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

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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) thrysae (JACQUEMART) is refigured (family Hydroptilidae). In the genus Mastigoptila, Antoptila duplicicornuta SCHMID is synonymized with Mortoniella ruizi NAVAS (family Glossosomatidae).

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

Résumé

Vingt espèces de Trichoptera sont signalées sur le continent chilien, les îles 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) thrysae (JACQUEMART) est redessiné (famille des Hydroptilidae). A l'intérieur du genre Mastigoptila, Antoptila duplicicornuta SCHMID est mis en synonymie avec Mortoniella ruizi NAVAS (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) thrysae (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 thrysae, O. neotropicalis (SCHMID), Oxyethira inaequispina new species, and Neotrichia species being found. The leptocerid Triplectides jaffueli NAVAS and larvae of a species of the hydropychid genus Smicroidea 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 Hydrobiosiidae

Cailloma lucidula (ULMER)

Atopsyche lucidula ULMER, 1909 : 73.
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, 3♂♂ and 8♀♀ metamorphotypes (2 larvae, 2♂♂ and 3♀♀ metamorphotypes NMNH).

Cailloma pumida Ross


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:

Metachorema griseum Schmid


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

Material:

Neoatopsyche chilensis Schmid


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:

Family Glossosomatidae

Mastigoptila ruizi (Navás)

Mortoniella ruizi Navás, 1933: 110.
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 Pflanzen schutzforschung 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.


Material:

Family Philopotamidae

Dolophilodes (Sortosa) chilensis (Navás)

Dolophilus chilensis Navás, 1918a: 10.

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:
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:**

Ochrotrichia (Metrichia) thirysae (JaCQUEMART)

Figures 1, 2

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], Río 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:**

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:**

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 eight 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 apicomeral 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 apicomeral 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.

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:**

**Smicridea (Smicridea) penai** FLINT


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:**

**Smicridea** species

Here are recorded some larvae of an unknown species of the genus *Smicridea*, which contains at least 15 species
This is a very interesting record, as it represents the only known collection from the Island of Mocha, which is
Magallomyia porteri (NAvAS) - SCHMID, 1955b: 54. - FLINT, Material:
situated 35 km off the coast 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:

Family Limnephilidae
Magellomyia porteri (NAvAS)

Halesus porteri NAVÁS, 1907 : 397.

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

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:

Family Leptoceridae
Brachysetodes sp.

This is a genus of ten species that was recently revised by HÖLZENTHAL [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 "Angostura", 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], "Angostura, route vers Santiago", 19 September 1977, S. Jacquemart Mission 1977, station 32, 1 ♂ pupa, 9 cases.

Triplectides jaffueli NAVÁS


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 HÖLZENTHAL [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:

Family Calamoceratidae
Phylloicus aculeatus (BLANCHARD)

Macronema aculeata BLANCHARD 1851 : 138.

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
Mystacopsycche longipilosa SCHMID


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


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:**

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 February 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)


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:**
References


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., 1974b. Checklist of the Trichoptera, or Caddisflies, of Chile. Revista Chilena de Entomología, 8 : 83-93.


NAVÁS, L., 1907. Tricópteros nuevos. Boletin de la Real Sociedad Española de Historia Natural, 7 : 397-400.


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