

Delgada, 5.III. (Loc. 9). 2 spp.; E of Ribeira Grande, 9.III. (Loc. 19). 10 spp. Ribeira Quente, 11.III. (Loc. 23). 1 sp.; Ribeira Seca, W of Ribeira Grande, 18.III. (Loc. 37). 11 spp.; Logoa do Fogo, 22.III. (Loc. 54). 1 sp.

Faial: Praia do Almoxarife, 31.III. (Loc. 72). 6 spp.; Baia Areia (Praia do Norte), 2.IV. (Loc. 77). 3 spp.

Europe, Madeira, Canary Islands, The Sudan, North Africa, North America, probably anthopochorous.

Hylemyia cinerella Fall.

Azores, São Miguel: Fonte da Rocha, near Relva, 5.III. (Loc. 11). 3 spp.; E of Ribeira Grande, 9.III. (Loc. 19). 10 spp.; Ribeira Quente (Furnas), 11.III. (Loc. 23). 1 sp.; Ribeira da Praia (Vila Franca), 13.III. (Loc. 27). 1 sp.; Ribeira das Três Voltas, 23.III. (Loc. 55). 1 sp.

Europe, Madeira, Canary Islands, North Africa, Syria, Formosa, North America. Probably anthropochorous.

TACHINIDAE

RHINOPHORINAE

Melanophora roralis L.

Azores, São Miguel: Ponta Delgada, 4.III. (Loc. 9). 1 sp.
Europe, North America.

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COELOPIDAE, DROSOPHILIDAE, SPHAEROCERIDAE
AND SCATOPHAGIDAE (DIPTERA, CICLORRHAPHA)
FROM THE AZORES AND MADEIRA¹

By WALTER HACKMAN²

COELOPIDAE

Malacomyia sciomyzina Hal. (*Malacomyza fucorum* Zett.)

Madeira: Funchal, 27.IV. (Loc. 126). 1 sp. (Loc. 133). 1 sp.

Previous records. Madeira (Becker, 1908). On sea shores of the Azores (Frey, 1945). Further known from the Canary Islands (Frey, 1936) and from the coasts of the Mediterranean, the Atlantic and the North Sea.

DROSOPHILIDAE

Drosophila Fall.

Drosophila immigrans Sturt.

Azores, São Miguel: São Roque, 15.III. (Loc. 30). 1 sp.

Previous records. Azores: São Miguel, Terceira, Pico (Frey 1945).

An almost cosmopolitan species and certainly introduced by man into the Atlantic Islands.

Drosophila funebris Fabr.

Azores, São Miguel: E of Ribeira Grande, 9.III. (Loc. 19). 1 sp.

¹) Report No. 11 from the Lund University Expedition in 1957 to the Azores and Madeira.

²) Zoological Museum, University, Helsingfors, Finland.

Previous records: Azores: São Miguel, Terceira, São Jorge, Flores (Frey 1945). Common species indoors and around human settlements everywhere in Europe. Most certainly introduced into the Azores by man.

Drosophila simulans Sturt.

Azores, São Miguel: São Roque, 15.III. (Loc. 30). 10 sp.

Previous records. Azores: São Miguel, Terceira (Frey 1945).

Widely distributed in the New World and introduced by man into many places in Europe.

Drosophila subobscura Collin (*D. obscura* Frey 1936, 1945, 1949, nec Fallén)

Azores, São Miguel: Furnas, hot springs, 24.III. 1 sp.

Previous records. Azores: São Miguel, Terceira, Pico, Flores (Frey 1945); Madeira (Frey 1949). Further from the Canary Isles (Frey 1936) and widely distributed in Europe.

Drosophila hydei Sturt.

Azores, São Miguel: São Roque, 15.III. (Loc. 30). 36 spp.

New to the Azores. A nearly cosmopolitan species occurring in human settlements and most probably introduced into the Azores by man.

Drosophila forcipata Collin (*D. fenestrarum* Frey 1936, 1945, 1949, nec Fallén).

Azores, São Miguel: Rib. da Praia (Vila Franca), 13.III. (Loc. 27). 2 sp.

