

LEP-29

LEPIDOPTERAN FAUNA FROM THE ILHÉU DE VILA FRANCA, AZORES

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ABSTRACT

A list of butterflies and moths collected or observed during 21 August 1994, 14 January, 25 February and 9-10 September 1995 on Ilhéu de Vila Franca do Campo is presented. Eighteen species and subspecies, belonging to the families Gracillariidae, Cosmopterigidae, Hyponomeutidae, Pyralidae, Pieridae, Nymphalidae, Lycaenidae, Geometridae, and Noctuidae, are recorded. Although this constitutes a first record of the Lepidoptera of the Ilhéu. The taxa hereby presented are the same found in the nearby São Miguel island.

RESUMO

Neste estudo apresenta-se a lista das borboletas e traças recolhidas ou observadas em 21 de Agosto de 1994, 14 de Janeiro, 25 de Fevereiro e 9-10 de Setembro de 1995 no Ilhéu de Vila Franca do Campo. Esta lista preliminar dos Lepidópteros é constituída por dezoito espécies e subespécies pertencentes às famílias Gracillariidae, Cosmopterigidae, Hyponomeutidae, Pyralidae, Pieridae, Nymphalidae, Lycaenidae, Geometridae e Noctuidae. Todos estes taxa, embora referidos pela primeira vez para o Ilhéu de Vila Franca, encontram-se na vizinha ilha de São Miguel.

INTRODUCTION

The Azores, comprising nine islands on the mid-Atlantic Oceanic ridge, are located about 3400 km east of New York and 1400 km west of Lisbon between latitudes 36°55'-39°43'N and 25°00'-31°30'W. Just 1.200 m south of Vila Franca do Campo, São Miguel island, located at 37°42'27"N and 25°26'20"W, lies a small islet — Ilhéu de Vila Franca do Campo — with a total surface of 61.640 m². It is a drowned volcanic crater with a central lagoon, connected with the sea by a narrow channel and several fissures.

Ilhéu de Vila Franca is a nature reserve and Martins (1978) has described the general topography of

the islet, its vegetation, bird life and marine basommatophoran gastropods. The geomorphology and basic intertidal ecology of the lagoon was described during the first International Workshop of Malacology (Morton, 1990).

The present paper deals with Lepidoptera records obtained during four visits to Ilhéu de Vila Franca. Such visits intended to provide complementary information on the knowledge of Azorean Lepidoptera. The lepidopteran fauna of Ilhéu de Vila Franca was never investigated, and comparison with specimens of the nearby São Miguel and of the other Azorean islands could prove to be of interest.

The isolation of Ilhéu de Vila Franca, and the comparatively small percentage of the total surface covered with wild plants and other vegetation (e.g., inner slopes terraced for vineyards although this is no longer practiced), are expected to influence the presence of Lepidoptera species and their hostplants.

METHODS

During fieldwork at Ilhéu de Vila Franca do Campo (21 August 1994, 14 January, 25 February and 9-10 September 1995) two basic techniques were used to collect Lepidoptera specimens: (i) an entomological net, for moths and butterflies; (ii) the direct observation of various host plants (exotic and endemic), for larval instars.

Lepidoptera families and species are listed and named following Le-rault (1980). For each species, capture date and number of specimens (=spec/specs) captured or observed are given. Additional records of the taxa in the Azores, distribution following Vieira & Pintureau (1991, 1993), and some ecological data are also given.

LIST OF SPECIES

Gracillariidae

Gracillariinae

Caloptilia Hübner (1825)

Caloptilia aurantiaca
(Wollaston, 1858)

Ilhéu de Vila Franca: 14.I.95 and

25.II.95, various specs. Larvae mining in *Myrica faya* Aiton (Myricaceae).

Additional records: *Caloptilia aurantiaca* (Wollaston) (Carvalho, 1982, 1992; Vieira & Tavares, this vol.).

Distribution: São Miguel, Terceira, São Jorge, Pico, Corvo.

Cosmopterigidae

Cosmopterigidae

Cosmopterix Zeller, 1839

Cosmopterix parietariae Hering, 1931

Ilhéu de Vila Franca: 14.I.95 and 25.II.95, various specs. Several adults and larvae mining *Parietaria judaica* L. (Urticaceae).

Additional records: *Cosmopterix parietariae* Hering (Carvalho, 1992; Silva, pers. comm.; Vieira, pers. obs.).

Distribution: São Miguel, Terceira.

