New or little known Pyraloids from Italy (Lepidoptera: Pyraloidea)

Alberto Zilli & Francesca Pavesi

Abstract. Faunistic, ecological, biogeographical and taxonomic remarks on 37 species of Pyraloidea (Pyralidae, Crambidae) occurring in Italy are given. Seven of them are recorded for the first time from Italy, namely *Aphomia foedella*, *Hypotia muscosalis*, *Stemmatophora rungsi*, *Phycita diaphana*, *Evergestis alborivulalis*, *Euclasta splendidalis* and *Aglossa* (*Aglossa*) *rubralis*, the last being also new to the European fauna. Full data about the presence of *Scoparia ganevi* in Italy are provided, and *Evergestis nomadalis* in the Italian Peninsula is confirmed. The occurrence of *Aglossa* (*Aglossa*) *asiatica* or a close relative in Sardinia is shown. Several other species are firstly recorded from at least a main Italian geographic district. Records presented for *Herpetogramma licarsisalis*, *Spoladea recurvalis* and *Cathayia insularum*, all of economic importance, contribute to assess the routes of colonization in Italy of these invasive species, the last of which trophically linked to ornamental palms. Study of the types of *Titanio cinerealis* Della Beffa, 1941 showed that the relevant name neither enters into synonymy with *Metaxmeste phrygialis* (Hübner, 1796) nor refers to any species of *Metaxmeste* Hübner, 1825, but it is a junior synonym of *Orenaia helveticalis* (Herrich-Schäffer, 1851) (**syn. n.**). Finally, following the bizarre phenomenon of *Metaxmeste phrygialis* in the Italian peninsula more closely resembling in facies *M. schrankiana* than alpino-european *M. phrygialis*, the name *M. phrygialis aprutialis* Costantini, 1923 is reinstated as of a valid subspecies (**new rank**).

Samenvatting. Faunistische, ecologische, biogeografische en taxonomische bemerkingen over 37 Pyraloidea-soorten (Pyralidae, Crambidae) uit Italië worden meegedeeld. Zeven soorten worden voor het eerst uit Italië vermeld: *Aphomia foedella*, *Hypotia muscosalis*, *Stemmatophora rungsi*, *Phycita diaphana*, *Evergestis alborivulalis*, *Euclasta splendidalis* en *Aglossa* (*Aglossa*) *rubralis*; deze laatste is zelfs nieuw voor de Europese fauna. Volledige gegevens over het voorkomen van *Scoparia ganevi* in Italië worden gegeven, en de aanwezigheid van Evergestis nomadalis in het Italiaanse schiereiland wordt bevestigd. Het voorkomen van *Aglossa* (*Aglossa*) *asiatica* of een nauwe verwante ervan in Sardinië wordt aangetoond. Verscheidene andere soorten worden voor het eerst uit een belangrijk Italiaans geografisch district vermeld. De gegevens over *Herpetogramma licarsisalis*, *Spoladea recurvalis* en *Cathayia insularum* alle economisch belangrijke soorten en de laatste gelinkt aan sierpalmen, dragen bij om de toevoerwegen naar Italië van deze invasieve soorten vast te stellen. Een studie van de types van *Titanio cinerealis* Della Beffa, 1941 toonde aan de betreffende naam noch een synoniem is van *Metaxmeste phrygialis* (Hübner, 1796), noch iets te maken heeft met enige soort uit het genus *Metaxmeste* Hübner, 1825, maar dat het een jonger synoniem is van *Orenaia helveticalis* (Herrich-Schäffer, 1851) (**syn. n.**). Tot slot, naar aanleiding van het bizarre fenomeen dat *Metaxmeste phrygialis* in de Italiaanse schiereiland uiterlijk meer gelijkt op *M. schrankiana* dan op de alpino-Europese *M. phrygialis*, wordt de naam *M. phrygialis aprutialis* Costantini, 1923 heringevoerd als een geldige ondersoort (**stat. n.**).

Résumé. Des informations faunistiques, écologiques, biogéographiques et taxonomiques sont données pour 37 espèces de pyrales (Pyralidae, Crambidae) d'Italie. Sept espèces sont mentionnées ici pour la première fois d'Italie : *Aphomia foedella*, *Hypotia muscosalis*, *Stemmatophora rungsi*, *Phycita diaphana*, *Evergestis alborivulalis*, *Euclasta splendidalis* and *Aglossa* (*Aglossa*) *rubralis*, ce dernier est même nouveau pour l'Europe. Des informations complètes sur la présence de *Scoparia ganevi* en Italie sont fournies, et la présence d'*Evergestis nomadalis* dans la Péninsule Italienne est confirmée. La présence d'*Aglossa* (*Aglossa*) *asiatica* ou une espèce apparentée en Sardaigne est montrée. Plusieurs autres espèces sont mentionnées pour la première fois dans une nouvelle aire géographique italienne. Les données concernant *Herpetogramma licarsisalis*, *Spoladea recurvalis* et *Cathayia insularum*, tous d'une importance économique et le dernier connu comme ravageur des palmiers ornementaux, aident à tracer les routes de colonisation d'Italie, qu'ont suivies ces espèces invasives. Une étude des types de *Titanio cinerealis* Della Beffa, 1941 a montré que ce nom n'est pas un synonyme de *Metaxmeste phrygialis* (Hübner, 1796) et n'a rien à voir avec le genre *Metaxmeste* Hübner, 1825, mais qu'il est un synonyme plus récent d'*Orenaia helveticalis* (Herrich-Schäffer, 1851) (**syn. n.**). Enfin, concernant le phénomène bizarre que *Metaxmeste phrygialis* de la péninsule ialienne resemble plus *M. schrankiana* que *M. phrygialis* des Alpes européens, le nom de *M. phrygialis aprutialis* Costantini, 1923 est rétabli comme sous-espèce valide (**stat. n.**).

Key Words: Lepidoptera – Pyralidae – Crambidae – Italy – taxonomy – faunistics.

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Introduction

Of the most speciose groups of Lepidoptera, the Pyraloidea probably remains the lesser known in Italy, possibly with the partial exception of the Crambidae, the study of which largely benefited from the publication of the major Palaearctic monograph by Błeszyński (1965). Nevertheless, increasing availability of revisionary articles, monographs and useful compendia enabled taxonomic identifications even in the lesser known groups of Pyraloids. This opportunity already allowed a substantial increase of knowledge on the Italian Pyraloids, as exemplified by the unexpected discoveries of *Phycita imperialella* (Ragonot, 1887), *Seeboldia korgosella* Ragonot, 1887, *Asartodes zapateri* (Ragonot, 1882), *Evergestis infirmalis* (Staudinger, 1871) and *E. umbrosalis* (Fischer von Röslerstamm, 1842) in Central Italy (Pinzari *et al*. 2010). We are now able to present here a new set of the most relevant faunistic novelties regarding the Italian Pyraloids. This study was chiefly

based on a general review of the Pyraloid collection of the Museo Civico di Zoologia of Rome. A number of our records were communicated to F. Slamka for enabling a better coverage of the Italian fauna in his most recent book (Slamka 2013), but they are detailed in full here.

Materials and Methods

During the curation of the Pyraloid collection of the Museo Civico di Zoologia (Rome) most of the taxonomic identifications of specimens originated from Italy were checked, and confirmed or amended when required. Dissections of the genitalia were performed where necessary. In the systematic section we will supply information only on species which turned out to be new to major geographical districts in Italy. This implies that faunistic novelties for single administrative regions but which were already known for nearby regions are not given. Some noteworthy records due to recent sampling campaigns or present in a few other Pyraloid collections are also included.

It is worth noting that maps of distribution shading whole or most of Italy have been recently published for a number of species (Leraut 2012, 2014). We guess that these have likely originated from recording such species as from generally occurring in mainland Italy by Nuss *et al*. (2000–2013) and deemed necessary to provide in any case formal data accounting for their presence in the indicated districts.

Abbreviations for repository institutions:

CNBFVR = Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale “Bosco Fontana”, Verona

MCZR = Museo Civico di Zoologia, Rome

MSNV = Museo Civico di Storia Naturale, Verona

MZUR = Museo di Zoologia dell'Università "La Sapienza", Rome

List of species

Pyraloidea
Pyralidae
Galleriinae

Aphomia foedella (Zeller, 1839) (Fig. 1)

Distribution: Czechia, Hungary, Romania and Caucasus (Slamka 2006); records from Slovakia have proved to be based on misidentification (Slamka, pers. comm).

Record: 1♀, **Latium**, Castelporziano, Capocotta (RM), "humid forest", slm, 7.vii.2000, P. Maltzeff leg., in MCZR.

Notes: This unmistakable species was so far known only from the Danubian-Carpathian basin and the Caucasus. It is stated to be xerothermophilous (Slamka 2006), but the single specimen recorded in Latium was collected in a restricted fragment of littoral humid forest. Further research will thus clear up whether the specimen has originated from some open pseudosteppes close to the biotope or the species shows more mesic preferences in the Mediterranean belt.

Cathayia insularum (Speidel & Schmitz, 1991) (Figs 2–3)

Distribution: Canary Islands, Portugal, Spain, Southern France, Corsica, Sardinia and Malta (Sammut 2005, Slamka 2006, Mazel 2010, Pérez De-Gregorio *et al*. 2010, Leraut 2014).

Distribution in Italy: Sardinia and Central Italy (Pavesi & Zilli 2011).

Records: 1♀, **Latium**, Roma, 16.vii.2006; 1♂, idem, 15.vii.2007; 1♀, idem, 19.vii.2007; 1♀, idem, 20.vii.2007; 1♀, idem, 29.vi.2009; 1♀, idem, 4.vii.2010; all A. Zilli leg., in MCZR. 1♂, **Sardinia**, Cagliari, 15.vii.2005; 1♂, idem, 12.viii.2005; 1♀, Dolianova (CA), 3.x.2006; all L. Fancello leg., in MCZR.

Notes: Specimens accounting for the aforementioned quotation by Pavesi & Zilli (2011) are detailed here. This species represents a new immigrant associated to palms, mostly *Phoenix canariensis* Hort. ex Chabaud and *P. dactylifera* L., on which its larvae develop (Huertas Dionisio 2008). Originally described from the Canary Islands (Speidel & Schmitz 1991) in a new genus *Pseudarenipses* Speidel & Schmitz, 1991, this generic name was subsequently synonymised by Leraut (2003a) with *Cathayia* Hampson, 1901.

Fig. 1. *Aphomia foedella*, ♀, Latium, Capocotta; Fig. 2. *Cathayia insularum*, ♂, Sardinia, Cagliari; Fig. 3. *Cathayia insularum*, ♀, Latium, Roma.

Pyralinae

Hypotia muscosalis (Rebel, 1917) (= *delicatalis* Asselbergs, 2004) (Figs 4, 11)

Distribution: Canary Islands (Tenerife), Algeria, Spain: Catalonia (Gerona), Andalusia (Huelva), and Corsica (Brusseaux 2004, Slamka 2006, Leraut 2014).

Records: 1♂, **Tuscany**, Lago di Burano (GR), 5 m, 12.vii.2001; 1♂, idem, 6.viii.2001; 2♂, idem, 27.vi.2002; 4♂, 1♀, idem, 11.vii.2002; 2♂, idem, 24.vii.2002; all F. Nicolai leg., in MCZR.

Notes: This species new to Italy is similar to *A. corticalis* ([Denis & Schiffermüller], 1775), from which it may be distinguished by the smaller size, the paler forewings and the postmedial line which is less bulged beyond discal cell and less incurved below it. It has been redescribed for Spain by Asselbergs (2004) as *A. delicatalis*.

