JACQUEMART, 1980a : 303-318.

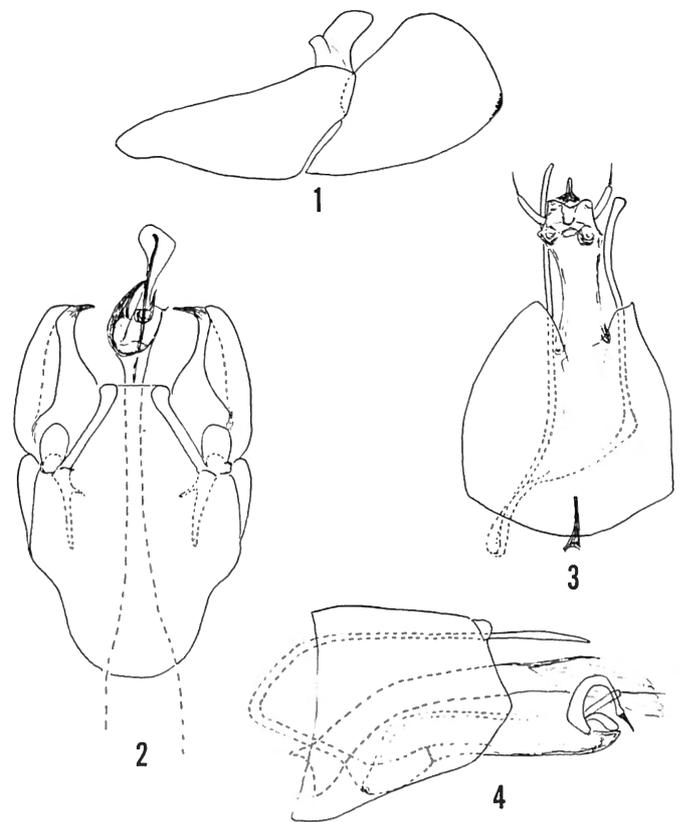
This was the only trichopterous species described by JACQUEMART from his trips to Chile in 1975, 1976 and 1977. It is remarkably similar to *O. argentinica* (SCHMID), indeed, I cannot see any clear differences between the two in the structure of the phallus or elsewhere in the male genitalia. The one obvious distinction is the presence of an annulate, eversible sac in the abdomen opening between segments 5 and 6 in *thirysae*. This sac is totally absent in the type of *argentinica* and in the other examples I have seen of that species from the provinces of Catamarca, Salta and Tucumán in Argentina. I am here figuring the male genitalia of a specimen (from 1977, station #24-25) that is not slide mounted, it is less distorted than that originally figured.

The types were stated to be from the valley of the Río Azapa in northern Chile [JACQUEMART 1980a, p. 303], and he further stated [ibid, p. 306] that the expedition took place from July to November 1976, mostly in Peru but that they ended in northern Chile. I find a town Azapa and Quebrada Azapa in the northernmost province of Chile, Arica, which is undoubtedly the type locality. I have examined a slide marked holotype and 5 marked paratypes, that are actually syntypes as no holotype was ever designated in the original description. I hesitate to designate a lectotype, however, as there is confusion in the labelling of material. The putative types bear the standard printed label "CHILI, Station, 1977, I.G. 25.765", with handwritten, "Vallee d'Azapa, 19 [after Station], Calana [sic], Rio Loa, 25.10.1977". This would seem to contain data from two different trips: Vallee d'Azapa, the published locality from the 1976 trip, and the remainder from station 19 of the 1977 trip. There is, however, another series of 30 slides with printed labels indicating "CHILI, Station, 1976, I.G. 25.518", and a handwritten "53" after

Station. As I do not have access to the field notes for this 1976 trip, on which *thirysae* probably was collected, I cannot tell where these were taken. There are also more slides labelled for 1977 stations 22 and 24-25. There is no way for me to be certain as to which of these lots is actually the type series; this, however, is of no practical consequence as all seem to be the same species.