Hyponomeutidae

Argyresthiinae

Argyresthia Hübner (1825)

Argyresthia atlanticella
Rebel, 1940

Ilhéu de Vila Franca: 21.VIII.94, various specs. *A. atlanticella* larvae mining *M. faya* and *Erica scoparia* ssp. *azorica* (Höchst.) D.A. Webb (Ericaceae) flowers. *hibited*

Additional records: *Argyresthia atlanticella* Rebel (Rebel, 1940; Carvalho, 1982, 1992; Vieira & Silva, in press; Vieira & Pintureau, 1993; Vieira, 1994; Vieira & Tavares, this vol.).

Distribution: Santa Maria, São Miguel, Terceira, São Jorge, Pico, Faial, Flores, Corvo.

Pyrallidae
Pyraustina
Udea Guenée

Udea fe

Ilhéu de Vi

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Flores, Corvo

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valho, 1982,

Distributio

Faial, Flores

Hymenia H

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Additional

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Sousa, 1991.

Distributio

Terceira.

Larvae min-
iton (Myrica-

aloptilia auran-
ho, 1982, 1992;
i.).

el, Terceira, São

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14.I.95 and
Several adults
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21.VIII.94, va-
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rica scoparia
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gyresthia atlan-
940; Carvalho,
Silva, in press;
Vieira, 1994;
l.).

ria, São Miguel,
o, Faial, Flores,

Pyralidae

Pyraustinae

Udea Guenée, 1845

Udea ferrugalis Hübner, 1796

Ilhéu de Vila Franca: 14.I.95, various
specs; 25.II.95, 2 specs; 9.IX.95, 4
adults flying. Several adults of this
species flying on the islet. Larvae
feed on various Poaceae.

Additional records: *Botys ferruginalis*
Hbn (Godman, 1870). *Pionea ferrugalis*
Hübner (Rebel, 1940). *Udea ferrugalis*
(Hübner) (Carvalho, 1982, 1992 Vieira &
Tavares, this vol.).

Distribution: Santa Maria, São Miguel,
Terceira, Graciosa, São Jorge, Pico, Faial,
Flores, Corvo.

Nomophylla Hübner, 1825

Nomophylla noctuella

(Denis & Schiffermüller, 1775)

Ilhéu de Vila Franca: September 9
and 10, 1 adult each day, on grasses
of Poaceae.

Additional records: *Nomophylla noctu-*
ella (Denis & Schiff.). (Rebel, 1940; Car-
valho, 1982, 1992.

Distribution: São Miguel, Terceira,
Faial, Flores.

Hymenia Hübner

Hymenia recurvalis

(Fabricius, 1775)

Ilhéu de Vila Franca: September 9
and 10, several adults each day.

Additional records: *Hymenia recurva-*
lis (Fabricius, 1775). (Carvalho, 1982;
Sousa, 1991.

Distribution: Santa Maria, São Miguel,
Terceira.

Pieridae

Coliadinae

Colias Fabricius, 1807

Colias crocea (Geoffroy in
Fourcroy, 1785)

Ilhéu de Vila Franca: 21.VIII. 94, 1
specimen flying; 10.IX.95, forma
helice Hübner, flying. Larvae feed
on Leguminosae of which *Trifolium*
sp. and *Lotus* sp. exist in Ilhéu de
Vila Franca, although larvae were not
observed.

Additional records: *Colias edusa* F.
(Godman, 1870; South, 1894; Rebel,
1917). *Colias croceus* Fourc. (Bernardi,
1961). *Colias crocea crocea* Geoff.
(Steiniger, 1976). *Colias crocea* Fourc.
(Rebel, 1940; Carthy, 1957; Marsden &
Wright, 1971). *Colias crocea* Geoff.
(Leestmans, 1975; Sousa, 1991; Meyer,
1991a; Vieira & Pintureau, 1991; Viei-
ra, 1994; Vieira & Tavares, this vol.).

Distribution: Santa Maria, São Miguel,
Terceira, Graciosa, São Jorge, Pico, Faial,
Flores, Corvo.

Pierinae

Pieris Schrank, 1801

Pieris brassicae azorensis
Rebel, 1917

Ilhéu de Vila Franca: August 94, 2
specs flying. Larvae feed of various
Brassicaceae. Since plants of this
family were not found in the islet,
and larvae were not found associated
with the remaining vegetation, this
could be an immigrant species.

Additional records: *Pieris brassicae* L.
(Morelet, 1860; Drouët, 1861; Godman,
1870; South, 1894; Carneiro, 1982).
Pieris brassicae ab. chariclea Stph.
(Warren, 1905). *Pieris brassicae brassi-*

cae L. (Bernardi, 1961). *Pieris brassicae azorensis* Rbl. (Rebel, 1917, 1940; Carthy, 1957; Marsden & Wright, 1971; Leestmans, 1975; Steiniger, 1976; Carvalho, 1982; Sousa, 1991; Meyer, 1991a; Vieira & Pintureau, 1991; Vieira, 1994; Vieira & Tavares, this vol.).