Synaphe antennalis (Fabricius, 1794) (= *connectalis* Hübner, 1796) (Figs 5–6)

Distribution: From Central Eastern Europe to the Near East and Central Asia (Slamka 2006); dubious from Southern France (Leraut 2005, 2014).

Distribution in Italy: Northern Italy (Bassi *et al*. 1995).

Records: 4♂, 1♀, **Abruzzi**, Mt Sirente (AQ), 1400 m, 23.vi.1975; 1♂, Palena (CH), 1100 m, 1.vii.1980; all C. Prola leg., in MCZR.

Notes: This species, firstly recorded here from Central Italy, is very similar in external appearance to the W-Mediterranean *S. lorquinalis* (Guenée, 1854), from which it may be distinguished by the shorter palpi, narrower distal field of both wings and veins lined dark on the underside.

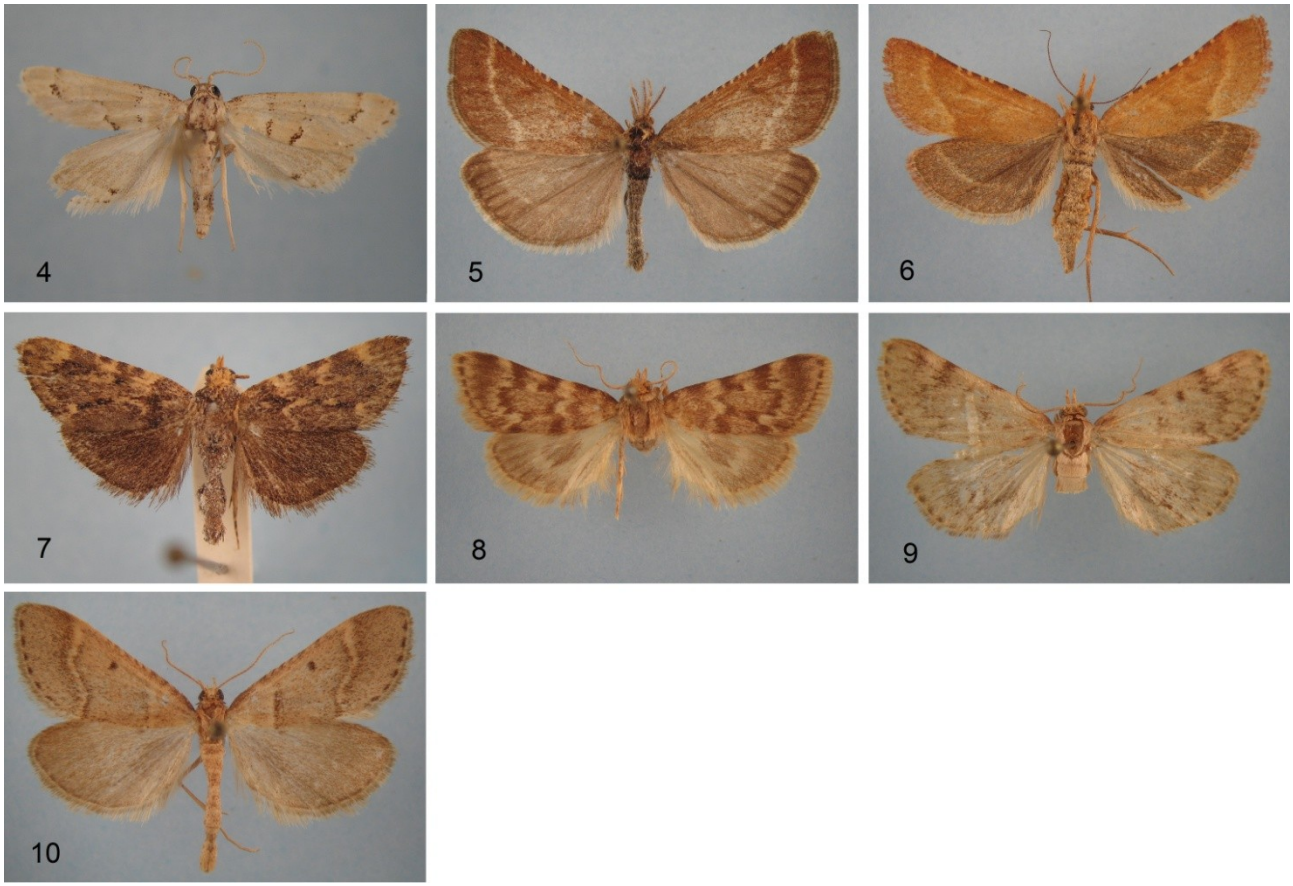


Fig. 4. *Hypotia muscosalis*, ♂, Tuscany, Lago di Burano; Fig. 5. *Synaphe antennalis*, ♂, Abruzzi, Mt Sirente; Fig. 6. *Synaphe antennalis*, ♀, Abruzzi, Mt Sirente; Fig. 7. *Aglossa* (*Agriope*) *signicostalis*, ♂, Umbria, San Faustino; Fig. 8. *Aglossa* (*Aglossa*) *rubralis*, ♂, Sicily, Lampedusa; Fig. 9. *Aglossa* (*Aglossa*) prope *asiatica*, ♂, Sardinia, La Maddalena; Fig. 10. *Stemmatophora rungsi*, ♂, Sicily, Mt Etna.

Aglossa (***Agriope***) ***signicostalis*** Staudinger, 1870 (= *nigripennis* Turati, 1919) (Fig. 7)

Distribution: Northern Italy, Central Eastern and SE Europe, Turkey and Palestine (Slamka 2006; Leraut 1914).

Distribution in Italy: Northern Italy (Bassi *et al*. 1995).

Record: 1♂, **Umbria**, Orvieto, San Faustino (TR), 8.vii.1966, C. Prola leg., in MCZR.

Note: A myrmecophilous species so far unrecorded in Italy south of the Northern Apennines, with a record from Sestola (prov. Modena) by Turati (1919, as *A. nigripennis*).

Aglossa (***Aglossa***) ***rubralis*** Hampson, 1900 (nec *rubralis* Hampson, 1906 = *thermochroa* Hampson, 1916) (Figs 8, 12)

Distribution: N Africa from Mauritania to Libya and the Levant (Hampson 1900, Leraut 2003a, 2014).

Record: 1♂, Sicily, **Isole Pelagie**, Lampedusa (AG), 25.v.1956, C. Prola leg., in MCZR.

Notes: Both *Aglossa* (*Aglossa*) *rubralis* Hampson, 1900, firstly recorded here from Europe, and *A*. (*A*.) *asiatica* Erschoff, 1872 have long been confused with the common subcosmopolitan *A*. (*A*.) *pinguinalis* (Linnaeus, 1758) and were eventually raised to species status by Leraut (2003a), though this had already been suggested by Turati (1921). In addition to the more contrasted pattern with heavier markings standing on a lighter background, the two species can be distinguished from *A.* (*A*.) *pinguinalis* also by the much thinner aedeagus, more elongated valva, and the configuration of the bursa copulatrix, in which the cervix bursae is shorter and more heavily sclerotised (cf. Leraut 2003a, Slamka 2006). In comparison to *A*. (*A*.) *asiatica*, *A*. (*A*.) *rubralis* shows an even more emphasized and contrasted pattern, with shiny reddish reflections, and in the male genitalia a longer, more pointed and less basally constricted uncus, a longer gnathos and a thinner, slightly shorter aedeagus with more distally inserted ductus ejaculatorius (Fig. 15). In the female genitalia, *A*. (*A*.) *rubralis* has shorter sclerotised ridges of cervix bursae than those of *A*. (*A*.) *asiatica*, and the corpus bursae is ovoid, not piriform, with a very small signum (cf. Leraut 2003a).

Aglossa (***Aglossa***) prope ***asiatica*** Erschoff, 1872 (Figs 9, 13)

Distribution: (*asiatica*) From the Eastern Mediterranean (Crete, Rhodos, Cyprus, Turkey, the Levant and NE Africa) to Pakistan (ssp. *indistincta* Corbet & Tams, 1943) (Leraut 2003a, 2014; Slamka 2006).

Distribution in Italy: The occurence is reported doubtful for Corsica and Sardinia (Slamka 2006).

Record: 1♂, **Sardinia**, Isola La Maddalena (OT), Baia Trinità, 5.v.2009, F. Mosconi leg., in MCZR.

Notes: *Aglossa* (*Aglossa*) *asiatica* Erschoff, 1872 was recorded from Sardinia by Bassi *et al*. (1995), as of a subspecies of the close ally *Aglossa* (*Aglossa*) *pinguinalis* (Linnaeus, 1758), on the basis of previous records by Mariani (1943, as *A. asiatica*) and Hartig & Amsel's (1952, as *A*. ? *pinguinalis*) observation that Sardinian specimens were closer to Palestinian that to Central European ones. Slamka (2006) then raised doubts about the presence of this species in Sardinia and Corsica, as well as in Bulgaria, due to its apparently strict East Mediterranean-Asiatic distribution. It is worth noting that Leraut (2003a), in his revisionary work on the genus *Aglossa* Latreille, 1796, did not mention *A.* (*A*.) *asiatica* from the two islands, and later explicitly excluded its occurrence in Corsica, so for North Africa (Leraut 2014). Interestingly, we are able to confirm the presence in Sardinia of *A*. (*A*.) *asiatica* or a close ally of this following the collecting of a male which matches with this species in characteristics of the antennae, habitus and genitalia. Recently, corresponding individuals from Central and Southern Spain were also located in the Natural History Museum (London). Both these and the Sardinian specimen show antennal rami of male slightly shorter than in typical *A.* (*A*.) *asiatica*, but distincly longer than in *A*. (*A*.) *pinguinalis*. The geographically closest populations of *A*. (*A*.) *asiatica*, which is currently subdivided into a number of subspecies of doubtful status, are from the Aegean Sea.

A. (*A*.) *asiatica* is similar to *A*. (*A*.) *rubralis*. In external appearance it differs from the latter by the absence of shiny reddish reflections and, in the male, the longer antennal rami. In the male genitalia, *A*. (*A*.) *asiatica* has shorter and more spatulate uncus, shorter gnathos, longer and bigger aedeagus with larger coecum and larger, more proximally positioned cornutus, all features present in the specimen from Sardinia (Fig. 16). Differences in the female genitalia of *A*. (*A*.) *asiatica* with respect to *A*. (*A*.) *rubralis* are stated by Leraut (2003a) to consist of the longer ductus bursae, the larger, subpyriform corpus bursae and the more pointed papillae anales. As no female specimen from Sardinia was available to us, we are unable to comment on characteristics of the female genitalia shown by populations from this island.

Both species are much paler coloured than *A*. (*A*.) *pinguinalis*, a widespread species with duller brown ground colour and male antennal rami similar in length to *A*. (*A*.) *rubralis*.

Stemmatophora rungsi (Leraut, 2000) (Figs 10, 14)

Distribution: Southern France, Spain, NW Africa (Leraut 2000, 2014; Slamka 2006).

Records: 1♂, **Umbria**, Orvieto, San Faustino (TR), 1.ix.1944, C. Prola leg., in MZUR (labelled "Cotypus *Actenia barberai* Htg"); 2♂, idem, 15.viii.1958, C. Prola leg., in MCZR. 1♂, **Abruzzi**, Castel del Monte (AQ), 20.viii.1947, L. Barbera leg., in MZUR (labelled "Cotypus *Actenia barberai* Htg"). 1♂, Sicily, Mt Etna, vers. sett., Rifugio [illegible] (CT), 1550 m, 18.viii.1948, F. Hartig & I. v. Griesheim leg., in MZUR; 1♂, idem, vers. occ., Pineta (CT), 1600 m, 21.viii.1948; 2♂, idem, 22.viii.1948; 1♂, idem, 27.viii.1948; 3♂, idem, 1700 m, 24.viii.1949; 2♂, idem, Albergo Serra la Nave (CT), 1650 m, 4.viii.1949; 3♂, idem, 1700 m, 23.ix1949; 2♂, idem, vers. mer., Mt Faggi (CT), 1650 m, 17.viii.1948; 1♂, idem, 1700 m, 27.ix.1948; 1♂, 1♀idem, Mt Vettore (CT), 1600 m, 29.ix.1949; 4♂, idem, 1700 m, 29.v.1949; all F. Hartig leg., in MZUR. 1♂, **Bulgaria**, Kresna, 16.ix.1980, J. Ganev leg., in MCZR.

