

## TRICHOPTERA FROM MADEIRA AND THE AZORES<sup>1</sup>

By O. NYBOM<sup>2</sup>

The Swedish expedition to Madeira and the Azores in 1957, consisting of Dr. and Mrs. Per Brinck and Dr. and Mrs. Erik Dahl, collected Trichoptera at several places, imagines as well as larvae. Only the former will be dealt with here. The collection consists of 90 specimens, representing 7 species, and contributes a great deal to the knowledge of the distribution of the species in the islands. The trichopterus fauna of the islands was fairly well known already and no new species were collected. *Hydroptila maclachlani* Klap., however, not reported since Wollaston's visit to Madeira was taken at several places. It may be added that the expedition visited the islands in March and April, while other investigators collected there in November-December (Eaton), in May-July (Frey, Storå) in February-July (Lindberg) and in June-July (Lundblad).

In the following list all records of these insects from Madeira and the Azores have been included.

The collection is deposited in the Entomological Museum of the University of Lund (Sweden).

### *Rhyacophilidae*

#### *Pseudagapetus punctatus* (Hagen)

*Agapetus punctatus* Hag., Stett. Ent. Zeit., p. 163, 1859.

*Pseudagapetus punctatus* McLach., Rev. & Syn. Trich., p. 485, 1879.

Ma de ira: Madeira (Wollaston). — Rabaçal, Vinte e cinco Fontes (Lundblad), 25.VII. 1935, 2 ♂♂. — Risco (Lundblad). 2.VIII. 1935, 1 ♀.

Endemic species.

1) Report No. 43 from the Lund University Expedition in 1957 to the Azores and Madeira.

2) Imatra, Finland.

***Lanagapetus lundbladi*** Mosely

*Lanagapetus lundbladi* Mos., Arkiv för zoologi, 30 A No. 14, p. 5, 1938.

Madeira: Rabaçal, Vinte e cinco Fontes (Lundblad), 25.VII.1935. 1 ♂.

Endemic species.

**Hydroptilidae*****Hydroptila maclachlani*** Klapálek

*Hydroptila maclachlani* Klap., Dod. sezu. Cz. p. 177, 1890.

Madeira: Madeira (Eaton), 21.XI.1880. — Caniço (Lindberg), 30.IV.1959, 1 ♂. — Caniçal (Lindberg), 29.IV.1959, 1 ♂. — Ribeira da Lapa E of Pico do Serrado, 900 m. (Brinck - Dahl), 27.IV.1957, 2 ♂♂. — Serra de Água, 600 m. power station (Brinck - Dahl), 23.IV.1957, 1 ♀.

São Miguel: Furnas (Frey), 22.V.1938, 2 ♂♂. — Ribeira da Praia, 3 km. W of Vila Franca do Campo (Brinck - Dahl), 13.III.1957 (swept on vegetation at river), 3 ♂♂ + 3 ♀♀. — Ribeira das Três Voltas near Ribeira Chã (Brinck - Dahl), 16.III.1957, 3 ♂♂ + 1 ♀. — Caldeiras 5 km. SE of Ribeira Grande (Brinck - Dahl), 14.III.1957 (river), 2 ♂♂. — River NW of Água Retorta (Brinck - Dahl), 23.III.1957, 5 ♂♂.

Faial: Nasce Água 3 km. S of Cedars (Brinck - Dahl), 5.IV.1957, 1 ♂.

Terceira: Praia da Vitória, Fonduros (Frey), 10.VI.1938. 1 ♂.

Flores: Santa Cruz, Monte (Storå), 25.VI.1938, 2 ♂♂, 3.VI.1938, 1 ♂. — Ribeira Barqueiros (Storå), 23.VI., 26.VII.1938, 3 ♂♂ + 3 ♀♀. — Ribeira da Cruz (Storå), 16.VI.1938, 2 ♂♂. — Ribeira Fazenda (Storå), 4.VI.1938, 2 ♂♂, 20.VI.1938, 1 ♂. — Vales (Storå), 13.VI.1938, 1 ♂, 20.VI.1938, 1 ♂.

Europe, North Africa, Madeira, Azores.

***Hydroptila fortunata*** Morton

*Hydroptila fortunata* Mort., Trans. Ent. Soc. Lond., pp. 76-77, 1893.

*Hydropneuma juba* End., Zool. Anz., p. 232, 1929.

