

## Survey and Abundances of Common Ichneumonoid Parasitoid Species in Suez Canal Region, Egypt

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### ABSTRACT

A survey of common ichneumonoid (braconid and ichneumonid) parasitoid wasp species and their relative abundances in Suez Canal Region; Ismailia and North Sinai Governorates, using Malaise trap, was carried out for two successive years 2007 and 2008. Biweekly catches were collected, classified and identified. The survey revealed the presence of a total number of 52 ichneumonoid species; 20 braconid species (of which 4 haven't been identified yet) and 32 ichneumonid species (of which 7 haven't been identified yet). The 16 identified braconid species belong to 14 genera and 7 subfamilies, while the 25 ichneumonid species belong to 19 genera and 10 subfamilies. Collected specimens were identified by the authors and were sent to the specialists abroad for confirmation. A checklist of the recorded identified species and their abundances was provided.

**Key words:** Survey, abundance, Ichneumonidae, Braconidae, parasitic wasps, Suez Canal region, Egypt.

### INTRODUCTION

Ichneumonoidea is one of the largest groups of parasitic insects and by far the most well known hymenopteran parasitoids (over 100,000 estimated species worldwide) of primary parasitoid insects that attack other arthropods, especially the immature stages of other insects (Gauld and Bolton, 1988 and Wahl and Sharkey, 1993). They are important elements for biological control of insect pests.

Despite their importance, they remain taxonomically and biologically one of the most poorly known groups of insects (Quicke, 1997). This situation may be attributed to the following reasons: their relatively large numbers of species (about hundred thousands), many of them look very similar; many structural characters of these insects have comparatively high degrees of variations depending on the environmental conditions. This situation leads to numerous convergent similarities of parasitic wasps that involve their external/internal morphology (Quicke and van Achterberg, 1990 and Gokhman, 1995).

Dominant families of the superfamily Ichneumonoidea are; Braconidae and Ichneumonidae (with approximately 40,000 and 60,000 species, respectively), both of which attack a wide range of host species around the world (Wahl and Sharkey, 1993).

Family Braconidae is the second largest family of the order Hymenoptera. Its members are cosmopolitan, with more than 40,000 species, occurring around the world and are diverse in all areas with no striking preference for tropical or

temperate regions, for wet or dry habitats (Wahl and Sharkey, 1993 and Wharton, 1993). Braconids have been used extensively and very successfully in biological control of insect pests. It includes a large number of species that are effective enough to exert a definite regulatory impact on the increase of numerous important plant pests. They are also widely used as models for the study of host-parasitoid interactions (Wharton, 1993).

Ichneumonidae, as well, is one of the largest families of order Hymenoptera, with an estimated 60,000 extant or known species worldwide (Townes, 1969). Members of this family are cosmopolitan, occurring in most terrestrial habitats. Most of them occupy the temperate regions and the humid tropics; relatively few species occur in hot, dry areas (Gauld and Carter, 1983). Most ichneumonids are primary parasitoids, and many exert a pronounced effect on the host population. They attack the larvae or pupae of holometabolous insects, particularly those of the orders; Lepidoptera and Symphyta.

In Egypt, taxonomy of this group is still incomplete and needs more studies to be done. Morsi (1977) studied the family Braconidae comprehensively in Egypt. In his survey of this family, different regions were covered excluding Suez Canal and Sinai regions, which are the regions under the present study. He recorded 56 species belonging to 20 genera and 10 subfamilies. Sarhan and Quicke (1989a) introduced a key to the genera of subfamily Braconinae in Egypt and neighboring countries. They cited 20 braconin genera occurring in Egypt. In the same year, a new species of *Glyptomorpha* was described from Saudi Arabia, Egypt, Pakistan, and Yemen by the same authors to