

## Short Communication

# Contribution to the knowledge of Ypsolophidae from forested habitats of Southern Italy with an update of the Italian checklist of the genus *Ypsolopha* Latreille 1796 (Lepidoptera: Yponomeutoidea)

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**Abstract** - The Italian fauna of the family Ypsolophidae consists of 19 species. In recent years, knowledge for peninsular Italy has increased, but especially for central Italy. Actually, only few records are available for the southern regions. During the surveys dedicated to the study of macrolepidoptera, several microlepidoptera were also collected. In this paper, the results of the collections for the genus *Ypsolopha* Latreille 1796 in the Calabria region are reported, updating the Italian checklist of this genus 27 years after its publication. Nine species are listed among which *Y. persicella* (Fabricius 1787) is new to the fauna of Peninsular Italy, while six other species are new to the fauna of Southern Italy.

**Key words:** biodiversity, Calabria, checklist, microlepidoptera.

**Riassunto:** Contributo alla conoscenza degli Ypsolophidae degli habitat forestali dell'Italia meridionale con un aggiornamento della checklist italiana del genere *Ypsolopha* Latreille 1796 (Lepidoptera Yponomeutoidea).

La fauna italiana della famiglia Ypsolophidae consiste di 19 specie. Negli ultimi anni, le conoscenze per l'Italia peninsulare sono aumentate, ma soprattutto per l'Italia centrale. Attualmente, solo pochi record sono disponibili per le regioni meridionali. Durante le indagini dedicate allo studio dei macrolepidotteri, sono stati raccolti anche diversi microlepidotteri. In questo lavoro vengono riportati i risultati delle raccolte per il genere *Ypsolopha* Latreille 1796 nella regione Calabria, aggiornando la checklist italiana di questo genere a 27 anni dalla sua pubblicazione. Sono elencate nove specie tra cui *Y. persicella* (Fabricius 1787) è nuova per la fauna dell'Italia peninsulare, mentre altre sei specie sono nuove per la fauna dell'Italia meridionale.

**Parole chiave:** biodiversità, Calabria, checklist, microlepidoptera.

## INTRODUCTION

The Italian fauna of the family Ypsolophidae (Lepidoptera: Yponomeutoidea) is composed of 19 species

(Baraniak *et al.*, 1995), 16 of which belong to the genus *Ypsolopha* Latreille 1796 (subfamily Ypsolophinae). When the Italian checklist was compiled (Baraniak *et al.*, 1995), 14 species were known from the Northern continental part of Italy, and nine from its central and southern peninsular part. In recent years, *Ypsolopha alpella* (Denis & Schiffermüller 1775) was added to the fauna of continental Italy (Baldizzone *et al.*, 2013), whilst five species were added to the fauna of Central Italy, namely *Y. lucella* (Fabricius 1775), *Y. sylvella* (Linnaeus 1767), *Y. ustella* (Clerck 1759) (Pinzari *et al.*, 2010), *Y. horridella* (Treitschke 1835) (Pinzari *et al.*, 2013), and *Y. mucronella* (Scopoli 1763) (Pinzari *et al.*, 2015). Knowledge for the southern regions of peninsular Italy is poor and fragmented, lacking faunal surveys in a large part of the territory. Apart from species generically recorded for peninsular Italy (Baraniak *et al.*, 1995), only a few records are available for the Calabria region. *Ypsolopha ustella* was recorded in the Sila (Scalercio *et al.*, 2015) and in the Aspromonte (Baldizzone & Scalercio, 2018) massifs, and *Y. parenthesella* (Linnaeus 1761) in the Aspromonte massif (Baldizzone & Scalercio, 2018).

During recent years, several surveys on nocturnal Lepidoptera were carried out in forest habitats of the Calabria region, significantly increasing the faunal and taxonomic knowledge for this region (Scalercio, 2016; Infusino *et al.*, 2016; Greco *et al.*, 2018; Scalercio *et al.*, 2019). During these surveys several microlepidoptera were collected and voucher specimens were preserved in the Lepidoptera Research collection of the Research Centre for Forestry and Wood of Rende (CREA-FL), Italy, for further studies. In this paper, we report our findings about the genus *Ypsolopha* from Calabria, and update the Italian checklist of the genus *Ypsolopha* 27 years after its first publication.