Notes: This species was described only recently and assumed to show a typical W-Mediterranean range. Nevertheless, its presence in Italy was already assessed by F. Hartig on the basis of two specimens collected in Umbria and the Abruzzi which were selected as types of his *Actenia barberai*, but he could not subsequently describe the new taxon following the compulsory requisition of his first collection by the Italian State (Vigna Taglianti & Zilli 2008), so *Actenia barberai* must stand as a manuscript name without nomenclatural relevance. A large series was also collected by F. Hartig during his missions on Mt Etna, Sicily. Furthermore, an unidentified specimen from Bulgaria in the J. Ganev collection clearly belongs to this species, which is therefore much more widespread in the Mediterranean region and probably holomediterranean.

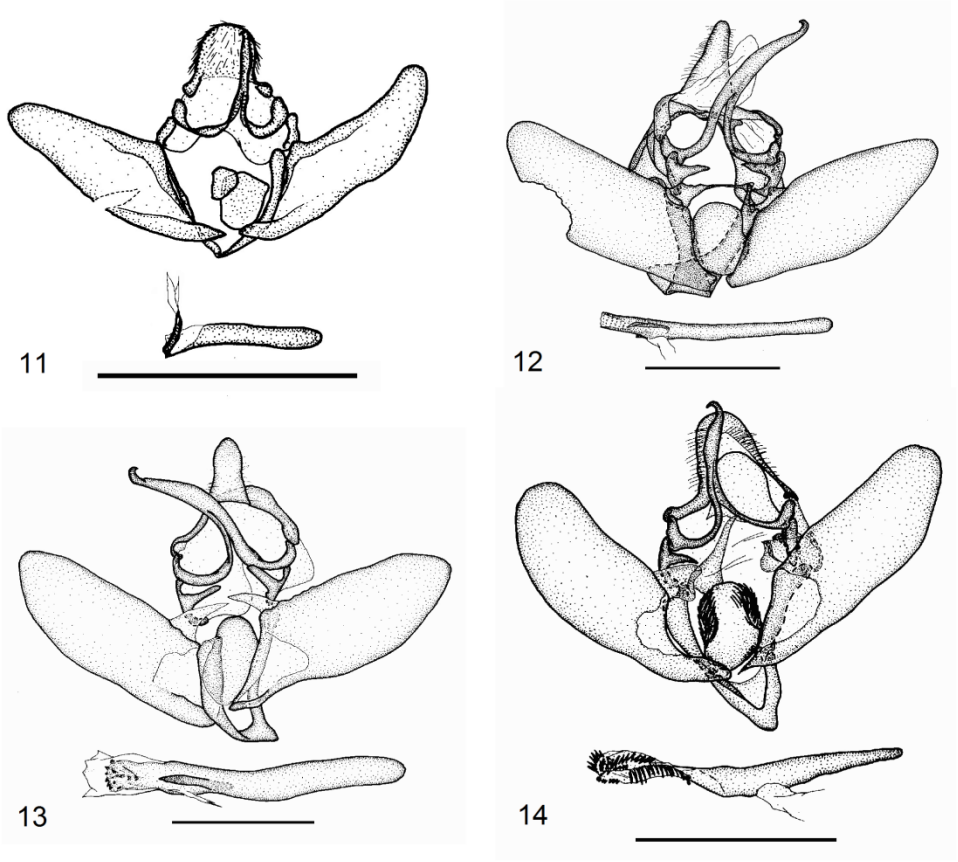


Fig. 11. Male genitalia of *Hypotia muscosalis*, Tuscany, Lago di Burano (gen. prep. AZ1818). Scale bar = 1 mm.

Fig. 12. Male genitalia of *Aglossa* (*Aglossa*) *rubralis*, Sicily, Lampedusa. Scale bar = 1 mm.

Fig. 13. Male genitalia of *Aglossa* (*Aglossa*) prope *asiatica*, Sardinia, La Maddalena. Scale bar = 1 mm.

Fig. 14. Male genitalia of *Stemmatophora rungsi*, Sicily, Mt Etna. Scale bar = 1 mm.

Phycitinae

Elegia similella (Zincken, 1818) (Fig. 15)

Distribution: From Western Europe, Spain excluded, eastwards to Central Asia (Spuler 1910, Sinev 1986, Nuss *et al*. 2000–2013). Not mentioned for Asia by Leraut (2014).

Distribution in Italy: Northern Italy and Sicily.

Records: 2♂, **Latium**, Rocca Romana, 3.vii.1970; 1♂, Monti Albani, Pratone (RM), 2.vii.1951; 1♂, idem, 10.vii.1951; all C. Prola leg., in MCZR.

Notes: A species formerly unrecorded from Central Italy. We are unaware of the records which led Leraut (2014) to shade the whole Italian Peninsula in his distribution map for this species.

Sciota hostilis (Stephens, 1834) (Fig. 16)

Distribution: From Western Europe to the Caucasus region (Spuler 1910, Sinev 1986, Nuss *et al*. 2000–2013), and eastwards to China (Leraut 2014).

Distribution in Italy: Northern Italy.

Record: 1♀, **Latium**, Monti Albani, Pratone (RM), 10.vii.1951, C. Prola leg., in MCZR.

Notes: A species formerly unrecorded from Central Italy. We are unaware of the records which led Leraut (2014) to shade the whole Italian Peninsula in his distribution map for this species.

Alophia combustella (Herrich-Schäffer, 1855) (Fig. 17)

Distribution: Southern Europe, from Portugal to Southern European Russia and Western Asia (Spuler 1910, Sinev 1986, Nuss *et al*. 2000-2013).

Distribution in Italy: Northern Italy, Sicily and Sardinia.

Records: 1♀, **Umbria**, Narni (TR), 4.ix.1958; 1♂, idem, 15.vii.1959; all C. Prola leg.; 1♀, Mt Subasio, Spello, Pog[gio] Caselle (PG), 600 m, 10.viii.2005, Z. & I. Zerunian leg.; all in MCZR.

Note: A species formerly unrecorded from Central Italy.

Rhodophaea formosa (Haworth, 1811) (Fig. 18)

Distribution: From Europe to the Eastern Palaearctic (Spuler 1910, Sinev 1986, Nuss *et al*. 2000–2013, Murase 2003, Leraut 2014).

Distribution in Italy: Northern Italy, Sicily and Sardinia.

Records: 1♂, **Umbria**, Narni (TR), 20.viii.1958; 1♂, idem, 15.vii.1959; 3♂, 1♀, Orvieto, S. Faustino (TR), 15.viii.1958; 1♂, idem, 24.viii.1958; 1♀, idem, 10.vi.1959; 1♀, idem, 15.viii.1962; all C. Prola leg., in MCZR. 1♀, **Latium**, Cittaducale Cardito (RI), 8.viii.1949; 1♂, idem, 12.vi.1952; 1♂, idem, 18.v.1959; 1♂, Fregene (RM), 4.v.1962; 1♂, idem, 1.vi.1962; 1♀, Manziana (RM), 15.viii.1976; all C. Prola leg., in MCZR.

Notes: A species formerly unrecorded from Central Italy. We are unaware of the records which led Leraut (2014) to shade the whole Italian Peninsula in his distribution map for this species.

Phycita diaphana (Staudinger, 1870) (Figs 19, 26–27)

Distribution: From the Canary Islands, NW Africa and the Iberian Peninsula across the Southern Mediterranean and the Middle East to Central Asia; in Europe known from Portugal, Spain, Southern France, Greece and Malta; southwards up to South Africa, Madagascar and

La Reunion, though subsaharian records should be checked against the close ally *P. melongenae* Aina, 1983 (Staudinger 1870–1871, Rebel 1901, Wiltshire 1957, Balachowsky 1972, Rungs 1979, Aina 1983, Báez 1998, Nuss *et al*. 2000–2013, Sammut 2000, Vári *et al*. 2002, Arenberger & Wimmer 2003, Leraut 2014).

Records: 1♂, 1♀, **Sicily**, Mt Etna, vers. S, Pedara (CT), 600 m, 15.vii.1949, Hartig leg.; 1♂, Taormina (CT), 200 m, 17.ix.1950; 5♂, idem, 4.x.1950; 4♂, idem, 5.x.1950; 2♂, 1♀, idem, 6.x.1950; 1♂, idem, 7.x.1950; 1♀, idem, 8.x.1950; 1♂, idem, 10.x.1950; 1♀, idem, 11.x.1950; 2♂, idem, 18.x.1950; 1♂, idem, 20.x.1950; all F. Hartig & I. v. Griesheim; all in MZUR.

Notes: Of this species, new to Italy, there is only a long series of specimens collected by Federico Hartig and Ilse von Griesheim at the foothills and surroundings of Mt Etna (Sicily) in 1949–1950. The male and female genitalia were described but not illustrated by Aina (1983), while Leraut (2014) did only for the female ones; accordingly those of both sexes are illustrated here (Figs 32–33). The larvae were recorded from a number of hostplants but turn out as pests of *Ricinus communis* L. (Wiltshire 1957, Rungs 1979, Robinson *et al*. 2010).