Previous records. Azores: São Miguel, Terceira, São Jorge, Faial, Flores (Frey 1945); Madeira (Frey 1949). Further from the Canary Islands (Frey 1936), from Morocco (leg. Håkan Lindberg), from Cyprus (leg. Håkan Lindberg), and from England (type locality) and Holland (leg. Håkan Lindberg).

Scaptomyza Hardy

Scaptomyza flaveola Meig. (?*S. flava* Fall.)

Azores, São Miguel: E of Ribeira Grande 9.III. (Loc. 19). 1 sp.

Previous records. Azores: São Miguel, São Jorge (Frey 1945); Madeira

(Frey 1949). Both the grey and the yellow form of this widely distributed holarctic species occur on the Atlantic Islands. Probably introduced into the Azores with cultivated Cruciferous plants.

Scaptomyza pallida Zett. (*S. graninum* auct. nec Fallén, *Parascaptomyza disticha* Duda).

Azores, São Miguel: E of Ribeira Grande, 9.III. (Loc. 19). 8 spp.; Ribeira da Praia (Vila Franca), 13.III. (Loc. 27). 3 spp.

Faial: Praia do Almoxarife, 31.III. (Loc. 72). 5 spp.

Previous records. Azores: São Miguel, Terceira, Flores (Frey 1945); Madeira (Frey 1949). A cosmopolitan species.

Scaptomyza impunctata (Frey) (*Scaptomyzella adusta* var. *impunctata* Frey).

Azores, São Miguel: Caldeira das Sete Cidades, 21.III. (Loc. 50). 4 spp.; Furnas, 10.III. (Loc. 22). 1 sp. Caldeira SE of Ribeira Grande 14.III. (Loc. 28). 1 sp.

Previous records. Azores: São Miguel, Terceira, São Jorge, Faial, Pico, Flores (Frey 1945). Endemic Azorean species.

SPHAEROCERIDAE

Sphaerocera Latr.

Sphaerocera curvipes Latr.

Azores: São Miguel, Furnas, hot springs, 24.III. (Loc. 99). 1 sp.

Previous records. Azores: São Miguel, Faial (Frey 1945); Madeira (Frey 1949). A cosmopolitan species.

Borborus Meig.

Borborus ater Meig. (*Olinia geniculata* Macq.)

Azores: São Miguel: Ponta Delgada, 5.III. (Loc. 9). 1 sp.; Lagoa Empe-dadas, 7.III. (Loc. 14). 1 sp.; Lagoa do Pau Pique, 7.III. (Loc. 15). 1 sp.; E of Ribeira Grande, 9.III. (Loc. 19), 6 spp.; Ribeira Seca W of Ribeira Grande, 18.III. (Loc. 37). 2 spp.; S of Maia, 25.III. (Loc. 62). 3 spp.

Previous records. Azores: São Miguel, Terceira, Flores, Corvo (Frey 1945); Madeira (Frey 1949). Widely distributed in the Holarctic region.

Copromyza Fall.

Copromyza equina Fall.

Azores: São Miguel: Charco do Madeira, 1.III. (Loc. 4). 2 spp.; Lagoa Empedadas, 7.III. (Loc. 14). 1 sp.; Lagoa do Pau Pique, 7.III. (Loc. 15). 7 spp.; Ribeira Grande, 9.III. (Loc. 19). 1 sp.; S of Maia, 25.III. (Loc. 62). 8 spp.

Previous records: Azores: São Miguel, Terceira, Pico, Faial, Flores (Frey 1945). Widely distributed coprophilous species in Europe.

Leptocera Oliv.

Leptocera curvinervis Stenh. (*Limosina roralis* Rond.).

Azores: São Miguel: Ribeira Quente SE of Furnas, 11.III. (Loc. 23). 1 sp.; São Pópulo, 12.III. (Loc. 26). 1 sp.; Ribeira da Praia (Vila Franca), 13.III. (Loc. 27). 10 spp.; Ribeira Seca, 18.III. (Loc. 37). 2 spp.; Relva, Tanque da Rocha Quebrada, 15.III. (Loc. 31). 2 spp.; Ribeira das Três Voltas, 23.III. (Loc. 55). 16 spp.; Furnas, hot springs, 24.III. (Loc. 59). 2 spp. Faial da Terra: Praia do Almoxarife, 31.III. (Loc. 72). 2 spp.

