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Monograph of the genus *Hilara* MEIGEN (Diptera: Empididae) of the Mediterranean region

Abstract

The species of the genus *Hilara* MEIGEN (Diptera: Empididae) of the Mediterranean region are revised. In all, 82 species classified into 13 natural groups of species are treated, of these 31 species are described as new for science: *H. cypriana* spec. nov. and *H. autumnalis* spec. nov. of the *H. abdominalis*-group, *H. balearica* spec. nov. and *H. clavidipes* spec. nov. of the *H. clavipes*-group, *H. aptoides* spec. nov., *H. spectabilis* spec. nov. and *H. tabarkensis* spec. nov. of the *H. canescens*-group, *H. antalyensis* spec. nov., *H. neolitorea* spec. nov., *H. spiniplatyura* spec. nov. and *H. moceki* spec. nov. of the *H. litorea*-group, *H. embartaki* spec. nov. of the *H. intermedia*-group, *H. barbata* spec. nov., *H. pygialis* spec. nov., *H. royi* spec. nov., *H. rostrata* spec. nov., *H. adriatica* spec. nov., *H. bernmerzi* spec. nov. and *H. mantovensis* spec. nov. of the *H. cornicula*-group, *H. orilasiochira* spec. nov. and *H. danielsoni* spec. nov. of the *H. lasiochira*-group, *H. schachti* spec. nov., *H. israelica* spec. nov., *H. turcica* spec. nov., *H. mediterranea* spec. nov. and *H. freidbergi* spec. nov. of the *H. interstincta*-group, *H. corsicana* spec. nov. of the *H. borealis*-group, *H. ammoni* spec. nov. and *H. andreasi* spec. nov. of the *H. chorica*-group, *H. alboclypeata* spec. nov. of the *H. maura*-group, and *H. theodori* spec. nov. of the *H. albitarsis*-group. Further 23 species, previously described from the Mediterranean are fully redescribed and the main differential features are illustrated. Five lectotype designations are presented, and 3 new synonyms: *Hilara griseifrons* COLLIN, 1927 is a new synonym of *H. ternovensis* STROBL, 1898, *Hilara subpollinosa* COLLIN, 1927 is a new synonym of *H. pseudocornicula* STROBL, 1909, and *Hilara lundbecki* FREY, 1913 becomes a new synonym of *H. cantabrica* STROBL, 1899.

Monografie der Gattung *Hilara* MEIGEN (Diptera: Empididae) der Mittelmeerregion

Zusammenfassung

Die Arten der Gattung *Hilara* MEIGEN (Diptera: Empididae) der Mittelmeerregion werden revidiert. Insgesamt werden 82 Arten, die sich 13 natürlichen Artengruppen zuordnen lassen, behandelt. Von diesen sind 31 Spezies neu für die Wissenschaft: *H. cypriana* spec. nov. und *H. autumnalis* spec. nov. (*H. abdominalis*-Gruppe), *H. balearica* spec. nov. und *H. clavidipes* spec. nov. (*H. clavipes*-Gruppe), *H. aptoides* spec. nov., *H. spectabilis* spec. nov. und *H. tabarkensis* spec. nov. (*H. canescens*-Gruppe), *H. antalyensis* spec. nov., *H. neolitorea* spec. nov., *H. spiniplatyura* spec. nov. und *H. moceki* spec. nov. (*H. litorea*-Gruppe), *H. embartaki* spec. nov. (*H. intermedia*-Gruppe), *H. barbata* spec. nov., *H. pygialis* spec. nov., *H. royi* spec. nov., *H. rostrata* spec. nov., *H. adriatica* spec. nov., *H. bernmerzi* spec. nov. und *H. mantovensis* spec. nov. (*H. cornicula*-Gruppe), *H. orilasiochira* spec. nov. und *H. danielsoni* spec. nov. (*H. lasiochira*-Gruppe), *H. schachti* spec. nov., *H. israelica* spec. nov., *H. turcica* spec. nov., *H. mediterranea* spec. nov. und *H. freidbergi* spec. nov. (*H. interstincta*-Gruppe), *H. corsicana* spec. nov. (*H. borealis*-Gruppe), *H. ammoni* spec. nov. und *H. andreasi* spec. nov. (*H. chorica*-Gruppe), *H. alboclypeata* spec. nov. (*H. maura*-Gruppe) und *H. theodori* spec. nov. (*H. albitarsis*-Gruppe). Weitere 23 bereits bekannte mediterrane Arten werden detailliert nachbeschrieben und die wichtigsten Merkmale zu ihrer Unterscheidung abgebildet. Fünf Lectotypen werden festgelegt und 3 neue Synonyme erkannt: *Hilara griseifrons* COLLIN, 1927 ist neues Synonym von *H. ternovensis* STROBL, 1898, *Hilara subpollinosa* COLLIN, 1927 ist neues Synonym von *H. pseudocornicula* STROBL, 1909 und *Hilara lundbecki* FREY, 1913 ist neues Synonym von *H. cantabrica* STROBL, 1899.