*Hydroptila fortunata* Nybom, Comm. Biol. Soc. Sc. Fenn., VIII: 14, p. 5, 1948.

Madeira: Between Câmara de Lobos and Cabo Girão (Eaton), 20.XI.1880. — Santana (Eaton), 26.XI.1880. — Funchal (Frey), 30.IV.1938, 1 ♀. — Ribeiro Frio (Storå), 3.V.1938, 1 ♀. — Rabaçal (Storå), 6.V.1938, 1 ♂. — Rabaçal, Vinte e cinco Fontes (Lundblad), 22.VII.1935, 1 ♂. — Poiso - Arieiro (Lindberg), 19.VI.1957, 1 ♂.

Madeira, Canary Islands.

**Stactobia atra** (Hagen)

*Hydroptila atra* Hag., Ent. Mon. Mag. II, p. 77, 1865.

*Stactobia atra* Mort., Trans. Ent. Soc. Lond., pp. 78-79, 1893.

Madeira: Madeira (Wollaston). — Between Câmara de Lobos and Cabo Girão (Eaton). 20.XI.1880. — Santana (Eaton). 26.XI.1880. — Risco (Lundblad). 2.VIII.1935, 2 ♀♀. — Rabaçal (Frey, Storå), 6.-7.V.1939, 4 ♂♂. — Ribeira Brava (Frey). 3.V.1938, 3 ♂♂. — Ribeiro Frio (Storå), 3.V.1938, 1 ♂. — Calheta (Frey). 6.V.1938, 1 ♂. — Rabaçal (Lindberg). 5.-7.V.1959, 1 ♀. — Ribeira da Lapa E of Pico do Serrado, 900 m. (Brinck - Dahl), 27. IV.1957 (on *Juncus* and grass, and dancing at river), 16 ♂♂. — Terreiro da Luta, 850 m. (Brinck - Dahl), 20.IV.1957 (stream), 3 ♂♂ + 2 ♀♀. — Arieiro Mts, Ribeira das Cales, 1300 m. (Brinck - Dahl), 21.IV.1957, 2 ♂♂. — Ribeiro Frio 7 km. SW of Faial, 860 m. (Brinck - Dahl), 21.IV.1957, 2 ♀♀.

Endemic species.

**Oxyethira spinosella** McLachlan

*Oxyethira spinosella* McLach., Rev. & Syn. Trich., First Add. Suppl. p. 72, 1884.

Madeira: Ribeiro Frio (Eaton), 25.XI.1880. — Santana (Eaton), 26. XI.1880.

Madeira, Grand Canary.

**Oxyethira dentata** Nybom

*Oxyethira bidentata* Nybom, Comm. Biol. Sc. Fenn. VIII, p. 9, 1948.

*Oxyethira dentata* Nybom, Comm. Biol. Sc. Fenn. XIV:9, p. 1, 1952.

São Miguel: Furnas (Frey, Storå), 20.V.1938, 2 ♂♂, 22.V.1938, 2 ♂♂ + 2 ♀♀, 24.V.1938, 3 ♂♂, 25.V.1938, 6 ♂♂, 22.VII.1938, 1 ♂, 25.VII. 1938, 2 ♂♂. — Pico da Vara (Frey), 27.VII.1938, 1 ♂. — Caldeiras 5 km. SE of Ribeira Grande (Brinck - Dahl), 14.III.1957 (rivulet), 6 ♂♂. — Pico Verde (Brinck - Dahl), 24.III.1957 (rivulet), 1 ♂. — River NW of Água Retorta (Brinck - Dahl), 23.III.1957 (on shore), 2 ♂♂. — Santa Maria Valverde (Brinck - Dahl). 20.III.1957, 1 ♂ + 1 ♀ (also pupae and cocoons).

Flores: Santa Cruz Monte (Storå) 25.VI.1938, 2 ♂♂. — Ribeira Barqueiros (Storå), 10.VI.1938, 3 ♀♀, 23.VI.1938, 6 ♂♂ + 2 ♀♀, 26.VI.1938, 6 ♂♂ + 2 ♀♀. — Ribeira Fazenda (Storå), 4.VI.1938, 3 ♀♀. — Mato, Ribeira dos Algarés (Storå), 15.VI.1938, 1 ♂. — Santa Cruz (Storå), 1.VI.1938, 1 ♀. — Ribeira d'Além da Fazenda (Brinck - Dahl), 14.IV.1957, 1 ♂ + 1 ♀.