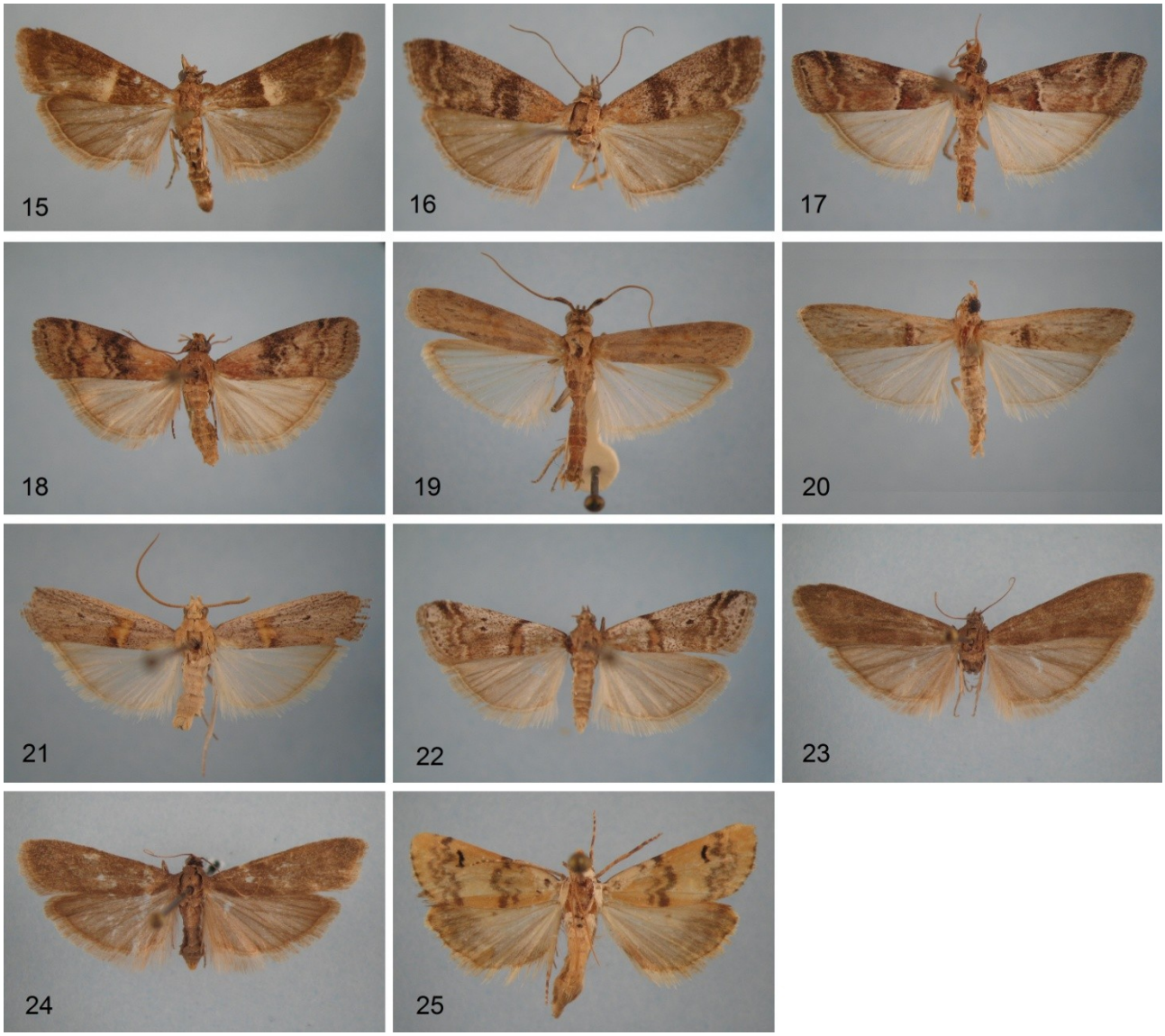


Fig. 15. *Elegia similella*, ♂, Latium, Monti Albani; Fig. 16. *Sciota hostilis*, ♀, Latium, Monti Albani; Fig. 17. *Alophia combustella*, ♂, Umbria, Narni; Fig. 18. *Rhodophaea formosa*, ♂, Umbria, Narni; Fig. 19. *Phycita diaphana*, ♂, Sicily, Taormina; Fig. 20. *Nephopterix angustella*, ♂, Latium, Cittaducale; Fig. 21. *Oxybia transversella*, ♂, Liguria, Bordighera; Fig. 22. *Acrobasis centunculella*, ♂, Latium, Cittaducale; Fig. 23. *Episcythrastis tetricella*, ♂, Abruzzi, Mt Sirente; Fig. 24. *Episcythrastis tetricella*, ♂, Abruzzi, Mt Sirente; Fig. 25. *Euzophera lunulella*, ♀, Apulia, San Cataldo.

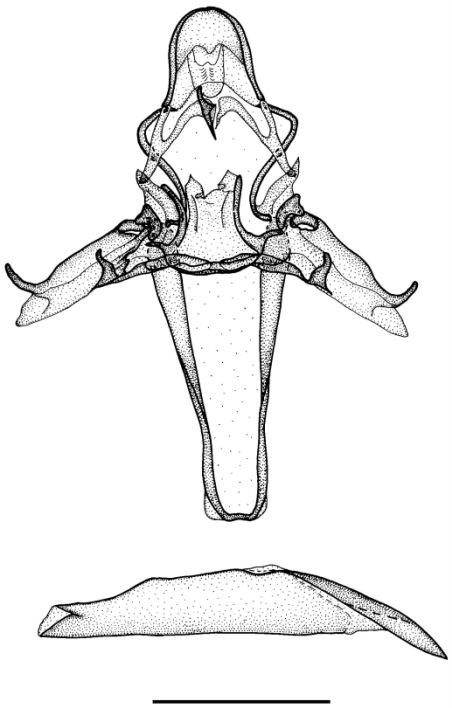
Nephopterix angustella (Hübner, 1796) (Fig. 20)

Distribution: From Western Europe to Southern European Russia and the Caucasus region (Spuler 1910, Sinev 1986, Nuss *et al.* 2000–2013, Leraut 2014).

Distribution in Italy: Northern and Southern Italy (Bassi *et al*. 1995, Vegliante & Zilli 2007).

Records: 1♀, **Umbria**, Orvieto, S. Faustino (TR), 25.viii.1962, C. Prola leg., in MCZR. 1♂, **Latium**, Cittaducale Cardito (RI), 25.ix.1958, C. Prola leg.; 1♂, Castelporziano (RM), 12.vi.2002; 1♂, idem, Villa di Capocotta (RM), 1.vii.2002; 1♂, idem, 23.x.2002; 1♂, idem, 24.x.2002; 1♂, idem, 27–29.v.2003; 1♂, idem, 10–11.vi.2003; 1♂, idem, 16–22.ix.2004; all P. Maltzeff leg.; all in MCZR.

Note: A species formerly unrecorded from Central Italy.



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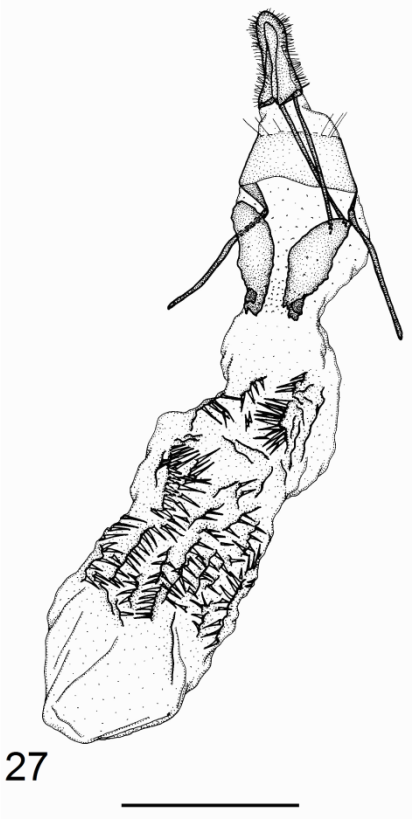

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Fig. 26. Male genitalia of *Phycita diaphana*, Sicily, Taormina. Scale bar = 1 mm.

Fig. 27. Female genitalia of *Phycita diaphana*, Sicily, Taormina. Scale bar = 1 mm.

Oxybia transversella (Duponchel, 1836) (= *bituminella* Millière, 1873; = *panormitanella* Caradja, 1928) (Fig. 21)

Distribution: From the Canary Islands and SW Europe eastwards to the Near East and North Asia; southwards up to South Africa (Spuler 1910, Sinev, 1986, Nuss *et al*. 2000–2013, Vári *et al.* 2002, Báez & Martín 2004, Leraut 2014).

Distribution in Italy: Peninsular Italy, Sicily and Sardinia.

Records: 1♂, **Liguria**, Bordighera (IM), 10.vii.1950; 1♂, idem, 31.viii.1950; all C. Prola leg., in MCZR.

Notes: A species formerly unrecorded from Northern Italy. We are unaware of the records which led Leraut (2014) to shade the whole Italian Peninsula in his distribution map for this species.

Acrobasis centunculella (Mann, 1859) (Fig. 22)

Distribution: Southern Europe, from France to European Turkey (Nuss *et al*. 2000–2013).

Distribution in Italy: Northern Italy and Sicily.

Record: 1♂, **Latium**, Cittaducale Cardito (RI), 18.v.1959, C. Prola leg., in MCZR.

Notes: A species formerly unrecorded from Central Italy. We are unaware of the records which led Leraut (2014) to shade the whole Italian Peninsula in his distribution map for this species, while it was omitted from Sicily (type locality).

Episcythrastis tetricella ([Denis & Schiffermüller], 1775) (= *plumbaginella* Eversmann, 1844) (Figs 23–24)

Distribution: From Western Europe to Eastern Europe and the Caucasus region (Spuler 1910, Sinev 1986, Nuss *et al.* 2000–2013).

Distribution in Italy: Northern Italy.

Record: 1♂, 1♀, **Abruzzi**, Mt Sirente (AQ), 1200 m, 2.vi.1976, C. Prola leg., in MCZR.

Notes: A species formerly unrecorded from Central Italy. We are unaware of the records which led Leraut (2014) to shade the whole Italian Peninsula in his distribution map for this species.

Euzophera lunulella (O.G. Costa, 1836) (Fig. 25)

Distribution: From SW Europe and NW Africa across the Mediterranean eastwards to the Middle East, as far south as Sudan, Arabia and Baluchistan (Spuler 1910, Roesler 1973, Nuss *et al*. 2000–2013).

Distribution in Italy: Sicily, and dubiously from Peninsular Italy.

Records: 1♂, **Apulia**, Manfredonia (FG), 50 m, 1.vi.1983, Casalino leg.; 4♀, San Cataldo (LE), 20.vi.1984, C. Prola leg.; all in MCZR.

Notes: This species was described from Terra d'Otranto (Southern Apulia) by Costa ([1836] in [1836]–(1850) but Bassi *et al*. (1995) raised uncertainty about its presence in the Italian Peninsula, something which may thus be confirmed after the aforementioned records right from Apulia.

Scopariinae

Scoparia ganevi Leraut, 1985 (Figs 28, 30–31)

Distribution: Bulgaria (Rila Mts) and Northern Greece (Mt Olympus) (Goater *et al*. 2005, Leraut 2012).

Distribution in Italy: Central Italy (Pinzari *et al*. 2010).

Records: 1♀, **Latium**, Riserva Naturale Montagne della Duchessa (RI), Val di Teve, 33T 0.363.158 4.669.650 (ED50), 1336 m, 29.vii.2008, A. Grassi, E. Peria, D. Valfrè & A. Zilli leg., in MCZR. 1♀, **Abruzzi**, Forme (AQ), 1050 m, 28.vii.1988, P. Provera leg.; 1♂, Palena (CH), 1100 m, 1.vii.1980, C. Prola leg.; all in MCZR.

Notes: This species, so far known only from the Balkan Peninsula, has been recorded from Mt Cagno (Pinzari *et al*. 2010), Mt Velino and Maiella, three limestone massifs in the Central Apennines where amphiadriatic elements often occur. All specimens from Central Italy are characterised by a markedly whitish, occasionally pure white background, thus appearing paler than the Balcanic ones. The species is a member of the *Scoparia manifestella* group, restricted to montane areas of Southern Europe (including the Alps) and Northwest Africa. With respect to its close congeners, *Scoparia ganevi* is characterised by the narrow cornuti bundle, narrow colliculum, long, narrow and bent ductus bursae with no posterior sclerotisation, and small globular bursa copulatrix. The cornuti bundle is feebly thicker in the Italian specimens but as a few variation was detected in this trait and all other structural characters are fully matching, we do not hesitate in ascribing the Italian populations to nominate *ganevi*. The only other member of the *manifestella* group occurring in Peninsular Italy is *Scoparia italica* Turati, 1919, with short, stout and sinuous cornuti bundle, wide antrum and colliculum, short, wide and straight ductus bursae, this distinctly sclerotised posteriorly, and large ellipsoidal corpus bursae.

Scoparia ingratella (Zeller, 1846) (Figs 29, 32)

Distribution: Southern Central Europe and Southern Europe, Cyprus, eastwards to Siberia and Central Asia (Goater *et al*. 2005, Leraut 2012).

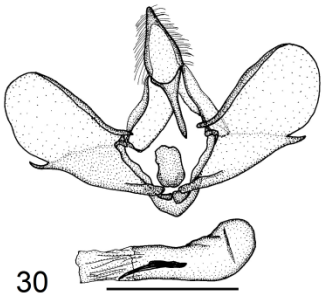
Distribution in Italy: Northern Italy, Sicily and Sardinia.