Distribution: "Habite tout l'archipel. Common." (Drouët, 1861), "eastern, central and western groups" (Godman, 1870), Santa Maria, São Miguel, Terceira, Graciosa, São Jorge, Pico, Faial, Flores, Corvo.

Nymphalidae

Nymphalinae

Vanessa Fabricius, 1807

Vanessa atalanta (Linnaeus, 1758)

Ilhéu de Vila Franca: 14.I.95, 1 adult; 25.II.95, ten adults flying and several larvae on *Urtica membranacea* Poiret (Urticaceae). One adult caught on *Lantana camara* L. (Verbenaceae). The presence of the larva's preferential hostplants, *U. membranacea* and *P. judaica*, assures the existence of this lepidopteran on the islet.

Additional records: *Pyrameis atalanta* L. (Godman, 1870; South, 1894; Rebel, 1917, 1940). *Vanessa atalanta* L. (Bernardi, 1961; Leestmans, 1975; Carvalho, 1982; Sousa, 1991; Meyer, 1991a; Vieira & Pintureau, 1991; Vieira & Tavares, this vol.; Vieira & Silva, in press).

Distribution: "Found in all the islands I visited" (Godman, 1870), Santa Maria, São Miguel, Terceira, São Jorge, Faial, Flores, Corvo.

Cynthia cardui (Linnaeus, 1758)

Ilhéu de Vila Franca: 25.II.95 and 9.IX.95, 1 specimen flying, each day.

Larvae feed on Urticaceae and Asteraceae plants of which some exist in the islet (e.g. *Urtica* sp.), although larvae were not seen.

Additional records: *Vanessa cardui* L. (Drouët, 1861; Bernardi, 1961; Sousa, 1991). *Pyrameis cardui* L. (Godman, 1870; South, 1894; Rebel, 1917; Walker, 1931; Rebel, 1917; Carthy, 1957). *Cynthia cardui cardui* L. (Steiniger, 1976). *Cynthia cardui* L. (Leestmans, 1975; Carvalho, 1982; Meyer, 1991a; Vieira & Silva, in press).

Distribution: Santa Maria, São Miguel, Terceira, Faial, Flores.

Lycaenidae

Lycaeninae

Lampides Hübner, 1819

Lampides boeticus (Linnaeus, 1767)

Ilhéu de Vila Franca: 10.IX.95, three adults flying.

Additional records: *Polyommatus boeticus* (L.). (Rebel, 1940). *Polyommatus boeticus* (L.). Marsden & Wright, 1971). *Lampides boeticus* (L.) Carvalho, 1982; Sousa, 1991; Vieira & Pintureau, 1991).

Distribution: São Miguel, Santa Maria, Terceira, Faial, Pico, São Jorge, Graciosa, Flores.

Geometridae

Sterrhinae

Cyclophora Hübner, 1822

Cyclophora azorensis (Prout, 1920)

Ilhéu de Vila Franca: 14.I.95, 7 larvae on *Erica scoparia* ssp. *azorica*; 10.IX.95, 5 adults flying.

Additional

ria Hb. sens

bia mader.

1915; Rebel

azorensis F

Carthy, 195

phora mader

1991). *Cycl*

(Meyer, 19

1993).

Distributi

Terceira, Gr.

Flores.

Noctuidae

Noctuinae

Peridroma

Peridroma

Ilhéu de Vi

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minosae).

Additional

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1905; Rebel.

garitosa HW

saucia HB.

1991b; Viei

ra, 1994; Vi

Distributio

Terceira, Gra

Flores, Corvo

Hadeninae

Mythimna (

Mythimna

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Poaceae pla

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Habitat

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1961; Sousa,
L. (Godman,
1917; Walker,
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u, São Miguel,

Linnaeus,

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lyommatus
bel, 1940).
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des boeticus
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Santa Maria,
orge, Graciosa,

2

is (Prout,

I.I.95, 7 lar-
sp. azorica;

Additional records: *Cosymbia pupilla-*
ria Hb. sensu(?) (Warren, 1905). *Cosym-*
bia maderensis B.-Bak. (Prout, 1912-
1915; Rebel, 1917). *Cosymbia maderensis*
azorensis Prt. (Prout, 1938; Rebel, 1940;
Carthy, 1957; Carvalho, 1982). *Cyclo-*
phora maderensis azorensis Prt., (Sousa,
1991). *Cyclophora azorensis* Prout, 1920
(Meyer, 1991b; Vieira & Pintureau,
1993).

Distribution: Santa Maria, São Miguel,
Terceira, Graciosa, São Jorge, Pico, Faial,
Flores.