## MATERIALS AND METHODS

Surveys were carried out using UV LED light traps (Infusino *et al.*, 2017). Identification was performed using available iconography (Parenti, 2000; Běln, 2003), including World Wide Web sites (mothdissection.co.uk; lepi-forum.org). Preparation of genitalia for the identification

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of difficult taxa followed Parenti (2000). For each species we reported the following data: collecting site, municipality, province, altitude above the sea level, geographical coordinates of the collecting site, date of collection, number of specimens in the CREA-FL collection, name/s of collector/s, microscope slide number (when applicable), hostplants known from literature, species distribution according to Karsholt & Nieuwerkerken (2013), and habitat of collection.

## RESULTS AND DISCUSSION

The Italian checklist of the genus *Ypsolopha* was published 27 years ago (Baraniak *et al.*, 1995) and required updating. The recent findings (Tab. 1), thanks to an increased research effort, strongly improved the knowledge of the *Ypsolopha* fauna for Italy, mainly for the South (Baldizzone *et al.*, 2013; Pinzari *et al.*, 2010, 2013, 2015; present study). We collected nine species belonging to the genus *Ypsolopha*, among which *Y. persicella* (Fabricius 1787) is new to the fauna of peninsular Italy, whereas six more species are new to the fauna of Southern Italy. No substantial difference in the species composition of the

Tab. 1 - Updated Italian checklist of the genus *Ypsolopha* in alphabetical order. Additions of the last 27 years are in bold and underlined. North (N), corresponding to the continental part of Italy; peninsular Italy (S), corresponding to the central and southern regions south of Emilia-Romagna; Sicily (Si); Sardinia (Sa). Question marks highlight uncertain records. / Checklist italiana aggiornata del genere *Ypsolopha* in ordine alfabetico. Le aggiunte degli ultimi 27 anni sono in grassetto e sottolineate. Nord (N), corrispondente alla parte continentale dell'Italia; Italia peninsulare (S), corrispondente alle regioni centrali e meridionali a sud dell'Emilia-Romagna; Sicilia (Si); Sardegna (Sa). I punti interrogativi evidenziano i record incerti.

<i>Ypsolopha albiramella</i> (Mann 1861)		S?		
<i>Ypsolopha alpella</i> ([Denis & Schiffermuller] 1775)	<b><u>N</u></b>	S	Si	Sa
<i>Ypsolopha asperella</i> (Linnaeus 1761)	N	S		
<i>Ypsolopha dentella</i> (Fabricius 1775)	N	S	Si	
<i>Ypsolopha falcella</i> (Hübner 1796)	N			
<i>Ypsolopha horridella</i> (Treitschke 1835)	N	<b><u>S</u></b>		
<i>Ypsolopha lucella</i> (Fabricius 1775)	N	<b><u>S</u></b>	Si?	
<i>Ypsolopha mucronella</i> (Scopoli 1763)	N	<b><u>S</u></b>	Si	Sa
<i>Ypsolopha nemorella</i> (Linnaeus 1758)	N	S	Si	
<i>Ypsolopha parenthesesella</i> (Linnaeus 1761)	N	S		
<i>Ypsolopha persicella</i> (Fabricius 1787)	N	<b><u>S</u></b>		
<i>Ypsolopha scabrella</i> (Linnaeus 1761)	N	S		
<i>Ypsolopha sequella</i> (Clerck 1759)	N	S		
<i>Ypsolopha sylvella</i> (Linnaeus 1767)	N	<b><u>S</u></b>		
<i>Ypsolopha ustella</i> (Clerck 1759)	N	<b><u>S</u></b>	Si	
<i>Ypsolopha vittella</i> (Linnaeus 1758)	N	S		

*Ypsolopha* fauna exists between continental and peninsular Italy, each area having only one exclusive species. No additions were made for Sicily and Sardinia. Below, the complete list of the newly added species in alphabetical order:

*Ypsolopha alpella* (Denis & Schiffermüller 1775) (Fig. 1a)

Records: Campanella, Sellia, Catanzaro, 506 m, 38.9859°N - 16.6198°E, 1.X.2019 (1 ex.), S. Scalerio leg.; Malagieca, Sellia, Catanzaro, 193 m, 38.9859°N - 16.6198°E, 25.VI.2019 (1 ex.), S. Scalerio leg.

Host plants: *Quercus* (Parenti, 2000).

Distribution: Albania, Austria, Belgium, Great Britain Island, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Norway, Poland, Romania, Slovakia, Sweden, Switzerland, The Netherlands.

Habitat: It has been found at low and medium altitude in xerothermic woodlands of *Quercus suber* L. and *Q. pubescens* Willd.