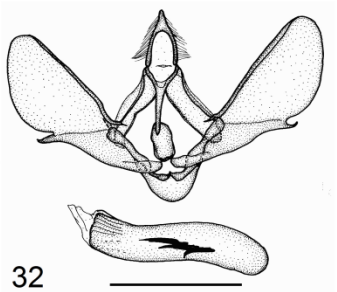
Record: 1♂, **Umbria**, Mt Subasio, loc. Ca' Piombino (PG), 470 m, 6.vi.2005, Z. & I. Zerunian leg., in MCZR.

Notes: New to Central Italy. We are unaware of the records which led Leraut (2012) to shade the whole Italian Peninsula in his distribution map for this species.

Fig. 28. *Scoparia ganevi*, ♂, Abruzzi, Palena.

Fig. 29. *Scoparia ingratella*, ♂, Umbria, Mt Subasio.





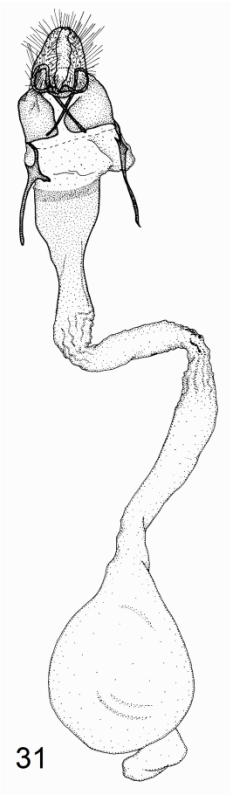


Fig. 30. Male genitalia of *Scoparia ganevi*, Abruzzi, Palena (gen. prep. AZ1517). Scale bar = 1 mm.

Fig. 31. Female genitalia of *Scoparia ganevi*, Latium, Val di Teve (gen. prep. AZ1417). Scale bar = 1 mm.

Fig. 32. Male genitalia of *Scoparia ingratella*, Umbria, Mt Subasio. Scale bar = 1 mm.

Crambidae
Odontiinae

Metaxmeste phrygialis aprutialis Costantini, 1923, new rank (**stat. rev.**) (Figs 34, 37)

Distribution: Italian Peninsula.

Populations from the Italian and Balcan peninsulas of *Metaxmeste phrygialis* (Hübner, 1796) are absolutely peculiar in having an emphasised pattern with warm brown markings (Figs 34, 37) and no trace of the bluish-greyish shine characteristic of the nominotypical subspecies (Costantini 1923, Hering 1940) (Figs 33, 36), thus they much more resemble in habitus *M. schrankiana* (Hochenwarth, 1785) (Figs 35, 38). Features of the male antennae and female genitalia (male ones being far less diagnostic), however, leave no doubt about their conspecificity with *M. phrygialis* (Hübner, 1796). In fact, the antennae of the male are ciliated in *M. phrygialis* and weakly pectinated in *M. schrankiana*, whereas the posterior apophyses are much shorter in the latter. As a matter of fact, a sort of reversal of the pattern occurs in the populations of *M. phrygialis* from the aforementioned two peninsulas with respect to the populations from the Alps and rest of Europe, with the relevant individuals showing the habitus more peculiar of the close ally *M. schrankiana*. This unusual circumstance is indicative of a somewhat evolutionary phenomenon which would totally be overlooked, should the names *aprutialis* Costantini, 1923 and *kardakoffi* Hering, 1940, depicting the Apenninic and Balcanic populations, respectively, be sunken with nominate *phrygialis* as proposed by Slamka (2006). Regarding these two names, it is worth noting that Leraut (2012) neither mentions *aprutialis* nor marks the species itself to occur in the Italian Peninsula and ascribes populations from southern areas of Alps to *kardakoffi* as of a form.

In the light also of the diagnostic features of the pattern between the Apenninic populations and those of typical *phrygialis*, the name *aprutialis* Costantini, 1923 is reinstated here as of a distinct subspecies, while we refrain from taking any decision on *kardakoffi* Hering, 1940 pending upon examination of more material from the Balcanic Peninsula. In fact, some differences in the male antennae observed in specimens from Rila Mts are suggestive of a more complex situation here.

This phenomenon does not occur in the populations from the Iberian peninsula (cf. Staudinger 1859, Leraut 2012), once distinguished as *nevadalis* Staudinger, 1859, which may thus well remain subsumed under the nominotypical subspecies (Slamka 2006, Leraut 2012).

The rank of another "subspecies", *M. p. iberoprovincialis* Luquet, 1997 from Mt Ventoux (Southeast France), was debated (Slamka 2006, Leraut 2012). The relevant individuals share some similarities with *M. p. aprutialis* in that they somewhat resemble *M. schrankiana* more than *M. phrygialis* from the Alpine region (cf. Luquet 1997). Furthermore, one of the main diagnostic features of *M. p. iberoprovincialis* with respect to both *M. schrankiana* and nominotypical *phrygialis* would consist of the wholly darkened underside, leaving nothing but a pale discal lunule on the forewing. This feature is also partially occurring in the Central Italian populations of *M. p. aprutialis*, albeit it is transitional as also paler-winged specimens are found. Leraut (2012), however, noted the inconstancy of this and other features of the populations from Mt Ventoux, and eventually downgraded *iberoprovincialis* to infrasubspecific rank within *M. p. phrygialis*.

For a clarification of a complex situation involving the identity of *Titanio cinerealis* Della Beffa, 1941, by most authors considered to belong to *Metaxmeste* Hübner, [1825] and recently synonymised with *M. phrygialis* (cf. Slamka 2006, Leraut 2012), see below under *Orenaia helveticalis* (Herrich-Schäffer, 1851).

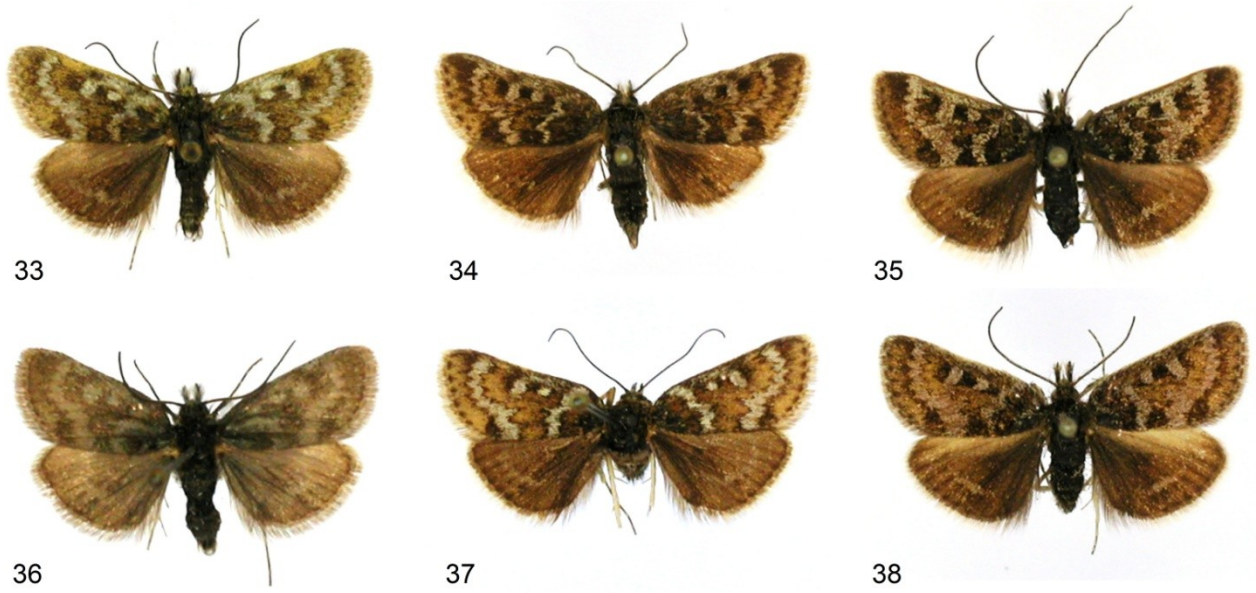


Fig. 33. *Metaxmeste phrygialis phrygialis*, ♂, Switzerland, Engadin; Fig. 34. *Metaxmeste phrygialis aprutialis*, ♂, Latium, Mt Terminillo; Fig. 35. *Metaxmeste schrankiana*, ♂, Alto Adige, Val Martello; Fig. 36. *Metaxmeste phrygialis phrygialis*, ♀, Alto Adige, Val Martello; Fig. 37. *Metaxmeste phrygialis aprutialis*, ♀, Latium, Mt Terminillo; Fig. 38. *Metaxmeste schrankiana*, ♂, Alto Adige, Val Martello.

Evergestinae

Evergestis alborivulalis (Eversmann, 1844) (Fig. 39)

Distribution: Spain, and from SE Europe across Southern European Russia and Turkey to Southern Siberia (Fazekas 2001, Goater *et al*. 2005, Leraut 2012).

Records: 1♀, **Abruzzi**, Sperone (AQ), 1200 m, 16.vi.1984, A. Zilli leg.; 1♂, 4♀, between Bisegna and Pescasseroli (AQ), "waterfall", 1350 m, 12.vi.2005, A. Grassi leg.; all in MCZR.

Notes: The presence in the Abruzzi of this species formerly unrecorded from Italy is of particular biogeographic relevance inasmuch it demonstrates that its distribution in the Mediterranean actually is not disjunct, and is more continuous than suspected.

Evergestis nomadalis (Lederer, 1871) (Fig. 40)

Distribution: From Greece and the Near East to Central Asia (Goater *et al*. 2005, Leraut 2012).

Distribution in Italy: Dubiously from the Italian Peninsula (Bassi *et al*. 1995).

Records: 1♀, **Abruzzi**, Forme (AQ), 1050 m, 1–19.viii.1988, P. Provera leg.; 1♀, dint. Ortona dei Marsi, M. Lingotti, loc. Forca d'Oro (AQ), 1521 m, 15.viii.2007, A. Grassi leg.; all in MCZR; 1♂, Rivisondoli (AQ), 1300 m, 10.viii.1943, Romei leg., in MZUR.

Notes: Dubiously recorded from the Italian Peninsula (Bassi *et al*. 1995), this species was omitted for Italy by Goater *et al*. (2005), Leraut (2012) and Nuss *et al.* (2000–2013). The presence of this unmistakable centroasiatic-E-mediterranean species in xeromontane prairies of the Abruzzi further adds to the already rich biogeographical component of eastern elements of this region.

Fig. 39. *Evergestis alborivulalis*, ♀, Abruzzi, between Bisegna and Pescasseroli.

Fig. 40. *Evergestis nomadalis*, ♀, Abruzzi, surr. Ortona dei Marsi.

Fig. 41. *Orenaia helveticalis*, ♂, syntypus of *Titanio cinerealis*, Veneto, Scheibenkofel (= Mt Lastroni).

Fig. 42. *Orenaia helveticalis*, ♀, syntypus of *Titanio cinerealis*, Veneto, Passo Mulo.

Orenaia helveticalis (Herrich-Schäffer, 1851) (= *Titanio cinerealis* Della Beffa, 1941, **syn. n.**) (Figs 41–42, 43–44)

Distribution: Pyrenees, Alps (Goater *et al*. 2005).

Distribution in Italy: Northern Italy.

Records: 1♂, **Veneto**, Alpi Carniche, V[alle]. Piave, M. Scheinbenkofel [recte: Scheibenkofel; = Mt Lastroni] (BL), 22.vii.1935, (Syntypus *Titanio cinerealis* Della Beffa, 1941); 1♀, Passo Mulo (BL), 2200 m, 29.vii.1935 (Syntypus *Titanio cinerealis* Della Beffa, 1941); all L. Rocca leg., in MSNV.

