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The genus *Platypalpus* (Diptera, Empidoidea, Hybotidae) in the gypsiferous hills of Los Monegros (Zaragoza, Spain)

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Summary:
Nineteen species of the predatory genus *Platypalpus* are reported from Los Monegros (Spain, Zaragoza, Pina de Ebro). Five of them are supposed to be endemic to the area. Species diversity and species composition show that the Monegros area has a unique fauna that merits conservation.

Introduction

The dance flies are a large superfamily containing both predacious and nectar feeding flies. Until now, we were only able to study the genus *Platypalpus* which belongs to the family Hybotidae. This genus is very large with more than 250 species described in Europe alone (Grootaert & Chvala, 1992) and many more to be described from the eastern Mediterranean province (Tunisia, Greece, Turkey and Israel; Grootaert, unpubl.).

Adult *Platypalpus* are small predacious flies of about 2-6 mm long which are hunting on horizontal surfaces such as leaves of shrubs and trees. Their prey consists of small flies and Hymenoptera up to their own size. Generally they puncture the prey in the neck region with their strong snout while they hold the prey with their strong fore and mid legs. Most species possess characteristically thickened mid femora and mid tibiae which are held horizontally in rest. The mid femora and tibiae are raptorial bearing ventral spines and bristles in addition the mid tibiae often bear an apical spur. Identification can be done on the external characters alone, but sibling species need preparation and study of the male genitalia. The larvae of very few species are known. They live in the soil and are also predacious.

The Monegros region is a very interesting area due to its gypsiferous soils and associated gypsophilous vegetation (Duvigneaud & Denaeyer-Desmet, 1966). The area is severely threatened by agriculture and industry and it is hoped that the study of its flora and fauna can contribute to the protection of this peculiar area.

Material and methods

Material was collected with Moericke traps (60x60x10 cm traps 70 cm above the ground, yellow at inside, green at outside, and filled with soap water), coloured dishes (yellow, blue, white plastic dishes 26x16x4 cm placed on the ground) and Malaise traps. Most material is conserved in alcohol in the collections of the K.B.I.N. (Brussels).

Observations and discussion

In all 19 species are now recorded from Los Monegros (Table 1). Compared to Atlantic or central European faunas, this figure seems rather low, but taken the severe climatic conditions into account, the diversity is still surprisingly high. 15 species are true Mediterranean species, five of them are even supposed to be endemic in Los Monegros.

Table 1

***Platypalpus* species recorded from Los Monegros: species with Mediterranean (M), a wide Palaearctic distribution (W) and those supposed to be endemic (E) in Los Monegros.**

anomalitarsis Chvala & Kovalev, 1974	M
bequaertoides Grootaert, 1995	M, E
blascoi Grootaert, 1995	M, E
chrysonotus (Strobl, 1899)	M
distichus Grootaert & Chvala, 1992	M
hemispinosus Grootaert, 1995	M, E
incertoides Grootaert & Chvala, 1992	M
javieri Grootaert, 1995	M, E
kirtlingensis Grootaert, 1986	W
malagonensis Grootaert & Chvala, 1992	M
monegrensis Grootaert, 1995	M, E
morgei Chvala, 1981	M
niveiseta (Zetterstedt, 1842)	M
ostiorum (Becker, 1902)	M
pallidiventris (Meigen, 1822)	W
pictitarsis (Becker, 1902)	W
praecinctus (Collin, 1926)	W
pragensis Chvala, 1989	M
pseudoexiguus (Strobl, 1909)	M

Four species have a western Palaearctic distribution: *P. pallidiventris*, *P. praecinctus* and the sister species *P. pictitarsis* and *P. kirtlingensis*. The latter are generally abundant in wheat fields. Parts of Los Monegros have indeed been transformed into fields. *P. pallidiventris* is an eurytopic species in more northern regions and is in Mediterranean regions more abundant at higher altitudes. *P. pragensis* and *P. niveiseta* are considered to be Mediterranean because of their relative abundance in Mediterranean regions (Grootaert, 1993) and scarcity in temperate regions.