Previous records. Azores: São Miguel, Terceira, São Jorge, Flores (Frey 1945); Madeira (Frey 1949). Nearly cosmopolitan species.

Opacifrons Duda

Opacifrons costatus Stenh.

Azores: São Miguel: Ribeira Quente SE of Furnas, 11.III. (Loc. 23). 1 sp.; Furnas, hot springs, 24.III. (Loc. 59). 2 spp.; S of Maia, 25.III. (Loc. 62). 1 sp. Flores: Ribeira d'Além da Fazenda, 14.IV. (Loc. 108). 1 sp.

Madeira: Funchal, Ribeiro Seco, at the mouth, 25.IV. (Loc. 125). 1 sp.

Previous records: Azores: São Miguel, Terceira, Pico, São Jorge, Faial, Flores, Corvo (Frey 1945). Madeira (Frey 1949). More or less synanthropic species and nearly cosmopolitan.

Thoracochaeta Duda

Thoracochaeta brachystoma Stenh.

Madeira: Funchal, Ribeiro Seco, at the mouth, 25.IV. (Loc. 125). 2 spp.

Further records. Madeira (Frey 1949). Azores: São Miguel, Terceira, São Jorge, Pico, Faial, Flores (Frey 1945).

A stenotopic sea shore species occurring in wrack and other shore litter. Very widely distributed in the Old and New World.

Limosina Macq.

Limosina plumosula Rod.

Azores: São Miguel: Caldeiras SE of Ribeira Grande, 14.III. (Loc. 28). 1 sp.; Ribeira das Três Voltas, 23.III. (Loc. 55). 1 sp.; S of Maia, 25.III. (Loc. 62). 1 sp.

Previous records. Azores: São Miguel, Terceira, São Jorge, Faial, Flores (Frey 1945). Madeira (Frey 1949). Also in the Canary Islands (Frey 1936). Known from Europe, Abyssinia and South America.

Limosina mirabilis Coll.

Azores: São Miguel: Furnas, hot springs, 24.III. (Loc. 59). 1 sp.; S. of Maia, 25.III. (Loc. 62). 1 sp.

Previous records. Azores: São Miguel, Faial, Flores (Frey 1945). Known also from the Canary Islands (Frey 1936) and widely distributed in Europe. Coprophilous species, most probably introduced into the Atlantic Islands by man.

Limosina fungicola Halid. (*exigua* Rond.)

Azores: São Miguel: S of Maia, 25.3. (Loc. 62). 1 sp.

Previous records: São Miguel, Terceira, São Jorge, Pico, Faial, Flores, Corvo (Frey 1945). Madeira (Frey 1949). Europe, Africa and Canary Islands (Frey 1936).

Limosina pectinifera Villen.

Azores: São Miguel: S of Maia, 23.III. (Loc. 62) 1 sp.

New to the Azores. A synanthropic species.

In Europe a rare species out-of-doors but at least in England locally comm indoors. Taken also on Iceland.

Limosina moesta Villen.

Azores: São Miguel: Ribeira Seca W of Ribeira Grande, 18.III (Loc. 37). 1 sp.

Previous record. Azores: Flores, Sta. Cruz, 16-30.VI.1938. R. Storå leg. (The specimens mentioned by Frey 1945 from the Azores belong to an other species). Further known from the Canary Islands (Hackman in Frey 1958) and from various parts of Europe.

Limosina heteroneura Halid.

Azores: São Miguel: Ribeira Seca W of Ribeira Grande, 18.III. (Loc. 37). 2 spp.; Lagoa do Fogo, 22.III. (Loc. 54). 1 sp.; Ribeira das Três Voltas, 23.III. (Loc. 55). 1 sp.