*Material :*

Chile, Prov. El Loa, Río Loa, Calama, 25 October 1977, S. Jacquemart Mission 1977, station 19, 9 ♂♂ and 4 ♀♀ adults, 1 ♀ metamorphotype, plus many larvae and pupae this or the next species. Prov. El Loa, brook of Toconao, 30 October 1977, S. Jacquemart Mission 1977, station 22, ♂♂ and ♀♀ metamorphotypes, plus many larvae and pupae (25 larvae and pupae NMNH). Prov. El Loa, Puritama brook, Guatín, circa 3200 m, 1 November 1977, S. Jacquemart Mission 1977, stations 24 & 25, 34 ♂♂ adults, 1 ♂ and 1 ♀ metamorphotypes, plus many larvae and pupae (5 ♂♂ NMNH).



Figs. 1-4. — *Ochrotrichia (Metrichia) thirysae* Jacq.: 1. Male genitalia, lateral, without phallus; 2. Male genitalia, dorsal, with phallus. *Oxyethira (Oxytrichia) inaequispina*, n. sp.; 3. Male genitalia ventral; 4. Male genitalia, lateral.

### **Ochrotrichia (Metrichia) neotropicalis (SCHMID)**

*Metrichia neotropicalis* SCHMID, 1958 : 195.

*Ochrotrichia (Metrichia) argentinica* SCHMID. - FLINT 1967a : 56 (misidentification).

*Ochrotrichia (Metrichia) neotropicalis* (SCHMID). - FLINT 1980 : 216.

This species is often collected with either the previous species or *O.(M.) argentinica* (SCHMID), but its known range is greater. It has been taken from as far south as the province of Talca in Chile and Mendoza in Argentina, with scattered records almost as far north as Cuzco in Peru.

#### *Material :*

Chile, Prov. El Loa, Tumbre [23°21'S, 67°48'W], 3200 m, October 1977, S. Jacquemart Mission 1977, stations 12-14, 3 ♂♂ adults on slides, 1 ♂ and 1 ♀ metamorphotypes, larvae, prepupae, pupae (25 larvae and pupae NMNH). Prov. El Loa, Río Loa, Calama, 25 October 1977, S. Jacquemart Mission 1977, stations 19-20, 12 ♂♂ and 6 ♀♀ adults in alcohol, 9 ♂♂ and 2 ♀♀ adults on slides (4 ♂♂ and 3 ♀♀ NMNH).

### **Oxyethira (Oxytrichia) inaequispina, n. sp.**

Figures 3, 4

This species belongs to the *aeola* group [KELLEY 1984] and is very closely related to the common Chilean *bidentata* Mosely. Although differences may not be apparent at first sight, the male genitalia offer clear-cut differences upon microscopic examination. In *bidentata* the eighth segment is longer and the posterior margin is very clearly and deeply cleft into two almost equal lobes, the long, whiplike processes of the anterolateral angles of the ninth sternum are of equal length and shape, the inferior appendages are fused into a single lobe, and most other structures differ slightly in shape.

#### *Adult :*

Length of body, 2.5-3 mm. Antennae of about 35 segments. Color unknown; all material completely cleared. Male genitalia : Seventh sternum with a distinct apicomesal process. Segment eight in lateral aspect about as long as high, posterior margin produced ventrolaterally. Ninth sternum with dorsolateral rods very unequally developed, consequently the anterior margin is strongly skewed to the left in ventral aspect; left rod first looping forward into segment seven, then posteriad beyond segment eight, right rod produced directly posteriad and extending beyond segment eight, a little shorter than left rod. Inferior appendages born from an elongate basal area, apex slightly upturned, in ventral aspect distinctly bifid. Subgenital plate C-shaped in lateral aspect, in ventral aspect divided laterally, arms united apically, with a short apicomesal process. Arms of bilobed process semimembranous, elongate, each with an apical seta. Phallus an elongate, slightly

curved, sclerotized tube, with a more strongly sclerotized dorsal plate subapically, apex, membranous.