As to the phenology, only 2 specimens were found in the winter months (November to March) and this in contrast with the Alicante region where most species are abundant during winter (Grootaert, 1993). The activity of *Platypalpus* starts in April and reaches a peak in May. *P. pragensis*, the dominant species, has also its peak activity in May. Activity of *Platypalpus* already declines in June since few specimens are found. In July and August only the endemic species *P. blascoi* and *P. bequaertoides* have been found and their activity is also limited to that period. Apparently these species are well adapted to survive in the hot summer months. Activity in September and October is higher but low compared to spring and limited to the southern Mediterranean species *P. anomalitarsis*, *P. niveiseta* and *P. ostiorum*.

From the above data on the *Platypalpus* community composition and the distribution of the species in Europe, we conclude that Los Monegros has 1° a not so poor species diversity considering the harsh environment; 2° a number of very unique species (20 % endemic?); 3° relatively few eurytopic species which would point to a relatively little perturbation of the site, at least during the years 1991-1992 when the material was collected. It is clear that the fly fauna of Los Monegros is quite unique in Europe and that the site is worth a special protection.

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References

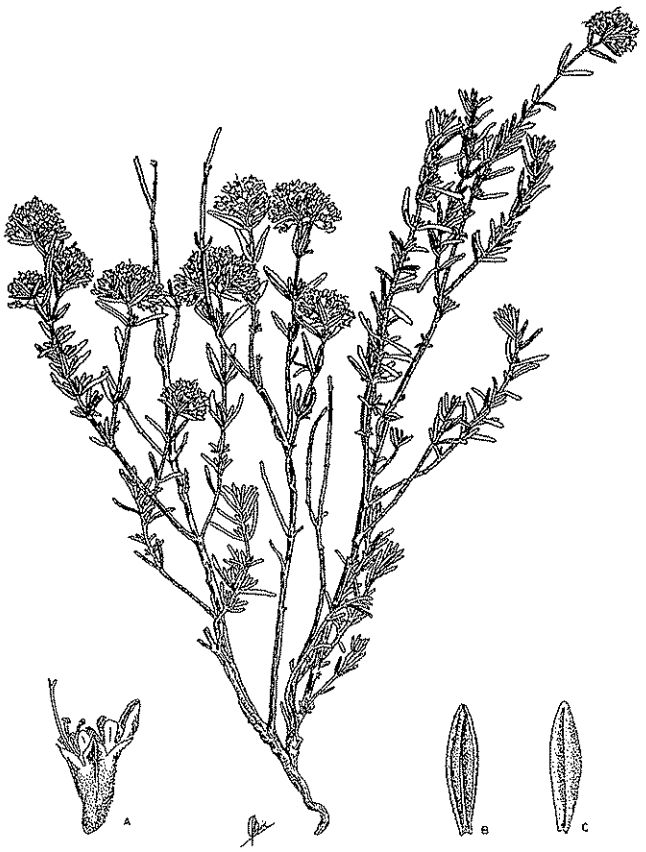
CHVALA, M. 1981. Empididae (Insecta: Diptera) from southern Spain, with descriptions of twenty new species and notes on Spanish fauna. *Steenstrupia*, **7**(6): 113-177.

DUVIGNEAUD, P. & DENAEYER- DE SMET, S. 1966. Essai de classification chimique (éléments minéraux) des plantes gypsicoles du Bassin de l'Ebre. - *Bull. Soc. Roy. Botan. Belg.*, **101**: 279-291.

GROOTAERT, P. & CHVALA, M. 1992. Monograph of the genus *Platypalpus* (Diptera: Empidoidea, Hybotidae) of the Mediterranean region and the Canary Islands. *Acta Univ. Carolinae Biologica*, **36**: 3-226.

GROOTAERT, P. 1993. Faunistics and phenology of *Platypalpus* species in central Mediterranean Spain. *Bulletin et Annales de la Société royale belge d'Entomologie*, **129**: 20-25.

GROOTAERT, P. 1995. A contribution to the knowledge of the remarkable fauna of the gypsiferous hills of Los Monegros (Zaragoza, Spain): The genus Platypalpus (Diptera, Empidoidea) with the description of five new species. *Bulletin et Annales de la Société royale belge d'Entomologie*, **131**: 107-125.



Teucrium aragonense Loscos & Pardo.
A: Flor. **B** y **C**: Hoja. (Dib. O. Escudero)