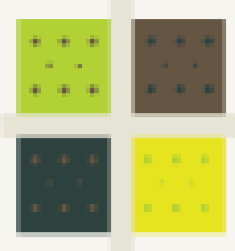


Chalcidoid Fauna (Hymenoptera: Chalcidoidea) of Grasslands Situated in Rapeseed (*Brassica napus* L.) Surroundings in Bulgaria



Ivaylo Todorov*, Peter Boyadzhiev, Teodora Teofilova,
Milka Elshishka, Vlada Peneva
* i.todorov@abv.bg

Institute of Biodiversity and Ecosystem Research (IBER)
Bulgarian Academy of Sciences (BAS)



ABSTRACT

The aim of this study was to assess the potential of semi-natural grasslands to serve as parasitoid sources for the surrounding cultivated habitats. Insect counts in studied fields showed significant dominance of the families Eulophidae and Pteromalidae. Most numerous among eulophids were *Baryscapus*, *Aprostocetus* and *Necremnus*. Pteromalids were dominated by *Mesopolobus* and *Pteromalus*.

RESULTS

According to the number of collected specimens (figs 2 and 3), Eulophidae (42%) and Pteromalidae (30%) obviously dominate the chalcidoid fauna compared to the remaining families (fig. 2).

Eulophids were dominated by *Baryscapus* (46%), *Aprostocetus* (25%) and *Necremnus* (13%). Nine other genera comprised the remaining 23% of the eulophid collection (Fig. 3A).