*Ypsolopha mucronella* (Scopoli 1763) (Fig. 1b)

Records: Il Palmento, Serra San Bruno, Vibo Valentia, 830 m, 38.7547°N - 16.0864°E, 10.V.2016 (1 ex.), S. Scalerio & M. Infusino leg.; Contrada Licari, Marcellinara, Catanzaro, 195 m, 38.9180°N - 16.4961°E, 2.IV.2019 (1 ex.), S. Scalerio leg.; Cappiglione, Sellia, Catanzaro, 533m, 38.9732°N - 16.6244°E, 27.I.2020 (1 ex.), S. Scalerio leg.

Host plants: *Euonymus* (Bělin, 2003).

Distribution: Albania, Austria, Belarus, Belgium, Great Britain, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, Portugal, Poland, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, The Netherlands.

Habitat: Records refer to different habitats, from mixed woodlands of *Abies alba* Mill. and *Fagus sylvatica* L. to riparian and *Quercus suber* forests.

*Ypsolopha nemorella* (Linnaeus 1758) (Fig. 1c)

Records: Fosso Cucolo, Donnici Inferiore, Cosenza, 550 m, 39.2369°N - 16.2972°E, 7.VIII.2013 (2 ex.), S. Scalerio leg.; Santa Maria, Serra San Bruno, Vibo Valentia, 860 m, 38.5550°N - 16.3109°E, 3.VIII.2016 (1 ex.), S. Scalerio & M. Infusino leg.

Host plants: *Salix* spp., *Lonicera* spp. (Parenti, 2000).

Distribution: Albania, Austria, Belgium, Great Britain, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Russia, Norway, Poland, Romania, Slovakia, Spain, Sweden, Switzerland, The Netherlands.

Habitat: It was found at the margin of a *Quercus pubescens* woodland and in a mature forest of *Abies alba*.

*Ypsolopha parenthesesella* (Linnaeus 1761) (Fig. 1d)

Records: Piano del Minatore, Saracena, Cosenza, 1431 m, 39.7804°N - 16.0675°E, 31.VIII.2016 (2 ex.), S. Scalerio & M. Infusino leg.; Piano del Faggio, Acquafredda, Cosenza, 1357 m, 39.7587°N - 16.0736°E, 31.VIII.2016 (1 ex.), S. Scalerio & M. Infusino leg.; Colle Roncino, Taverna, Catanzaro, 1449 m, 39.0831°N - 16.6104°E, 25.IX.2019 (1 ex.), S. Scalerio & C. Di Marco leg.



Host plants: Several broadleaved trees such as *Fagus sylvatica*, *Populus nigra* L., *P. tremula* L., *Fraxinus excelsior* L., *Ulmus campestris* L (Burmman, 1985), but also plants of the genera *Myrica*, *Alnus*, *Betula*, *Carpinus*, *Corylus*, *Quercus*, *Malus* (Parenti, 2000), and *Crataegus* (Bélin, 2003).

Distribution: Austria, Belgium, Bosnia, Great Britain, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Norway, Poland, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, The Netherlands.

Habitat: Found at high altitude in *Fagus sylvatica* forests and their margins, and in a mixed *Pinus nigra* subsp. *calabrica* (Loud.) Cesca & Peruzzi and *F. sylvatica* forest.

*Ypsolopha persicella* (Fabricius 1787) (Fig. 1e)

Records: Glicarello, Montalto Uffugo, Cosenza, 550 m, 39.4072°N - 16.1256°E, 9.XI.2015 (1 male), S. Scalerio & M. Infusino leg. (microscope slide: CREA-0235).

Host plants: *Prunus* (Parenti, 2000).

Distribution: Austria, Belgium, Bulgaria, Croatia,

Cyprus, Czech Republic, France, Germany, Greece, Hungary, Italy, Luxembourg, Macedonia, Poland, Portugal, Romania, Serbia, Slovakia, Spain, Switzerland.

Habitat: The specimen was collected in a *Castanea sativa* Mill. woodland for fruit production.

*Ypsolopha scabrella* (Linnaeus 1761) (Fig. 1f)

Records: Sciortaglie, Alessandria del Carretto, Cosenza, 1246 m, 39.9313°N - 16.3508°E, 17.VIII.2017 (1 ex.), 18.IX.2017 (1 ex.), S. Scalerio & M. Infusino leg.

Host plants: It prefers *Amelanchier ovalis* Medik., but also on *Pyrus malus* L. (Burmman, 1985), *Malus sylvestris* Mill., *Pyrus communis* L., *Prunus domestica* L., *Crataegus* (Bélin, 2003), and *Cotoneaster* spp.

