The inventory of the Eulophidae (Hymenoptera) diversity of Yemen

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The inventory of chalcids in Yemen began in 1991. No Eulophidae from Yemen had hitherto been recorded in entomological publications. This report is based on 2145 specimens collected at 24 localities in Yemen by Mr. Tony van Harten and his colleagues of the General Department of Plant Protection of the Yemeni Ministry of Agriculture & Irrigation. The following method were used: Malaise trap, light trap, sweep net and rearing parasitoids from hosts. All specimens relate to the subfamilies Eulophinae (588 specimens = 27.41 %), Erentdoninae (256 specimens = 11.94 %), Euderinae (14 specimens = 0.65 %) and Tetragastrinae (1287 specimens = 60 %). Fifteen species from 7 genera new to science have been described (not published yet), and 76 known species from 30 genera were recorded for the first time from Yemen.

Sixteen genera are cosmopolitan and were found in the Afrotropical region before this investigation. Six genera of Eulophidae were found for the first time for the Afrotropical region. There is no genus that is distributed only in the Afrotropical region. The fauna of Eulophinae, Euderinae and Erentdoninae of Yemen has no specific aspect (Afrotropical element is only 17.24%), and Tetragastrinae, because of a high level of new species (probably about 80%), presents a new fauna and probably we could expect a high level of endemism in this fauna.

The specimens of four genera of Eulophinae make up 60% of number (quantity) for all species: Elasmus = 154 (26.19%), Eulopex = 106 (18.03%), Diphylus = 41 (6.97%) and Meruana = 29 (4.93%). The first three genera are cosmopolitan and only Meruana is only Afrotropical. Euderinae is represented by three species from one genus Euderus. The number of specimens of Pediobius (Erentdoninae) comprise 65.62% of all specimens of Erentdoninae; Pediobius is also cosmopolitan.

Twenty species of Eulophidae were reared for the first time in Yemen. Previously recorded hosts for 10 species were confirmed. New hosts were found for 7 genera: Elasmus, Euderus, Pediobius (two species), Eulopex, Neochysocharis, Citrostichus and Ootetragastrus. A new species of Eulopex was reared from a gall of Tria zx sp. (Homoptera, Triozidae) and could be discussed as an example of a widening host-range for this genus (never mention before). To describe and classify all of the remaining Eulophidae species of the Arabian Peninsula now deserves to be one of the great scientific goals.

A preliminary phylogeny of the Diapriidae: sub-familial relationships (Hymenoptera)

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Based on morphological evidence, it has long been held that the four Diapriid subfamilies are monophyletic. Two of the four, the Ambositrinae and Ismarinae, are clearly so, based on clearly definable apomorphies. Delimitation of the Belytinae and Diapriinae is less clear, with the latter being defined primarily on the absence of characters. While some hypotheses have been presented as to how the four subfamilies may be related, no clear pattern has emerged, other than a likely sister relationship between the Belytinae and Diapriinae. We test the interrelationships among the four subfamilies using 28S and 18S RNA sequence data. Results are discussed in light of the morphological characters that have been historically used to define the four subfamilies.