Introduction

This work is a continuation of the revision of the empidid genus *Hilara* MEIGEN published by the present author in the series *Fauna Entomologica Scandinavica* in 2005. The classification of the Mediterranean fauna is fully consistent with the arrangement within the natural groups of species as proposed by the author for species of the cold and temperate Europe and is followed here. The revision of northern European fauna (CHVÁLA 2005) included altogether 90 *Hilara* species, and covered not only the Fennoscandian fauna, but practically all known species that have been recorded up to 2005 in temperate Europe, from the British Isles east to the eastern Baltic region, and southwards to central parts of Europe. Species with exclusively montane distributions in the mid temperate European Alps and adjacent mountain ranges (and which are unknown in northern Europe) were specifically excluded from the present study. These represent only a small group of species classified mostly in the alpine *Hilara andermattensis*-group, previously revised by the present author (CHVÁLA 1999a). On the other hand, during a thorough study of the whole European fauna, it was surprising how very different was the species composition in the south, in the warm Mediterranean region.

Therefore, the present monograph is focused on the species composition of the Mediterranean, from Spain (included are also Canary Islands) in the west, and eastwards around both European and North African coasts to the Mid East. The study is based primarily on the type revisions of all species described already earlier from the Mediterranean region.

Mediterranean fauna

On the Canary Islands, only one species is known with certainty, BECKER (1908) having described *Hilara laurae* of the *H. flavipes*-group from Tenerife, which was collected again by FREY (1958: 18) in February 1949. However, *Hilara empidooides* FREY, 1958 from Gran Canaria, also described in the same paper, is probably not a *Hilara* species as the male genitalia appear *Empis*-like and the hypandrium is shown as a small sclerite, shielding only the base of the free, very long and thin, thread-like aedeagus (FREY 1958: 19, Fig. 1).

About twenty species were described from Spain by STROBL (1899, 1906, 1909) and CHVÁLA (1981); further *Hilara* species were described by BECKER (1910) and COLLIN (1966) from central parts of the Mediterranean (Corsica and coasts of the Adriatic Sea) and BECKER (1907) described species from North Africa. STROBL (1898, 1902) described several species from the Balkan states (Bosnia and Hercegovina, Croatia) while COLLIN (1937, 1960) studied the *Hilara* species of the Mid East, and especially those of Israel. The western and central parts of the Mediterranean have been fairly well investigated by many dipterists, thanks even several institutional expeditions in the last two decades. On the other hand, the eastern parts, especially Greece and Turkey, but also the African coast, remain still only poorly known as regards the *Hilara* fauna, and clearly many new species await description in those regions.

In all, 82 species of *Hilara* are treated in the present revision, of these 31 are described as new species. Only 23 Mediterranean *Hilara* species are known to occur also in temperate Europe, or are distributed around the warm Atlantic coast north through France to the British Isles and, consequently, they were included (or at least mentioned) in the monograph on the *Hilara* fauna of the cold and temperate Europe (CHVÁLA 2005). However, there are several *Hilara* species widely distributed in temperate central and western parts of Europe, which may well be distributed at higher altitudes more southwards, as for instance in the Pyrenees (including Andorra), or latitudinally across the range of mountains as far as southern France (Alpes de Haute Provence, Alpes Maritimes), Italian Apennines, or more eastwards to the high moun-