Distribution: Austria, Belarus, Belgium, Great Britain, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Norway, Poland, Portugal, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, The Netherlands.

Habitat: It was collected at the margin between a mixed broadleaved forest and a pasture with sparse bushes of *Pyrus* at montane altitude.

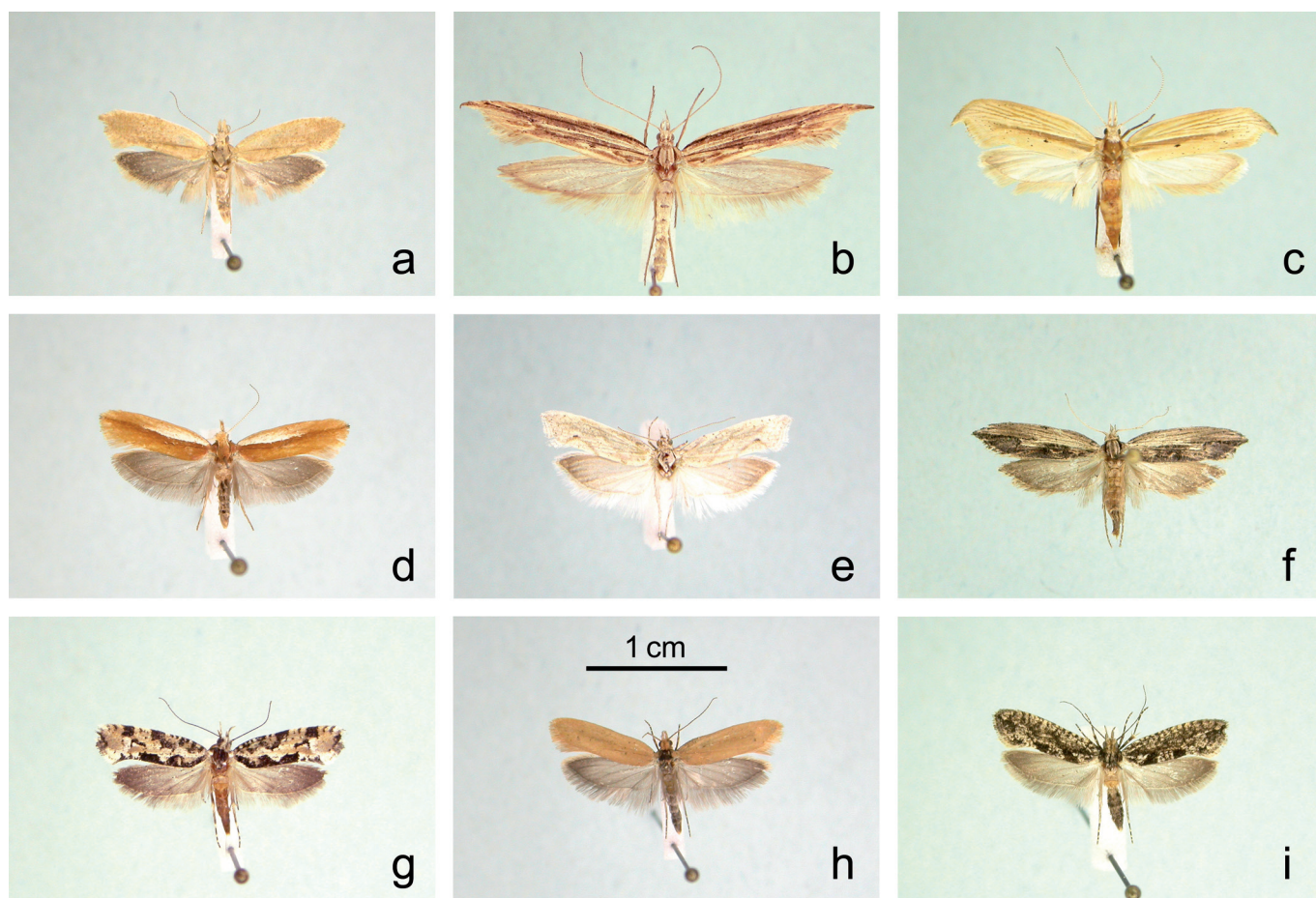


Fig. 1 - Species of the genus *Ypsolopha* found in Calabria. / Specie del genere *Ypsolopha* trovate in Calabria.