Noctuidae

Noctuinae

Peridroma Hübner (1821)

Peridroma saucia (Hübner, [1808])

Ilhéu de Vila Franca: 25.II.95, 1 lar-
va feeding on *Ornithopus* sp. (Legu-
minosae).

Additional records: *Agrotis saucia* HB.
(Godman, 1870; South, 1894; Warren,
1905; Rebel, 1917). *Agrotis saucia mar-*
garitosa HW. (Rebel, 1940). *Peridroma*
saucia HB. (Carvalho, 1982; Meyer,
1991b; Vieira & Pintureau, 1991; Viei-
ra, 1994; Vieira & Tavares, this vol.).

Distribution: Santa Maria, São Miguel,
Terceira, Graciosa, São Jorge, Pico, Faial,
Flores, Corvo.

Hadeninae

Mythimna Ochsenheimer, 1816

Mythimna unipuncta (Haworth,
1809)

Ilhéu de Vila Franca: August 1989, 1
specimen dead; 14.I.95, 1 male under
Poaceae plants. *M. unipuncta* larvae
attack many plants, mainly from
cereal crops, pastures and forrages.
It is considered the most important
pest of pasture grass at the Azores.

Additional records: *Leucania ex-*
tranea (Godman, 1870; South, 1894).
Leucania unipuncta HAW. (Warren, 1905;
Rebel, 1917, 1940). *Pseudaletia uni-*
puncta unipuncta HAW. (Carthy, 1957).
Mythimna unipuncta (HAW.) (Carneiro,
1982; Carvalho, 1982; Sousa, 1991;
Meyer, 1991b; Vieira & Pintureau,
1991; Vieira, 1994; Vieira & Tavares,
this vol.).

Distribution: Santa Maria, São Miguel,
Terceira, Graciosa, São Jorge, Pico, Faial,
Flores, Corvo.

Mythimna loreyi (Duponchel,
1827)

Ilhéu de Vila Franca: 25.II.1995, 1
spec. One male on the wall of a
building in the islet. *M. loreyi*
larvae attack many plants, mainly
Poaceae.

Additional records: *Leucania loreyi*
Duponchel (Rebel, 1940). *Mythimna*
loreyi (Duponchel) (Carvalho, 1982;
Sousa, 1991).

Distribution: Santa Maria, São Miguel.

Plusiinae

Ctenoplusia Dufay, 1970

Ctenoplusia limbirena (Guenée,
1852)

Ilhéu de Vila Franca: 25.II.95, one
larva feeding on a leaf of *U. membra-*
nacea, and another one on *Souchus*
asper (L.) Hill (Asteraceae).

Additional records: *Phytometra lim-*
birena GN. (Draudt, 1938). *Ctenoplusia*
limbirena GN. (Carvalho, 1982); Sousa,
1991; Meyer, 1991b; Vieira & Pintu-
reau, 1991; Vieira & Tavares, this vol.).

Distribution: Santa Maria, São Miguel,
Terceira, São Jorge, Pico, Faial, Flores,
Corvo.

Hypeninae

Hypena Schrank, 1802

Hypena obsitalis (Hübner, 1811-1813)

Ilhéu de Vila Franca: 25.II.95, common. *H. obsitalis* larva were feeding preferentially on *P. judaica* and *U. membranacea*. The adults were observed in dark places.

Additional records: *Hypena obsitalis* (Godman, 1870). *Hypena obsitalis* (Hübner) (South, 1894; Warren, 1905; Rebel, 1917, 1940; Carvalho, 1982; Meyer, 1991b; Sousa, 1991; Vieira & Tavares, this vol.).

Distribution: Santa Maria, São Miguel, Terceira, Graciosa, Pico, Faial, Flores, Corvo.

Hypena lividalis (Hübner, 1796)

Ilhéu de Vila Franca: 21.VIII.1994, 2 specs; 14.I.95, 12 specs; 25.II.95, 2 specs; 9 and 10.IX.95, several adults flying. Larvae were feeding on *P. judaica*.

Additional records: *Hypena lividalis* (Hübner) (Vieira & Pintureau, 1993; Vieira & Silva, in press).

Distribution: São Miguel.

DISCUSSION

We list 18 species and subspecies of Lepidoptera from Ilhéu de Vila Franca. Other specimens that were observed, but could not be captured and identified, suggest the presence of two additional taxa. This number represents about 12.4% of the total number of Lepidoptera species in Azores, which today is 161 (Vieira & Pintureau, 1993). Most taxa re-

cords have been made in the islands of central and eastern groups of the archipelago. All species observed in Ilhéu live also in the nearby São Miguel island. Isolation, small size, and relatively small percentage of the surface of the islet covered with wild plants and other vegetation influence the presence of Lepidoptera species (only 20.4% in relation to São Miguel) and their hostplants.

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of Lepidoptera
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EMENTS

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