#### *Holotype, male :*

Chile, Prov. El Loa, brook of Toconao, 30 October 1977, S. Jacquemart Mission 1977, station 22, slide mounted 1 ♂. Collection IRSNB. Paratypes : Same data, 1 ♂ on slide (IRSNB), 1 ♂ in alcohol (NMNH). Other : Same data, 4 pupae on 3 slides, plus 36 pupal cases either empty or with prepupae or pupae, in alcohol (10 prepupae and pupae NMNH).

#### *Remarks :*

All the types are mature male metamorphotypes, removed from their pupal cases. The pupal cases are typical of those constructed by *Oxyethira*. The prepupae are typical for the genus in their gross morphology, their sclerites pale yellowish, with the thoracic nota marked with fuscus along their lateral margins and posterolateral angles.

### **Family Hydropsychidae**

#### **Smicridea (Smicridea) frequens (NAVÁS)**

*Rhyacophylax frequens* NAVÁS, 1930 : 362.

*Smicridea (S.) frequens* (NAVÁS). - FLINT, 1989 : 23.

The Chilean species of *Smicridea* have just been monographed by FLINT [1989], which should be consulted for a full bibliography, distribution and figures. This species is common in Chile from the province of Elqui on the north to Aisén on the south, with further records from the provinces of Chubut, Neuquén and Río Negro in Argentina.

#### *Material :*

Chile, Prov. Bío-Bío, falls of the Laja, 10 January 1975, S. Jacquemart Mission 1975, station 4A, 1 ♂.

#### **Smicridea (Smicridea) penai FLINT**

*Smicridea (S.) penai* FLINT, 1989 : 17.

This species was recently described from Chile where it is known from the Province of Curicó on the north to Chiloé in the south. It seems to be most frequently found in wet, forested sites.

#### *Material :*

Chile, Prov. Cautín, toward Lake Tilquilca [en route between Lake Caburga and Villarrica], [between 12 and 14] January 1975, S. Jacquemart Mission 1975, station 9, 1 ♂.

#### **Smicridea species**

Here are recorded some larvae of an unknown species of the genus *Smicridea*, which contains at least 15 species

in Chile. The identification of the various species in the larval stage has not yet been worked out.

This is a very interesting record, as it represents the only known collection from the Island of Mocha, which is situated 35 km off the coast at the level of Punta Tirúa, Arauco. Jacquemart's note for this station indicate it to be the "unique cours d'eau, ruisseau rapide, coulant sous couvert d'*Aristotelia* et de *Fuchsia*."

*Material :*

Chile, [Prov. Arauco or Cautín?], Isla Mocha, [between 25 and 27] November 1977, S. Jacquemart Mission 1977, station 37, 7 larvae (3 larvae NMNH).

**Family Limnephilidae**  
***Magellomyia porteri* (NAVÁS)**

*Halesus porteri* NAVÁS, 1907 : 397.

*Australomyia masatierra* SCHMID, 1952 : 29. - JACQUEMART, 1980b : 1-11.

*Magellomyia porteri* (NAVÁS). - SCHMID, 1955b : 54. - FLINT, 1968 : 61-64.

This species is endemic to Robinson Crusoe Island (previously Masatierra), and appears to be the only species of caddisfly on the island. The adults and immature stages are well known, both FLINT [1968] and JACQUEMART [1980b] describing the larvae and pupae of this species. The material here reported upon is apparently additional to that on which JACQUEMART based his descriptions.

*Material*

Chile, Juan Fernandez Islands, Robinson Crusoe Island, under the road to El Camote, 240 m, 14 March 1976, S. Jacquemart Mission 1976, station 4, 1 larva. Robinson Crusoe Island, "Agua Bueno", spring in a depression, 15 March 1976, S. Jacquemart Mission 1976, station 10, 1 larva. Robinson Crusoe Island, Puerto Ingles, 100 m, 20 March 1976, S. Jacquemart Mission 1976, station 30, 3 larvae.