Notes: The identity of *Titanio cinerealis* Della Beffa, 1941 has long been uncertain, this nominal taxon having been alternatively considered as a virtually unknown but valid species of the genus *Metaxmeste* Hübner, 1825 (Bassi *et al*. 1995, Nuss *et al*. 2000–2013), a full synonym of *Metaxmeste phrygialis* (Hübner, 1796) (Slamka 2006) or a form of the latter occurring in Italy and France (Leraut 2012). Great ambiguity arose on this taxon because Della Beffa (1940–1941) did not provide his description with any illustrations, despite the fact that most of other species mentioned in his work were illustrated, common ones too. So students were even compelled to spend visits in the type locality to try solving the issue of the identity of the 'mysterious' *Metaxmeste* (cf. Slamka 2006: 63), attempts doomed to failure. In fact, the tracing of the syntypi of *Titanio cinerealis* in collection Della Beffa stored at MSNV, a male and a female, allowed to unambiguously assess that they are conspecific with *Orenaia helveticalis* (Herrich-Schäffer, 1851), with which the name *cinerealis* is therefore placed into synonymy.

The genus *Orenaia* Duponchel, 1845, includes a number of high-montane, closely related species with diurnal activity. *Orenaia helveticalis* is a very variable species within which a number of subspecies were separated. Goater *et al*. (2005) did not recognise any taxonomic value to such 'subspecies', which were therefore only considered as colour forms associated to

the colour of the background on which the moths rest, though Leraut (2012) virtually reinstated most of them. Species of *Orenaia* are all very similar in male and female genitalia; *O. helveticalis* may be distinguished from its congeners on external habitus by the large size, somewhat diffuse, indistinct pattern, conspicuous white fringes and white underside with neat dark distal bands on both wings.

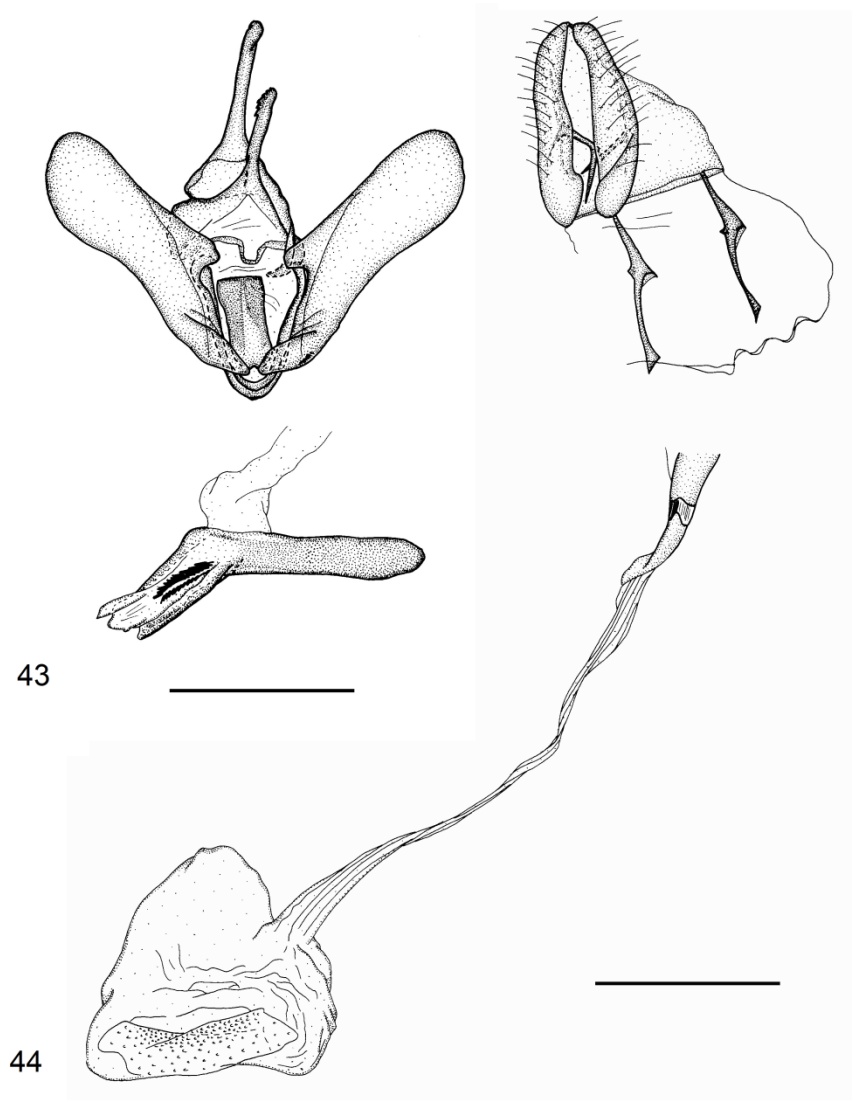


Fig. 43. Male genitalia of *Orenaia helveticalis*, syntypus of *Titanio cinerealis*, Veneto, Scheibenkofel (= Mt Lastroni) (gen. prep. AZ1509). Scale bar = 1 mm.

Fig. 44. Female genitalia of *Orenaia helveticalis*, syntypus of *Titanio cinerealis*, Veneto, Passo Mulo (gen. prep. AZ1508). Scale bar = 1 mm.

Pyraustinae

Paracorsia repandalis ([Denis & Schiffermüller], 1775) (Fig. 45)

Distribution: From Europe and NW Africa eastwards to the Middle East and Central Asia (Spuler 1910, Martin 1986, Nuss *et al*. 2000–2013, Slamka 2013).

Distribution in Italy: Northern and Central Italy, Sardinia (Bassi *et al.* 1995, Pinzari *et al*. 2010).

Records: 2♂, **Sicily**, Mt Etna, vers. mer., Canton[iera] (CT), 1890 m, 8.viii.1948; 1♀, Mt Etna, vers. sud, Castagneti di Pedara (CT), 900–1100 m, 14.v.1949; 2♀, idem, 600 m, 29.v.1949; all F. Hartig leg.; 1♀, Taormina (CT), 200 m, 18.x.1950; 1♂, idem, 13.iv.1959; all F. Hartig & I. von Griesheim leg.; in MZUR.

Note: New to Sicily, the present records were the basis for Slamka's (2013) inclusion of this island in the range of the species.

Pyrausta coracinalis Leraut, 1982 (= *nigralis* Hübner, 1793) (Fig. 46)

Distribution: From Spain and Switzerland to Central and Southeastern Europe (Spuler 1910, Nuss *et al.* 2000–2013, Slamka 2013).

Distribution in Italy: Northern and Central Italy (Bassi *et al.* 1995, Pinzari *et al*. 2010).

Record: 2♂, **Basilicata**, Mt Vulture (PZ), 1000 m, 25.v.1967, L. Barbera leg., in MCZR.

Notes: Recently recorded from the Central Apennines (Pinzari *et al*. 2010), this species is also present in Southern Italy. The above record from Mt Vulture was also plotted by Slamka (2013) in the map relevant to this species.

Fig. 45. *Paracorsia repandalis*, ♂, Sicily, Taormina; Fig. 46. *Pyrausta coracinalis*, ♂, Basilicata, Mt Vulture; Fig. 47. *Euclasta splendidalis*, ♀, Apulia, San Cataldo; Fig. 48. *Anania testacealis*, ♂, Latium, Castelporziano; Fig. 49. *Paratalanta pandalis*, ♂, Latium, Pisoniano.

Euclasta splendidalis (Herrich-Schäffer, 1848) (Figs 47, 50)

Distribution: From Eastern Europe and Greece to Southern Russia (Popescu-Gorj & Constantinescu 1973, Wust 1997, Nuss *et al*. 2000–2013, Slamka 2013).

Record: 1♀, **Apulia**, San Cataldo (LE), 15.vi.1983, C. Prola leg., in MCZR.

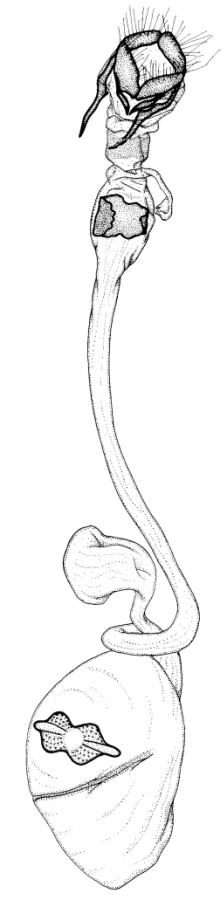


Fig. 50. Female genitalia of *Euclasta splendidalis*, Apulia, San Cataldo. Scale bar = 1 mm.

Notes: *Euclasta varii* Popescu-Gorj & Constantinescu, 1973, from whole Africa, Yemen and recently recorded also from Spain, Balearic Islands and Malta (Sammut 2005), is remarkably similar in facies to this species, with which it was long confused (Popescu-Gorj & Constantinescu 1973). A sure identification can be achieved by dissection of the genitalia, which proved the specimen here accounted to belong to the Eastern European taxon. New to Italy, the record from Apulia was also plotted by Slamka (2013) in the map relevant to this species.

Anania testacealis (Zeller, 1847) (Fig. 48)

Distribution: Central, Southern and Southeastern Europe (Spuler 1910, Martin 1986, Nuss *et al*. 2000–2013, Slamka 2013).

Distribution in Italy: Northern Italy, Sicily and Sardinia.

Records: 1♂, **Umbria**, Assisi, Pian della Pieve (PG), 700 m, 22.iv.2006, Z. & I. Zerunian leg., in MCZR. 1♂, **Latium**, Castelporziano (RM), 29.v.1949, C. Prola leg.; 1♂, idem, Villa di Capocotta (RM), 31.v.2002; 1♂, idem, Casale dei Contumaci (RM), 1–7.vi.2005; 1♀, idem, 12–19.vii.2005; 1♀, idem, 6–14.ix.2005; 1♂, idem, 14–21.ix.2005; 1♀, idem, 21–28.ix.2005; 1♂, idem, 28.ix–5.x.2005; 1♂, idem, 5–12.x.2005; all P. Maltzeff leg.; in MCZR.

Note: A species formerly unrecorded from Central Italy, recently quoted for this area by Slamka (2013) on the basis of these and another records from North Tuscany.

Paratalanta pandalis (Hübner, 1825) (Fig. 49)

Distribution: From Europe to the East Palaearctic (Spuler 1910, Martin 1986, Nuss *et al*. 2000–2013, Slamka 2013).

Distribution in Italy: Northern Italy and Sicily.

Record: 1♂, **Latium**, Pisoniano (RM), 400 m, 1.v.1981, C. Prola leg., in MCZR.

Note: A species newly recorded from Central Italy on the basis of the above and another record from Tuscany by Slamka (2013).

Spilomelinae

Arnia nervosalis Guenée, 1849 (Fig. 51)

Distribution: From Western Europe and NW Africa eastwards through the Mediterranean Islands to the Middle East (Rebel 1901, Amsel 1961, Rungs 1979, Nuss *et al*. 2000–2013, Slamka 2013).

Distribution in Italy: Sicily and Sardinia; recorded also from Central Italy by Amsel (1961) and, on the basis of the following records by Slamka (2013).

Records: 28♂, 100♀, **Toscana**, Burano (GR), 5 slm, 11.vii.2002; 2♀, idem, 12.vii.2002; 10♂, 14♀, idem, 24.vii.2002; 1♀, idem, 7.viii.2002; 1♀, idem, 21.viii.2002; all F. Nicolai leg., in MCZR. 5♀, **Latium**, Lago di Caprolace (LT), 30.ix.1979, C. Prola leg., in MCZR.

