

MATERIAL AND METHODS

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The adult ichneumonid material, on which this work is based, was collected along with cocoons and hosts by myself during 1987 to 1989. Some of the material used in this work came from the collection of Dr. K.S. Heble. Entire collection was made from southern Maharashtra, India. The visited places (Fig 6) were those not exploited by earlier workers. The collection work was not confined to one particular type of habitat. Different areas of southern Maharashtra which exhibited ecologically varying types of habitat, like agricultural fields, fruit trees, hills and forests, were surveyed and a sizeable number of ichneumonids were collected. Some parasitized caterpillars (hosts) and cocoons of ichneumonids were collected and reared in laboratory.

In making the collections a sweeping insect net was used for capturing the adults. Collection was made early in the morning during the months of July to February. The specimens collected were killed in cyanide killing bottles and pinned properly. The pinned specimens were dried in drying table and kept in insect store-box. After sorting of different groups and genera, each field collection was duly labelled with data of reference

number, locality, data of collection, name of collector and possible identification. Then wings, antenna, hind claw and ovipositor sheath of some representatives of each group or genus were mounted on slides in D.P.X. and labelled respectively. Some of them were also preserved in 70% alcohol along with their host. Only few specimens were mounted on cardsheet triangles. In few cases detached part of antenna and/or leg also mounted on triangles.

The characters which are found important for taxonomic study of ichneumonids are according to Townes (1969) and Gupta(1976). Morphological (Microsculpture) study was carried out with the help of dissecting binocular and monocular microscopes. Figures were drawn with the desired magnification with the help of fine monocular camera lucida. Comparative measurements were taken with oculometre in monocular microscope. Body length of specimens were measured by monocular oculometre and also calculated from the figures drawn by the camera lucida by using scale. All the measurements were made and recorded in millimetres. Figures were completed by using tracing paper, ivory card and black water proof drawing ink. Inking was made by the professional artist, under my direction. The coloured photographs were also made by the photographer.

Invaluable volumes of Townes entitled "The Genera of Ichneumonidae", part I - III, (1969,a,b,c), were referred for the generic and species treatment. "A catalogue and reclassification of Indo-Australian Ichneumonidae" by Townes, Townes and Gupta (1961) was used for specific study. In addition recent works on some genera containing almost all details viz. Indo-Australian Xanthopimpla (Townes and Chiu, 1970), *Ichneumonologia Orientalis*, No. 4 (Gupta and Maheshwary, 1970), *Ichneumonologia Orientalis* No. 7 (Chandra and Gupta, 1977) and some others were used for identification and comparison of genera and species.

Visits were made to the library of Shivaji University Kolhapur, college of Agriculture Kolhapur for the consultation of literature. Some of the literature were also collected from the library of Indian Agricultural Research Institute, New Delhi, UGC. National centre for science Information Bangalore, C.A.B. International Institute of Entomology, London.

Morphological terms for description of different parts of adult body used in the Dissertation follows that of Townes (1969 a). Figures 2 - 5 explains the details of various body parts and characters which are important for the taxonomic study.