***Magellomyia stenoptera* SCHMID**

*Magellomyia stenoptera* SCHMID, 1955a : 143.

This species is recorded from the Province of Santa Cruz in southern Argentina, and the Provinces of Aisén and Magallanes in southern Chile. This record is also far to the south in Chile.

*Material :*

Chile, Prov. Última Esperanza, road toward Torres del Paine, [between 18 and 22] February 1975, S. Jacquemart Mission 1975, station 96, 1 ♂ and 1 ♀.

**Family Leptoceridae**  
***Brachysetodes* sp.**

This is a genus of ten species that was recently revised by HOLZENTHAL [1986]. He described and figured the males and known females of all species and the larva and pupa of *B. forcipatus* SCHMID. Differences have not been discovered between the larvae or pupae of the various species, and unfortunately, the genitalia of the single female metamorphotype here recorded was lost before the specific identification could be made.

I cannot identify with certainty the location where this collection was made. My gazetteer of Chile lists no locality "Angostrura", but many Angosturas. Because he further noted for this locality "Route vers Santiago", I wonder if it is the tunnel and toll station "Angostura" on Route 5, about 57 kilometers south of Santiago.

*Material :*

Chile, [Prov. unknown], "Angostrura, route vers Santiago", 19 September 1977, S. Jacquemart Mission 1977, station 32, 1 ♀ pupa, 9 cases.

***Triplectides jaffueli* NAVÁS**

*Triplectides jaffueli* NAVÁS, 1918a : 9 - HOLZENTHAL, 1988 : 198.

This is one of the more frequently encountered caddisflies in Chile, being known from the Province of Santiago in the north to Chiloé in the south, and in the Argentine provinces of Neuquén, Río Negro and Chubut. The male, female, larva and pupa were fully described by HOLZENTHAL [1988], who also gives its full synonymy and distribution. The following record from Mocha Island indicates it has also been able to colonize some of the closer offshore islands.

*Material :*

Chile, [Prov. Arauco or Cautín?], Isla Mocha, [between 25 and 27] November 1977, S. Jacquemart Mission 1977, station 37, 5 ♂♂ (2 ♂♂ NMNH).

**Family Calamoceratidae**  
***Phylloicus aculeatus* (BLANCHARD)**

*Macronema aculeata* BLANCHARD 1851 : 138.

*Phylloicus distans* NAVÁS, 1918b : 226. - SCHMID, 1949 : 393.

*Phylloicus aculeatus* (BLANCHARD). - FLINT, 1974b : 90.

This too, is a widespread species in Chile and adjacent Argentina, known from the Province of Los Andes in the north to Aisén in the south. Adults are frequently taken near slowly flowing sections of small streams in the forest.

*Material :*

Chile, Prov. Arauco or Malleco, Parque Nacional de

Contulmo [this National Park straddles the provincial border just east of Contulmo], 17 December 1977, S. Jacquemart Mission 1977, station 53, 1 ♂; same data, but station 54, 1 ♂.

**Family Philorheithridae**  
***Mystacopsyche longipilosa* SCHMID**

*Mystacopsyche longipilosa* SCHMID, 1964 : 329.

I have frequently swept adults of this species from vegetation along small and medium-sized streams in Chile and Argentina between the provinces of Ñuble and Llanquihue, and Neuquén and Chubut, respectively

*Material :*

Chile, Prov. Bío-Bío, falls of the Laja, 10 January 1975, S. Jacquemart Mission 1975, station 4A, 1 ♂ and 11 ♀♀.

***Psilopsyche kolbiana* ULMER**

*Psilopsyche kolbiana* ULMER, 1907 : 8. - FLINT, 1974b : 91.