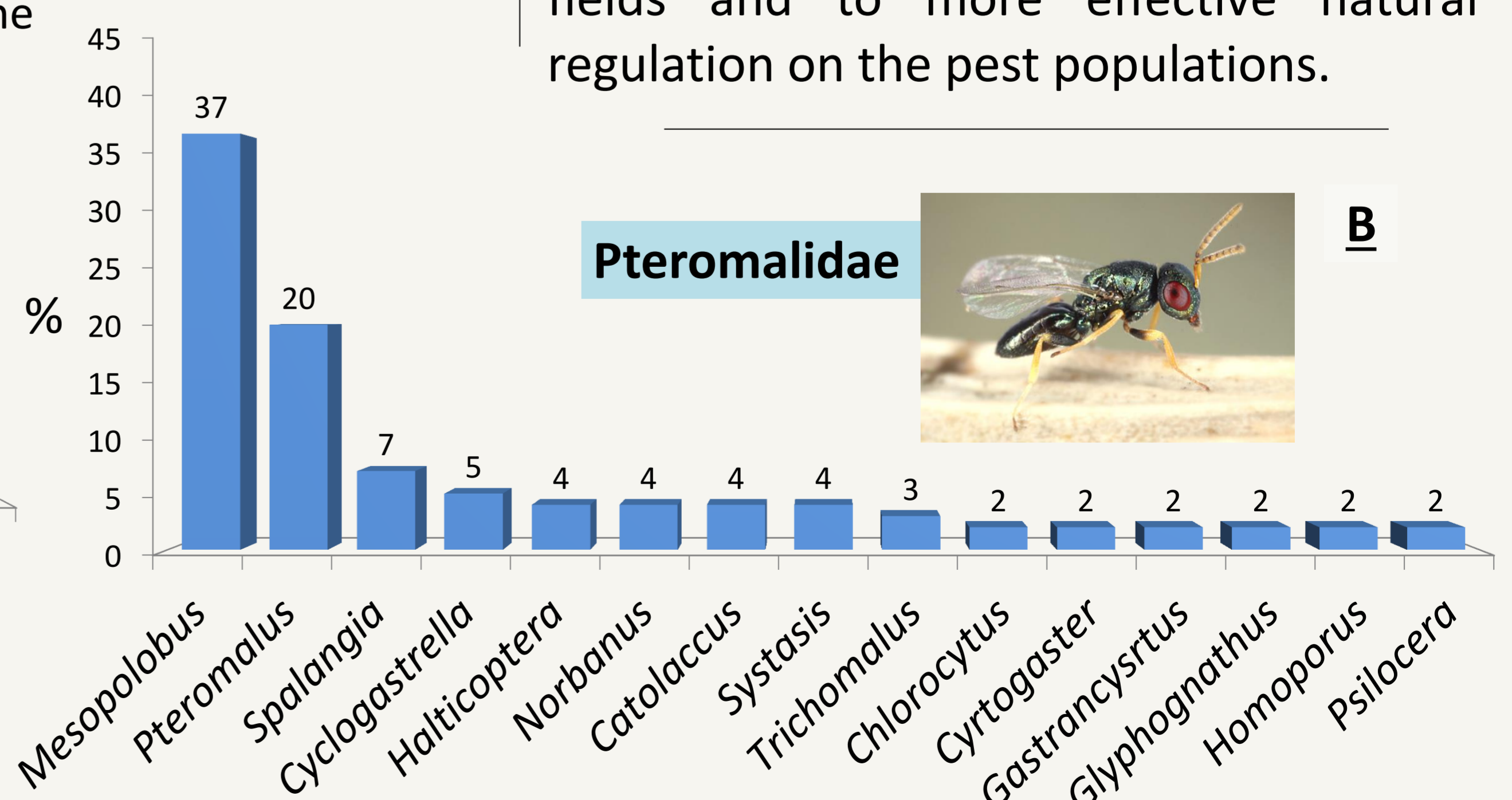
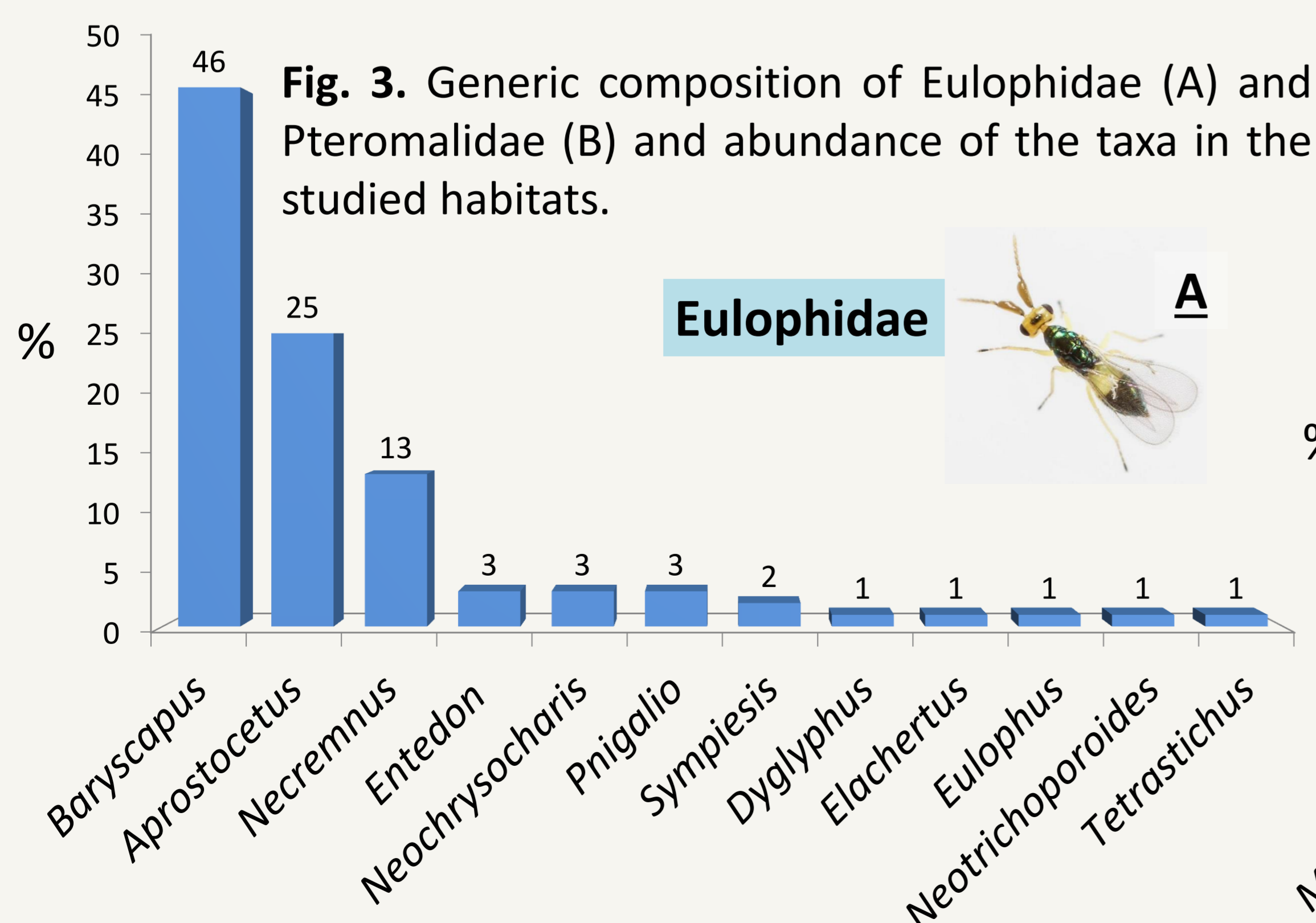
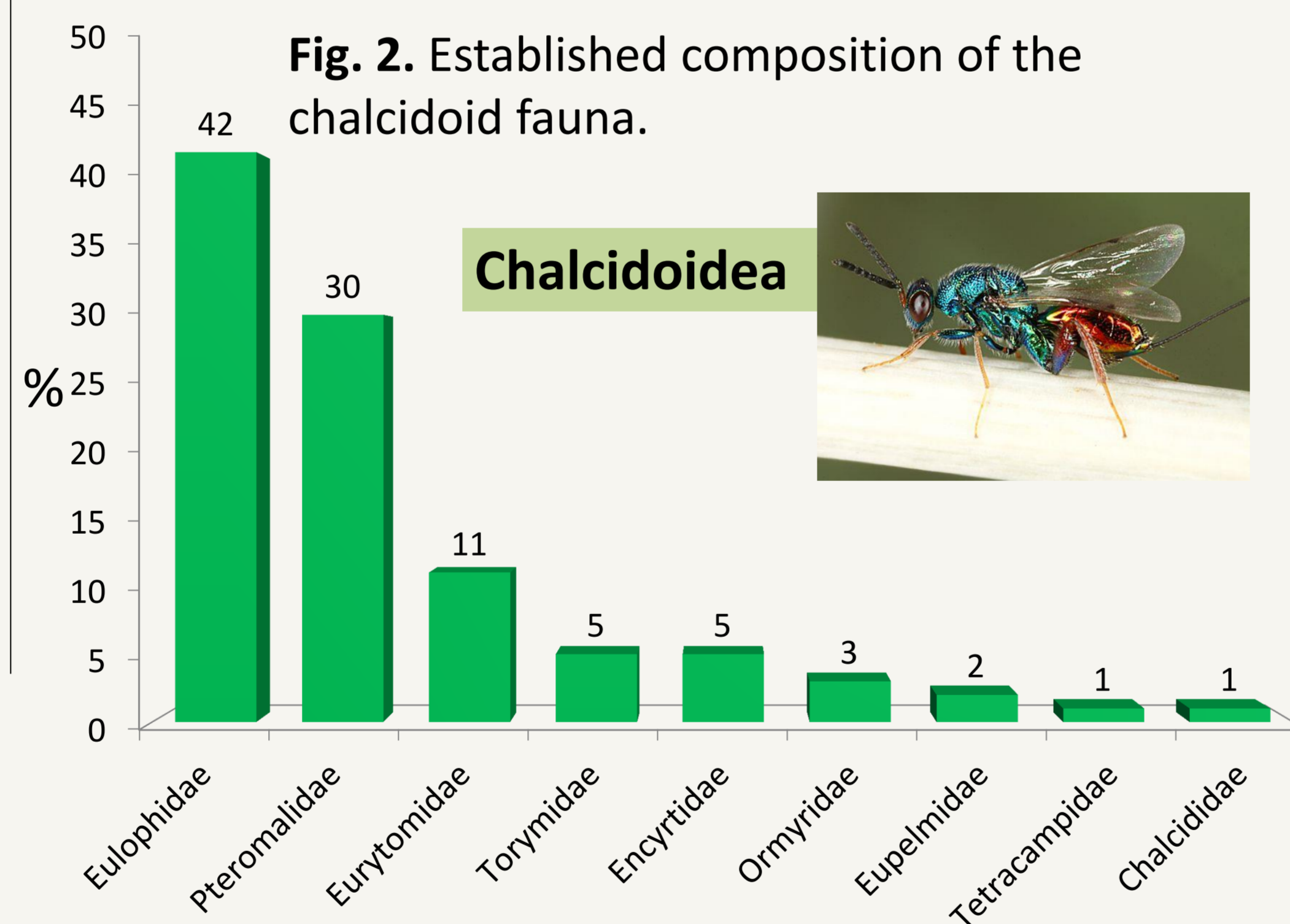
The most abundant pteromalids were *Mesopolobus* (37%) and *Pteromalus* (20%). Thirteen other genera were represented with 7% or less (fig. 3B).

METHODS

We gathered the insects by weep-netting in nine non-harvested grasslands, generally used as pastures and located near to but not bordering oilseed rape (*Brassica napus* L.) fields (fig. 1). All collections were carried out in April and May 2018, between full flowering and the end of flowering of the rapeseed.



Fig. 1. Typical grassland in a rapeseed surrounding in Thracian lowland, southern Bulgaria. In the upper left – location of the sampling sites in Bulgaria.



DISCUSSION

Noyes (2019) listed 10 chalcidoid species, associated with *B. napus* in Europe. Eight of them belong to Eulophidae and Pteromalidae and only 2 species are Eupelmidae. According to Alford (2003) and Noyes (2019), eulophids and pteromalids comprise 87% of all Chalcidoidea which attack the major insect pests of the rapeseed. Here we assume that the higher presence of these families in the surrounding grasslands can result to a respective parasitoid pressure in nearby located crop fields and to more effective natural regulation on the pest populations.