a) *Y. alpella*, 01.X.2019, Campanella, Sellia, Catanzaro. b) *Y. mucronella*, 10.V.2016, Il Palmento, Serra San Bruno, Vibo Valentia. c) *Y. nemorella*, 7.VIII.2013, Fosso Cucolo, Donnici, Cosenza. d) *Y. parenthesesella*, 31.VIII.2016, Piano del minatore, Saracena, Cosenza. e) *Y. persicella*, 9.XI.2015, Glicarello, Montalto Uffugo, Cosenza. f) *Y. scabrella*, 17.VIII.2017, Sciortaglie, Alessandria del Carretto, Cosenza. g) *Y. sequella*, 19.VII.2017, Sciortaglie, Alessandria del Carretto, Cosenza. h) *Y. ustella*, 25.IX.2019, Coturrelle, Albi, Catanzaro. i) *Y. vittella*, 5.VIII.2013, Pianette, Dipignano, Cosenza.

*Ypsolopha sequella* (Clerck 1759) (Fig. 1g)

Records: Vallone Lupara, Alessandria del Carretto, Cosenza, 1346 m, 39.9245°N - 16.3609°E, 18.IX.2017 (1 ex.), S. Scalercio & M. Infusino leg.; Sciortaglie, Alessandria del Carretto, Cosenza, 1246 m, 39.9313°N - 16.3508°E, 19.VII.2017 (1 ex.), S. Scalercio & M. Infusino leg.; Serra Ambruna, Saracena, Cosenza, 1035 m, 39.8234°N - 16.0768°E, 14.X.2015 (1 ex.), S. Scalercio & M. Infusino leg.

Host plants: *Acer pseudoplatanus* L. (Burmman, 1985), and *Acer campestre* L. (Baldizzone *et al.*, 2013). Also reported *Salix caprea* L. and *Tilia cordata* Mill. (Bělin, 2003),

Distribution: Austria, Belarus, Belgium, Bosnia, Great Britain, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Luxembourg, Norway, Poland, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, The Netherlands.

Habitat: Specimens were found in *Acer* forests and in a mixed broadleaved forest at montane altitude.

*Ypsolopha ustella* (Clerck 1759) (Fig. 1h)

Records: Vallone Argentino, Montalto Uffugo, Cosenza, 545 m, 39.4096°N - 16.1250°E, 1.VI.2016 (1 ex.), S. Scalercio & M. Infusino leg.; Serra Cannile, Spezzano della Sila, Cosenza, 1433 m, 39.3465°N - 16.4091°E, 7.VI.2018 (1 ex.), 12.VI.2018 (1 ex.), 16.VII.2018 (1 ex.), S. Scalercio leg.; Vallone Tasso, Spezzano della Sila, Cosenza, 1402 m, 39.3328°N - 16.4143°E, 7.VI.2018 (1 ex.), S. Scalercio leg.; Coturelle, Albi, Catanzaro, 1259 m, 39.0735°N - 16.5891°E, 25.IX.2019 (1 ex.), S. Scalercio & C. Di Marco leg.; Vaccaro, Sellia, Catanzaro, 391 m, 38.9664°N - 16.6249°E, 27.I.2020 (1 ex.), S. Scalercio leg.; Campanella, Sellia, Catanzaro, 506 m, 38.9859°N - 16.6198°E, 17.II.2020 (1 ex.), S. Scalercio leg.; Colle Roncino, Taverna, Catanzaro, 1375 m, 39.0853°N - 16.5989°E, 25.IX.2019 (1 ex.), S. Scalercio & C. Di Marco leg.

Host plants: *Quercus*, *Tilia* (Parenti, 2000).

Distribution: Albania, Austria, Belgium, Great Britain, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lichtenstein, Lithuania, Luxembourg, Macedonia, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, The Netherlands.

Habitat: Widespread in several habitat types at very different altitude. Found in chestnut, mixed, pine, cork oak, and other forest types.

Note: It is a very variable species. Several forms of this species were found in Calabria.

*Ypsolopha vittella* (Linnaeus 1758) (Fig. 1i)

Records: Pianette, Dipignano, Cosenza, 765 m, 39.2447°N - 16.2358°E, 5.VIII.2013 (1 ex.), S. Scalercio leg.; Serra Cannile, Spezzano della Sila, Cosenza, 1435 m, 39.3468°N - 16.4093°E, 13.VIII.2018 (1 ex.), S. Scalercio leg.

Host plants: *Ulmus* (Burmman, 1985)

Distribution: Austria, Belgium, Great Britain, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Lux-

embourg, Norway, Poland, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, The Netherlands.

Habitat: Found in mixed forests at medium and high altitude.

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