São Jorge: Ribeira Funda (Frey), 23.VI.1938, 1 ♀.  
Endemic species.

### *Polycentropidae*

#### *Polycentropus flavostictus* Hagen

*Polycentropus flavostictus* Hag., Stett. Ent. Zeit. p. 220, 1865.

Madeira: Madeira (Wollaston). — Funchal (Eaton), 19.XI.1880. — Rabaçal (Storå), 6.V.1938, 1 ♂. — Terreiro da Luta, 850 m. (Brinck - Dahl), 20.IV.1957, 1 ♀. — Ribeira da Lapa E of Pico do Serrado 900 m. (Brinck - Dahl), 27.IV.1957, 1 ♀. — Arieiro Mts c. 1700 m. (Brinck - Dahl), 21.IV.1957, 3 ♂♂. — Queimadas (Lindberg), 24.-26.IV.1957, 2 ♂♂. 14.-16.V.1959, 1 ♂. — Ribeiro Frio (Lindberg), 14.V.1959, 2 ♂♂. — Curral das Freiras Vasco Gil (Lindberg), 8.V.1959, 1 ♀. — Bica da Cana (Lindberg), 7.V.1959, 1 ♀.

Endemic species.

### *Psychomyiidae*

#### *Tinodes cinerea* Hagen

*Tinodes cinerea* Hag., Stett. Ent. Zeit. p. 221, 1865.

Madeira: Madeira (Wollaston). — Madeira, small stream (Eaton). — Rabaçal (Lundblad), 17.VI. - 4.VIII.1935, 15 ♂♂ + 7 ♀♀. — Risco (Lundblad), 2.VIII.1935, 12 ♂♂ + 3 ♀♀. — Ribeiro Frio (Frey, Storå), 3.V.1938, 5 ♂♂. — Calheta (Frey), 6.V.1938, 1 ♂ + 1 ♀. — Rabaçal (Frey, Storå), 6. - 7.V.1938, 4 ♂♂. — Poiso-Arieiro (Lindberg), 19.VI.1957, 2 ♂♂ + 1 ♀. — Queimadas (Lindberg), 24.-26.VI.1957, 2 ♂♂ + 3 ♀♀. 14. - 16.V.1959, 4 ♂♂ + 2 ♀♀. — Valparaíso (Lindberg), 13.VI.1957, 1 ♂. — Ponta do Pargo (Lindberg), 5.VII.1957, 1 ♂ + 1 ♀. — Rabaçal (Lindberg), 3. - 4.VII.1957, 1 ♂ + 1 ♀. — Funchal (Lindberg), 25.V.1954, 1 ♂. — Pico Ruivo (Lindberg), 27. - 29.VI.1957, 1 ♂. — Ribeiro Frio (Lindberg), 14.V.1959, 2 ♂♂. — Boaventura (Lindberg), 17.5.1959, 2 ♂♂. — Curral das Freiras - Vasco Gil (Lindberg), 8.V.1959, 3 ♂♂ + 1 ♀. — Serra de Água (Lindberg), 20. - 21.IV.1959, 1 ♂. — Porto Moniz (Lindberg), 22.IV.1959, 3 ♂♂. — Bica da Cana (Lindberg), 7.V.1959, 1 ♂. — Ribeira da Lapa E of Pico do Serrado, 900 m. (Brinck - Dahl), 27.IV.1957, 11 ♂♂ + 2 ♀♀. — Santa Cruz, Ribeira Boaventura (Brinck - Dahl), 22.IV.1957, (dry ravine, under stone), 1 ♂. — Terreiro da Luta, 850 m. (Brinck - Dahl), 20.IV.1957 (stream), 1 ♂ + 1 ♀.

Endemic species.

***Tinodes grisea* Hagen***Tinodes grisea* Hag., Stett. Ent. Zeit. p. 222, 1865.*Tinodes grisea* Nybom, Not. Ent. XLIII p. 116, 1963.

Madeira: Madeira (Wollaston, Eaton). — Risco (Lundblad), 2.VIII.1935, 2 ♀♀. — Pico Ruivo (Lindberg), 27.-29.VI.1957, 1 ♂ + 1 ♀. — Queimadas (Lindberg), 24.-26.VI.1957, 1 ♀, 14.-16.V.1959, 1 ♂ + 1 ♀.

Endemic species.