Previous records. São Miguel, Terceira, São Jorge, Pico, Flores (Frey 1945). Madeira (Frey 1949). Synanthropous almost cosmopolitan species.

Limosina brevicostata Duda

Madeira: Funchal, Ribeiro Seco, 25.VI. (Loc. 125). 1 sp.

Previous records. Madeira (Frey 1949); Azores: São Miguel, Terceira, São Jorge, Pico, Flores, Corvo (Frey 1945). Further on the Canary Islands (Frey 1936), in North and West Africa and in several parts of Europe and also recorded from Hawaii (var. *rufifrons* Duda).

Limosina bifrons Stenh. (*puerula* Rond.)

Azores: São Miguel: São Roque, 15.III. (Loc. 30). 1 sp.

Previous records: São Miguel, Faial, Flores (Frey 1945); Madeira (Frey 1949). Synanthropous cosmopolitan species.

Limosina crassimana Hal. (?=*clunipes* Meig.)

Azores: São Miguel: Charco do Madeira, 1.III. (Loc. 4). 2 spp. Lagoa do Pau Pique, 7.III. (Loc. 15). 2 spp.; Ribeira Quente SE of Furnas, 11.III. (Loc. 23). 1 sp.; Caldeiras SE of Ribeira Grande, 14.III. (Loc. 28). 5 spp.; Relva, Tanque da Rocha Quebrada, 15.III. (Loc. 31). 7 spp.; Ribeira Seca W Ribeira Grande, 18.III. (Loc. 37). 9 spp.; Ribeira das Três Voltas, 23.III.

(Loc. 55). 1 sp.; Lagoa do Fogo, 22.III. (Loc. 54). 33 spp.; Furnas hot springs, 24.III. (Loc. 59). 3 spp.; Pico Verde, 24.III. (Loc. 61). 1 sp.; S of Maia, 25.III. (Loc. 62). 3 spp.

Faial: Praia do Almoxarife, 31.III. (Loc. 72). 3 spp.; WNW of Ribeirinha, 1.IV. (Loc. 73). 3 spp.; N. of Praia do Norte, 2.IV. (Loc. 77). 4 spp.; Cabeço do Fogo, 4.IV. (Loc. 90). 7 spp.

Previous records. Azores: São Miguel, Terceira, São Jorge, Pico, Faial, Flores, Corvo (Frey 1945). Synanthropous cosmopolitan species.

SCATOPHAGIDAE

Scatophaga Meig.

Scatophaga stercoraria L. (incl. *merdaria* F.)

Azores, São Miguel: Charco da Madeira, 1.III. (Loc. 4). 144 spp.; Ponta Delgada, 5.III. (Loc. 9). 11 spp.; Lagoa Empedadas, 7.III. (Loc. 14). 1 sp.; Lagoa do Pau Pique, 7.III. (Loc. 15). 1 sp.; Caldeira das Sete Cidades, 8.III. (Loc. 18). 3 spp.; E of Ribeira Grande, 9.III. (Loc. 19). 20 spp.; Lagoa das Furnas, 10.III. (Loc. 22). 6 spp.; São Pópulo, 12.III. (Loc. 26). 2 spp.; Ribeira Quente SE of Furnas, 11.III. (Loc. 23). 1 sp.; Ribeira Seca W of Ribeira Grande, 18.III. (Loc. 37). 57 spp.; Relva, Tanque da Rocha Quebrada, 15.III. (Loc. 51). 13 spp.; Lagoa do Fogo, 22.III. (Loc. 54). 53 spp.

Faial: Praia do Almoxarife, 31.III. (Loc. 72). 8 spp.; WNW of Ribeirinha, 1.IV. (Loc. 73). 7 spp.; Cabeço do Fogo, 4.IV. (Loc. 90). 3 spp.; Caldeira, 10.IV. (Loc. 105). 1 sp.

Flores: Caldeira Comprida, 14.IV. (Loc. 109). 2 spp.

Previous records. Azores: São Miguel, Terceira, Graciosa, São Jorge, Pico, Faial (Frey 1945). Madeira (Frey 1945). Synanthropous almost cosmopolitan species.

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