Notes: This typically mediterranean species was not quoted for the Italian Peninsula by Bassi *et al*. (1995). Nonetheless, the above records confirm Amsel's (1961) indication about its presence in Central Italy, where it may be locally abundant in coastal habitats. It is worth of noting the peak of records observed in a single night in the site of Burano.

Fig. 51. *Arnia nervosalis*, ♀, Latium, Lago di Caprolace; Fig. 52. *Herpetogramma licarsisalis*, ♀, Sardinia, Calamosca; Fig. 53. *Pleuroptya "balteata"*, ♀, Umbria, Narni; Fig. 54. *Mecyna asinalis*, ♂, Liguria, Pigna; Fig. 55. *Spoladea recurvalis*, ♂, Latium, Maccarese; Fig. 56. *Dolicharthria bruguieralis*, ♂, Liguria, Seborga; Fig. 57. *Udea institalis*, ♂, Piedmont, Ulzio; Fig. 58. *Udea lutealis*, ♂, Abruzzi, Gran Sasso.

Herpetogramma licarsisalis (Walker, 1859) (Fig. 52)

Distribution: Tropical-subtropical migrant element of Indoaustralian origin undergoing spreading in several regions of the Old World and the Pacific, possibly after accidental introduction also. Recorded in Europe from the Iberian Peninsula, Malta, British Isles and Sweden (Goater & Knill-Jones 1999, King 1999, Svensson 2003, Sammut 2005, Slamka 2013).

Distribution in Italy: Recently recorded from Is. Lampedusa and Sicily (Fiumi & Guidi 2011).

Record: 1♀, **Sardinia**, Calamosca (CA), 2.xi.2006, L. Fancello leg., in MCZR.

Notes: New to Sardinia, on the basis of a specimen collected in 2006. The other known records of this species in Italy, from Lampedusa and Sicily, by Fiumi & Guidi (2011) relate to specimens collected in 2010, whereas the first Maltese records date back to 1989

(Sammut 2005). The species is a well known turf pest feeding on several Poaceae which deserved the common name of 'tropical grass webworm' (Tashiro 1976, Willoughby & Barns 2002). The distribution in Italy is updated on the basis of the above record by Slamka (2013).

Pleuroptya "***balteata***" (Fabricius, 1798) (= *crocealis* Duponchel, 1834) (Fig. 53)

Distribution: Much uncertainty developed on whether the old concept of *Pleuroptya balteata* (Fabricius, 1798) had to be split between two species, viz. *P. crocealis* (Duponchel, 1834) from Central-southern Europe and the Middle East, and *P. balteata*, from the Afrotropical, Indoaustralian and Eastern Palaearctic regions (Leraut 2005, 2012). Slamka (2013) eventually concluded that only one species is involved.

Distribution in Italy: Northern Italy and Sicily (Bassi *et al*. 1995).

Record: 1♀, **Umbria**, Narni (TR), viii.1954, C. Prola leg., in MCZR.

Notes: Apparently a scarce species in Central Italy, from where there were no known records. That from Narni was recently included in Slamka (2013).

Mecyna asinalis (Hübner, 1819) (Fig. 54)

Distribution: From Macaronesia, NW Africa and Western Europe to Central Europe and the central Mediterranean (Spuler 1910, Zerny 1935, Meyer *et al*. 1997, Nuss *et al*. 2000–2013, Slamka 2013).

Distribution in Italy: Peninsular Italy, Sicily and Sardinia.

Records: 1♂, **Liguria**, Pigna (IM), 11.viii.1950; 1♀, Bordighera (IM), 1.ix.1950; all C. Prola leg., in MCZR.

Notes: Not mentioned for Northern Italy by Bassi *et al*. (1995), actually this species was already known to occur in Liguria (Schawerda 1926), something which we may confirm following the above record, included also in Slamka (2013).

Spoladea recurvalis (Fabricius, 1775) (= *fascialis* Stoll, 1782) (Fig. 55)

Distribution: Cosmopolitan.

Distribution in Italy: From Tuscany to Sicily (original data; included also in Slamka 2013).

Record: 1♂, 1♀, **Latium**, Maccarese (RM), 2.xi.1990, C. Prola leg., in MCZR.

Notes: Of this cosmopolitan pest species of tropical-subtropical origin formally recorded from Italy only recently (Lopez-Vaamonde *et al*. 2010), a sudden increase of records occurred since the early 2000's. For a proper reconstruction of the arrival and settlement in Italy of this nowadays fairly common species in the mediterranean belt, we deem worth of interest recording the first italian specimens known to us, actually from the surroundings of Rome in 1990.

Dolicharthria bruguieralis (Duponchel, 1831) (Fig. 56)

Distribution: N Africa, Southern, Central and Eastern Europe; Western Asia (Spuler 1910, Nuss *et al*. 2000–2013, Leraut 2003b, Slamka 2013).

Distribution in Italy: Emilia-Romagna, Peninsular Italy, Sicily and Sardinia.

Records: 1♂, **Liguria**, Seborga (IM), 12.viii.1950; 1♀, Bordighera (IM), 20.viii.1950; all C. Prola leg., in MCZR.

Notes: A thermophilous vagrant species not mentioned for Northern Italy by Bassi *et al*. (1995), which was subsequently quoted from the area by Parenti (2000) on the basis of a specimen from Bologna. The aforementioned old records from Liguria, included also in Slamka (2013), indicate that it is either more widespread in Northern Italy or it may occasionally spread over other areas after vagration.

Udea institalis (Hübner, 1819) (Fig. 57)

Distribution: Recorded from Spain and NW Africa across the Mediterranean basin eastwards to Southern European Russia, Asia Minor and NW Iran (Rebel 1901, Spuler 1910, Martin 1986, Nuss *et al*. 2000–2013, Slamka 2013), records from Greece to the East are also ascribable, at least in part, to its close ally *Udea confinalis* (Lederer, 1858) (Slamka 2013).

Distribution in Italy: Peninsular Italy and Sicily.

Record: 1♂, **Piedmont**, Ulzio (TO), 16.vii.1952, C. Prola leg., in MCZR.

Notes: New to Northern Italy, from where it was also recently quoted on the basis of the present and another record by Slamka (2013).

Udea lutealis (Hübner, 1809) (Fig. 58)

Distribution: From Western Europe eastwards to Central Asia (Spuler 1910, Martin 1986, Nuss *et al*. 2000–2013, Slamka 2013).

Distribution in Italy: Northern Italy.

Record: 1♂, **Abruzzi**, Gran Sasso (AQ), 2000 m, 2.viii.1980, C. Prola leg., in MCZR.

Notes: Not yet recorded from Central Italy. The very same record from Gran Sasso was plotted by Slamka (2013) in the map relevant to the range of the species.

Acknowledgements

Realisation of this work would not have been possible without the helpful collaboration of several friends and colleagues, above all Andrea Grassi (Tivoli Terme), Paolo Maltzeff (Rome), Fabio Mosconi (Rome), Piero Provera (†) (Rome) and Zerun Zerunian (Assisi) for giving us in study noteworthy specimens collected by them, Leonardo Latella (MSNV), Franco Mason (CNBFVR), Gianluca Nardi (CNBFVR) and Augusto Vigna Taglianti (MZUR) for the loan of important material in the institutional collections under their care, Graziano Bassi (Turin), Gabriele Fiumi (Forlì), Martin Honey (Natural History Museum, London), Mike Schaeffer (†) (Natural History Museum, London), František Slamka (Bratislava), Francesca Vegliante (c/o Senckenberg Naturhistorische Sammlungen, Dresden) for advice and exchange of useful information, the staff of 'Biblioteca Centralizzata G. Goidanich' of the University of Bologna for bibliographic help, Emanuela Peria and Daniele Valfrè (Riserva Naturale regionale Montagne della Duchessa) for

allowing a field survey on Mt Velino (Abruzzi) and assistance during the excursion, Massimo Di Rao (Associazione Oletepsiuchè) for providing his expertise in the taking of pictures and Robert Woods (Guisborough) for the language revision of the manuscript.

References

Aina J. O. 1983. *Phycita melongenae* sp. n. (Lepidoptera: Pyralidae) associated with eggplant in West Africa. — *Bulletin of entomological Research* **73**: 427–429, pl. 4.

Amsel H. G. 1961. Die Microlepidopteren der Brandt'schen Iran-Ausbeute 5. Teil. — *Arkiv för Zoologi* (N.S.) (2) **13**: 323–445, pls 1–9.

Arenberger E. & Wimmer J. 2003. Dritter Nachtrag zur Mikrolepidopterenfauna Zyperns. — *Quadrifina* **6**: 43–54.

Asselbergs J. 2004. *Hypotia delicatalis* Asselbergs, sp. n., a new species from Spain, close to *Hypotia corticalis* ([Denis & Schiffermüller], 1775) (Lepidoptera: Pyralidae). — *SHILAP Revista de Lepidopterología* **32**: 275–279.

Báez M. 1998. *Mariposas de Canarias*. — Editorial Rueda, Madrid, 216 pp.

Báez M. & Martín E. 2004. Lepidoptera. – In: Zamora I. I. *et al.*, *Lista de especies silvestres de Canarias* (*hongos, plantas y animales terrestres*). — Consejería de Política Territorial y Medio Ambiente, La Laguna, pp. 247–260.

Balachowsky A. S. 1972. *Entomologie appliquée à l'agriculture II. Lépidoptères 2*. — Masson et C.ie, Paris, 1059–1634 pp.

Bassi G., Passerin D'Entrèves P., Speidel W. & Zangheri S. 1995. Lepidoptera Pyraloidea. – In: Minelli A., Ruffo S., La Posta S., *Checklist delle specie della fauna italiana* **87**. — Calderini, Bologna, pp. 1–28.

Błeszyński S. 1965. Crambinae. – In: Amsel H. G., Gregor F. & Reisser H. (eds), *Microlepidoptera Palaearctica* **1**. — G. Fromme & Co. Wien, pp. 1–553.

Brusseaux G. 2004. *Hypotia muscosalis* Rebel, 1917 (= *H. delicatalis* Asselbergs, 2004), pyrale nouvelle pour la Corse (Lepidoptera, Pyralidae Pyralinae). — *Alexanor* **23**: 305–306.

Costa O. G. [1836]–(1850). Fauna del Regno di Napoli ossia enumerazione di tutti gli animali che abitano le diverse regioni di questo regno e le acque che le bagnano contenente la descrizione de nuovi o poco esattamente conosciuti con figure ricavate da originali viventi e dipinte al naturale. Lepidotteri. — Tramater, Napoli, xi + [434] pp., 38 pls.

Costantini A. 1923. Lepidoptera pro fauna italica nova, additis specierum formarumque novarum descriptionibus. II. — *Neue Beiträge zur systematischen Insektenkunde* **2**: 105–107.

Della Beffa G. 1940–1941. I piralidi della catena alpina. — *Bollettino del Laboratorio sperimentale e R. Osservatorio di Fitopatologia* **17** (1940): [1–34], pls 1–5, 18 (1941): [1–42], pls 1–6.

Fazekas I. 2001. A Mátra-vidék Pyraloidea (s. str.) faunája (Microlepidoptera). — *Folia historico naturalia Musei matraensis* **25**: 261–286.

Fiumi G. & Guidi G. 2011. Segnalazioni faunistiche. 110 – *Herpetogramma licarsisalis* (Walker, 1859) (Lepidoptera Crambidae). — *Quaderno di Studi e Notizie di Storia naturale della Romagna* **32**: 203.

Goater B. & Knill-Jones S. A. 1999. *Herpetogramma licarsisalis* (Walker, 1859) (Lepidoptera: Pyralidae), the Grass Webworm, new to Britain. — *Entomologist's Gazette* **50**: 71–74.