***Tinodes merula* McLachlan***Tinodes merula* McLach., Rev. & Syn. Trich. First Add. Suppl. p. 57, 1884.*Tinodes merula* Nybom, Comm. Biol. Soc. Sc. Fenn. VIII 14 p. 12, 1948.

Madeira: Funchal (Eaton), 23.XI.1880. — Between Câmara de Lobos and Cabo Girão (Eaton), 20.XI.1880. — Rabaçal (Storå), 6.V.1938, 1 ♂.

Endemic species.

***Hydropsychidae******Hydropsyche maderensis* Hagen***Hydropsyche maderensis* Hag., Stett. Ent. Zeit. p. 219, 1865.

Madeira: Madeira (Wollaston). — Madeira, streams (Eaton), November. — Rabaçal, Vinte e cinco Fontes (Lundblad), 2.VIII.1935, 1 ♂ — Rabaçal (Storå), 6.V.1938, 1 ♀. — Ribeiro Frio (Storå), 3.V.1938, 2 ♂♂. — Queimadas (Lindberg), 24.-26.V.1959, 1 ♂. — Ribeiro do Lapa E of Pico do Serrado, 900 m. (Brinck - Dahl), 27.IV.1957, 1 ♂. — Terreiro da Luta, 850 m. (Brinck - Dahl), 20.IV.1957 (stream), 3 ♂♂. — Arieiro Mts, Ribeira das Cales 1.300 m. (Brinck - Dahl), 21.IV.1957, 3 ♂♂. — Casa das Queimadas, 850 m. (Brinck - Dahl), 24.IV.1957, 1 ♂.

Madeira, Canary Islands.

***Limnophilidae******Limnophilus affinis* Curtis***Limnophilus affinis* Curt., Phil. Mag. p. 123, 1834.

Madeira: Madeira (Wollaston). — Rabaçal (Lundblad), 17.VII.1935, 1 ♀. — Poiso-Arieiro (Lindberg), 19.VI.1957, 1 ♀. — Pico Ruivo (Lindberg), 27.-29.VI.1957, 1 ♂ + 1 ♀. — Ribeira da Lapa E of Pico do Serrado, 900 m. (Brinck - Dahl), 27.IV.1957, 3 ♀♀.

Palaeartic species.

***Limnophilus atlanticus*** Nybom

*Limnophilus atlanticus* Nybom, Comm. Biol. Soc. Sc. Fenn. VIII: 14, p. 16, 1948.

Faial: Caldeira (Frey, Storå), 4.VII.1936, 1 ♂ + 1 ♀.

São Jorge: Ribeira do Salto (Frey, Storå), 23.VI.1938. 2 ♂♂, 18.VI.1938, 3 ♂♂ + 2 ♀♀.

Endemic species.

***Mesophylax oblitus*** (Hagen)

*Stenophylax oblitus* Hag., Stett. Ent. Zeit. p. 217, 1865.

*Mesophylax oblitus* McLach., Rev. & Syn. Trich., First Add. Suppl. p. 10, 1884.

*Mesophylax oblitus* Nybom, Not. Ent. XLIII, p. 116, 1963.

Ma deira: Madeira (Wollaston). — Rabaçal (Lundblad), 22. VII. 1935, 1 ♂. — Rabaçal (Lindberg), 5.-7. V. 1959, 2 ♂♂ + 1 ♀. The specimens from Rabaçal are brachypterous.

Endemic species.

**General notes**

Most of the above species are endemic to one or more of the islands in question. Two species only are found elsewhere, viz. *Hydroptila mac-lachlani* Klap., which occurs in southern Europe, and *Limnophilus affinis* Curt., which has a palaearctic range from Iceland to Japan. The latter species is frequently found in coastal regions (the larva is often found in brackish water) and may be distributed by ships.

All species mentioned above except *Lanagapetus lundbladi* Mos. are congeneric with others with more or less extended distribution. Two of the genera, *Hydroptila* Dalm. and *Oxyethira* Eat. have a world-wide range. *Polycentropus* Curt., *Hydropsyche* Pict. and *Limnophilus* Leach are holarctic. The others inhabit more restricted areas. *Pseudagapetus* McLach. is confined to southern Europe. *Stactobia* Eat. is a South-European genus ranging from Spain to Persia as does *Mesophylax* McLach. which extends as far east as Hindoucouch. *Tinodes* Leach extends from northern Europe to the Mediterranean.

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