This species frequently comes to lights near large rivers, often in rather open, dry terrain. It is found in Chile from just south of Santiago in the Province of Cachapoal south to the Province of Osorno and in the Provinces of Neuquén and Río Negro in Argentina.

*Material :*

Chile, Prov. Bío-Bío, falls of the Laja, 10 January 1975, S. Jacquemart Mission 1975, station 4A, 2 ♂♂ and 1 ♀.

**Family Anomalopsychidae**  
***Contulma cranifer* FLINT**

*Contula cranifer* FLINT, 1969 : 513.

This infrequently collected species was described from two localities in or near the Parque Nacional Contulmo and a locality in the Province of Cautín. The following record is the first subsequent collection, but from one of the typical localities.

*Material :*

Chile, Prov. Arauco or Malleco, Parque Nacional de Contulmo [this National Park straddles the provincial border just east of Contulmo], [17 ?] December 1977, S. Jacquemart Mission 1977, station 54, 2 ♂♂.

**Family Sericostomatidae**  
***Parasericostoma abruptum* SCHMID**

*Parasericostoma abruptum* SCHMID, 1964 : 335.

This species is known from a region restricted to the Provinces of Arauco, Concepción and Malleco in Chile.

*Material :*

Chile, Prov. Arauco or Malleco, Parque Nacional de Contulmo [this National Park straddles the provincial border just east of Contulmo], 17 December 1977, S. Jacquemart Mission 1977, station 53, 1 ♂.

***Parasericostoma ovale* (SCHMID)**

*Chrysostoma ovale* SCHMID, 1955a : 155.

*Parasericostoma ovale* (SCHMID). - SCHMID, 1957 : 393.

Unlike the preceding species, this has a wide distribution from the Province of Choapa in the north to Palena in the south of Chile and in adjacent Argentina.

*Material :*

Chile, Prov. Bío-Bío, falls of the Laja, 10 January 1975, S. Jacquemart Mission 1975, station 4A, 6 ♂♂ and 20 ♀♀.