Goater B., Nuss M. & Speidel W. 2005. *Microlepidoptera of Europe* **4**. *Pyraloidea* I. — Apollo Books, Stenstrup, 304 pp.

Hampson G. F. 1900. New Palaearctic Pyralidae. — *The Transactions of the entomological Society of London* **1900**: 369–401, pl. 3.

Hartig F. & Amsel H. G. 1952. Lepidoptera Sardinica. — *Fragmenta entomologica* **1** (1951): 3–159.

Hering M. 1940. Über die Unterschiede zwischen *Titanio schrankiana* (Hochw.) und *T. phrygialis* (Hbn.), mit Beschreibung von *T. phrygialis kardakoffi* n. subsp. (Lepidoptera: Pyralidae). — *Arbeiten über morphologische und taxonomische Entomologie aus Berlin-Dahlem* **7**: 318–321.

Huertas Dionisio M. 2008. Estados immaturos de Lepidoptera (XXXIV). *Cathayia insularum* (Speidel & Schmitz, 1991) en Huelva, España (Lepidoptera: Pyralidae, Galleriinae). — *SHILAP Revista de Lepidopterología* **36**: 421–425.

King G. E. 1999. Primera cita para Cataluña de *Herpetogramma licarsisalis* (Walker, 1859) (Lepidoptera: Pyralidae, Pyraustinae). — *Buttletí de la Societat catalana de Lepidopterología* **84**: 19–20.

Leraut P. 2000. Contribution à l'étude du genre *Actenia* Guenée [Lepidoptera, Pyralidae, Pyralinae]. — *Revue française d'Entomologie* (N.S.) **22**: 239–244.

Leraut P. 2003a. Contribution à l'étude des Pyraloidea [Lepidoptera, Pyralidae, Crambidae]. — *Revue française d'Entomologie* (N.S.) **25**: 123–142.

Leraut P. 2003b. Étude de quelques pyrales paléarctiques (Lepidoptera, Crambidae). — *Nouvelle Revue d'Entomologie* **20**: 133–147.

Leraut P. 2005. Étude de quelques genres et espèces de Pyrales [Lepidoptera, Pyraloidea]. — *Revue française d'Entomologie* (N.S.) **27**: 21–44.

Leraut P. 2012. *Moths of Europe* **3**. *Zygaenids, Pyralids 1 and Brachodids*. — N.A.P. éditions, Verrières-le-Buisson, 599 pp.

Leraut P. 2014. *Moths of Europe* **4**. *Pyralids 2*. — N.A.P. éditions, Verrières-le-Buisson, 440 pp.

Lopez-Vaamonde C., Agassiz D., Augustin S., De Prins J., De Prins W., Gomboc S., Ivinskis P., Karsholt O., Koutroumpas A., Koutroumpa F., Laštůvka Z., Marabuto E., Olivella E., Przybylowicz L., Roques A., Ryrholm N., Šefrová H., Šima P., Sims I., Sinev S., Skulev B., Tomov R., Zilli A. & Lees D. 2010. Lepidoptera. Chapter 11. – In: Roques *et al*. (eds), *Alien terrestrial arthropods of Europe*. — *BioRisk* **4**: 603–668.

Luquet G. C. 1997. Description d'une nouvelle sous-espèce de *Metaxmeste phrygialis* Hübner, 1796 (Lepidoptera Crambidae Odontiinae). — *Alexanor* **19** (1996): 339–344.

Mariani M. 1943. Fauna Lepidopterorum Italiae. Parte I. Catalogo ragionato dei Lepidotteri d'Italia. — *Giornale di scienze naturali ed economiche* **42** (1940–1941): 1–237.

Martin M. O. 1986. Pyraustidae. – In: Medvedev G.S. (ed.), *Opredelitel' Nasekomykhh evropeiskoi Chast' SSSR* **4**, *Lepidoptera* **3**. — Nauka Publications, Leningrad, pp. 340–429.

Mazel R. 2010. La Pyrale des palmiers, *Cathayia insularum* (Speidel & Schmitz, 1991) découverte à Perpignan (Lepidoptera, Pyralidae, Galleriinae). — *Revue de l'Association roussillonaise d'Entomologie* **19**: 124–125.
Meyer M., Nuss M. & Speidel W. 1997. Kommentierte Checkliste der Pyraloidea von den Azoren, mit der Beschreibung von drei neuen Arten (Lepidoptera: Pyraloidea). — *Beiträge zur Entomologie* **47**: 13–34.
Murase M., 2003. Larvae of two phycitine moths, *Pempelia formosa* (Haworth) and *Ectomyelois ceratoniae* (Zeller) (Pyralidae, Phycitinae). — *Japan Heterocerists' Journal* **225**: 475–476.
Nuss M., Speidel W. & Segerer A. 2000–2013. Pyraloidea. – In: *Fauna Europaea Web Service*. Version 2.6.2 - http://www.faunaeur.org/ (last accession 13.12.2013).
Parenti U. 2000. *A Guide to the Microlepidoptera of Europe*. — Museo Regionale di Scienze Naturali, Torino, 426 pp.
Pavesi F. & Zilli A. 2011. *Cathayia insularum* (Speidel & Schmitz, 1991) (Lepidoptera: Pyralidae), un altro "pest" delle palme in Italia? — *XXXVIII Congresso della Società Italiana di Biogeografia, Programma ed Abstracts*: 46.
Pérez De-Gregorio J. J., Fernández D. & Rondós M. 2010. Prèsencia a Catalunya del piràlid de les palmeres, *Cathayia insularum* (Speidel & Schmitz, 1991) (Lepidoptera: Pyralidae, Galleriinae). — *Butlletí de la Societat catalana de Lepidopterología* **101**: 129–130.
Pinzari M., Pinzari M., & Zilli A. 2010. Deep lepidopterological exploration of Mt Cagno and surroundings (Central Italy), a restricted mountain massif and hotspot for butterfly and moth diversity (Lepidoptera). — *Bollettino dell'Associazione romana di Entomologia* **65**: 3–383.
Popescu-Gorj A. & Constantinescu A. 1973. New African species of *Euclasta* (Lepidoptera, Pyraustinae). — *Revue roumaine de Biologie* (*Zoologie*) **18**: 393–401.
Rebel H. 1901. II Theil: Famil. Pyralidae – Micropterygidae [sic]. – In: Staudinger O. & Rebel H., *Catalog der Lepidopteren des palaearctischen Faunengebietes*. — Friedlander & Sohn, Berlin, pp. 1–265.
Robinson G. S., Ackery P. R., Kitching I. J., Beccaloni G. W. & Hernández L. M. 2010. *HOSTS – A database of the world's lepidopteran hostplants*. — Natural History Museum, London. http://www.nhm.ac.uk/hosts (accessed 25.10.2010).
Roesler U. R. 1973. Trifine Acrobasiina. – In: Amsel H. G., Gregor F. & Reisser H. (eds), *Microlepidoptera palaearctica* **4**. — G. Fromme & Co., Wien, pp. i–xvi, 1–752 + 1–137, pls 1–170.
Rungs C. E. E. 1979. Catalogue raisonné des lépidoptères du Maroc. Inventaire faunistique et observations écologiques, 1. — *Travaux de l'Institut scientifique Rabat* (*Série Zoologie*) **40**: [i–viii], 1–222, 2 maps.
Sammut P. 2000. *Il-Lepidoptera*. — Kullana Kulturali 12. Pubblikazzjonijiet Indipendenza, Il-Pjetà, x + 246 pp., 24 pls.
Sammut P. 2005. The correct identity of three Pyralidae moths from the Maltese Islands (Lepidoptera: Pyralidae). — *SHILAP Revista de Lepidopterología* **33**: 235–238.
Schawerda K. 1926. Neue Lepidopterenformen aus meiner Sammlung. — *Zeitschrift des österreichischen Entomologen Vereins* **11**: 86–88.
Sinev S. Y. 1986. Phycitidae. – In: Medvedev G.S. (ed.), *Opredelitel' Nasekomykhh evropeiskoi Chast' SSSR* **4**, *Lepidoptera* **3**. — Nauka Publications, Leningrad, pp. 251–339.
Slamka F. 2006. *Pyraloidea of Europe/Europas* (*Lepidoptera*) **1**. *Pyralinae, Galleriinae, Epipaschiinae, Cathariinae & Odontiinae*. — F. Slamka, Bratislava, 138 pp.
Slamka F. 2013. *Pyraloidea of Europe/Europas* (*Lepidoptera*) **3**. *Pyraustinae & Spilomelinae.* — F. Slamka, Bratislava, 357 pp.
Speidel W. & Schmitz W. 1991. Eine neue Wachsmotte (Lep., Pyralidae, Galleriinae) aus der West-Paläarktis. — *Bonner zoologische Beiträge* **42**: 217—222.
Spuler A. 1910. *Die Schmetterlinge Europas* **2**. — Schweizerbart, Stuttgart, 523 pp.
Staudinger O. 1859. Diagnosen nebst kurzen Beschreibungen neuer andalusischer Lepidopteren. — *Entomologischer Zeitung Stettin* **20**: 211–259.
Staudinger O. 1870–1871. Beschreibung neuer Lepidopteren des europäischen Faunengebiets. — *Berliner entomologische Zeitschrift* **14** (1870): 97–132, 193–208; (1871) 273–330.
Svensson I. 2003. Anmärkningsvärda find av småfjärilar (Microlepidoptera) i Sverige 2003. — *Entomologisk Tidskrift* **125**: 43–53.
Tashiro H. 1976. Biology of the Grass Webworm, *Herpetogramma licarsisalis* (Lepidoptera: Pyraustidae) in Hawaii. — *The Annals of the entomological Society of America* **69**: 797–803.
Turati E. 1919. A 1000 metri sull'Appennino modenese. Note di lepidotterologia e descrizione di tre nuove specie di micri. — *Atti della Società italiana di Scienze Naturali e del Museo civico di Storia naturale in Milano* **58**: 147–187.
Turati E. 1921. Lepidotteri di Cirenaica raccolti dal Prof. Alessandro Ghigi durante l'escursione organizzata dal Touring Club Italiano nel mese d'aprile 1920. — *Atti della Società italiana di Scienze naturali* **60**: 211–229.
Vári L., Kroon D. M. & Krüger M. 2002. *Classification and checklist of the species of Lepidoptera recorded in southern Africa*. — Simple Solutions, Chatswood, xxii + 385 pp.
Vegliante F. & Zilli A. 2007. The butterflies and moths of the Park and surroundings (Lepidoptera). — *Conservazione Habitat Invertebrati* **4**: 307–364.
Vigna Taglianti A. & Zilli A. 2008. *Il conte e le farfalle. Omaggio a Federico Hartig*. — Belvedere, Latina, 76 pp.
Willoughby B. E. & Barns S. A. 2002. Tropical grass webworm (*Herpetogramma licarsisalis*): implications for dairy farming in Northland. — *New Zealand Plant Protection* **55**: 30–36.
Wiltshire E. P. 1957. *The Lepidoptera of Iraq*. — Government of Iraq, Ministry of Agriculture c/o Coadlard & Son, London, 162 pp., 12 pls.
Wust P. 1997. *Euclasta splendidalis* (Herrich-Schaffer 1849), neu für die Fauna von Griechenland (Lepidoptera: Pyralidae: Pyraustinae). — *Entomologische Zeitschrift* **107**: 352–353.
Zerny H. 1935. Die Lepidopterenfauna des Grossen Atlas in Marokko und seiner Randgebiete. — *Mémoires de la Société des Sciences Naturelles* (*et Physiques*) *du Maroc* **42**: 1–157, pls 1–2.