## References

- BLANCHARD, E., 1851. Trichopteros. In C. Gay (Editor), *Historia Física y Política de Chile, Zoologie*, 6 : 135-142, Neuropteros pl. 1 & 2.
- FLINT, O.S., Jr., 1967. Studies of Neotropical Caddisflies, II : Trichoptera collected by Prof. Dr. Illies in the Chilean Subregion. *Beiträge zur Neotropischen Fauna*, 5 : 45-68.
- FLINT, O.S., JR., 1968. Studies of Neotropical Caddisflies, VII : Trichoptera from Masatierra, Islas Juan Fernandez. *Revista Chilena de Entomología*, 6 : 61-64.
- FLINT, O.S., Jr., 1969. Studies of Neotropical Caddisflies, IX : New Genera and Species from the Chilean Subregion (Trichoptera). *Proceedings of the Entomological Society of Washington*, 71 : 497-514.
- FLINT, O.S., Jr., 1974a. Studies of Neotropical Caddisflies, XIX : The Genus *Cailloma* (Trichoptera : Rhyacophilidae). *Proceedings of the Biological Society of Washington*, 87: 473-484.
- FLINT, O.S., Jr., 1974b. Checklist of the Trichoptera, or Caddisflies, of Chile. *Revista Chilena de Entomología*, 8 : 83-93.
- FLINT, O.S., Jr., 1980. VI. Trichoptera. In S.W. Roback (Editor), The Results of the Catherwood Foundation Bolivian-Peruvian Altiplano Expedition. Part, I. Aquatic Insects Except Diptera. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 132 : 213-217.
- FLINT, O.S., Jr., 1989. Studies of Neotropical Caddisflies, XXXIX : The Genus *Smicridea* in the Chilean Subregion (Trichoptera : Hydropsychidae). *Smithsonian Contributions to Zoology*, 472: 1-45.
- HOLZENTHAL, R.W., 1986. Studies in Neotropical Leptoceridae (Trichoptera), IV : A Revision of *Brachysetodes* SCHMID. *Transactions of the American Entomological Society*, 111 : 407-440.
- HOLZENTHAL, R.W., 1988. Systematics of Neotropical *Triplectides* (Trichoptera : Leptoceridae). *Annals of the Entomological Society of America*, 81 : 187-208.
- JACQUEMART, S., 1980a. Un Trichoptère Hydroptilide Nouveau du Nord du Chili : *Metrichia thirysae* sp. n. *Brenesia*, 17 : 303-318.
- JACQUEMART, S., 1980b. Description de la Larve et de la Nympe d'*Australomyia masatierra* (SCHMID) et considérations sur la Larve d'*Australomyia masafuera* (SCHMID) (Trichoptères) Provenant de l'Archipel Juan Fernandez (Chili). *Bulletin Institut royal de Sciences naturelles de Belgique*, 52 (26) : 1-11.
- KELLEY, R.W., 1984. Phylogeny, Morphology and Classification of the Micro-caddisfly Genus *Oxyethira* Eaton (Trichoptera : Hydroptilidae). *Transactions of the American Entomological Society*, 110 : 435-463.
- NAVÁS, L., 1907. Tricopteros nuevos. *Boletín de la Real Sociedad Española de Historia Natural*, 7: 397-400.
- NAVÁS, L., 1918a. Insecta Nova. III Series. *Memorie della Pontificia Accademia Romana dei Nuovi Lincei*, series II, 4 : 1-11.
- NAVÁS, L., 1918b. Insectos Chilenos. *Boletín de la Sociedad Aragonesa de Ciencias Naturales*, 17 : 212-230.
- NAVÁS, L., 1930. Algunos Insectos de Chile. Serie 4a (1). *Revista Chilena de Historia Natural*, 34 : 350-366.
- NAVÁS, L., 1933. Neurotteri e Tricotteri del "Deutsches Entomologisches Institut" di Berlino-Dahlem. *Bolettino della Società Entomologica Italiana*, 55 : 105-113.
- ROSS, H.H., 1956. Evolution and Classification of the Mountain Caddisflies. University of Illinois Press, Urbana, U.S.A. 213 pages.
- SCHMID, F., 1949. Les Trichoptères de la Collection Navás. *Eos*, 25 : 305-426.
- SCHMID, F., 1952. Los Insectos de las Islas Juan Fernández. 4. Trichoptera. *Revista Chilena de Entomología*, 2 : 29-34.
- SCHMID, F., 1955a. Contribution à la connaissance des Trichoptères Néotropicaux. *Mémoires de la Société Vaudoise des Sciences Naturelles*, 11 : 119-160.
- SCHMID, F., 1955b. Contribution à l'Étude des Limnophilidae (Trichoptera). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 28 (supplement) : 1-245.
- SCHMID, F., 1957. Contribution à l'Étude des Trichoptères Néotropicaux, II. *Beiträge zur Entomologie*, 7 : 379-398.
- SCHMID, F., 1958. Contribution à l'Étude des Trichoptères Néotropicaux, III. *Mitteilungen aus dem Zoologischen Museum in Berlin*, 34 : 183-217.
- SCHMID, F., 1964. Contribution à l'Étude des Trichoptères Néotropicaux, V. *Tijdschrift voor Entomologie*, 107 : 307-339.
- ULMER, G., 1907. Neue Trichopteren. *Notes from the Leyden Museum*, 29 : 1-53.
- ULMER, G., 1909. Argentinish Trichopteren. *Zeitschrift für Wissenschaftliche Insektenbiologie*, 5 : 73-76, 120-124.

Oliver S. FLINT, Jr.,  
 Department of Entomology,  
 National Museum of Natural History,  
 Smithsonian Institution,  
 Washington, DC 20560,  
 USA.