

Assessing the *status quo* of Afrotropical ichneumonid knowledge

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Species richness and diversity of Afrotropical Ichneumonidae is poorly known. There are currently 363 described genera (world c. 1 600 genera) and 2 102 described species (world c. 25 000 species) in the Afrotropical region, but I estimate that there are about 20 000 species in total, hence we know about 10% of the fauna, whereas on a global basis an estimated 25% of species are described. Historically about 800-900 species have been described every 50 years since the first African species was named in 1758, but in the last 20 years we have only described 162 species. These contemporary systematic treatments have allowed for an assessment of the degree of knowledge for the undiscovered fauna, with revisions at generic level resulting in a 10-100 fold increase in species richness. However, this is still an underestimate of true richness for these groups, as revisions are based on existing specimens in museum repositories emanating from an extremely inadequate sampling of the ecosystems in the region, and hence represent a small fraction of the actual extant species richness. The vast majority of African vegetation types and habitats have not been adequately sampled and most ichneumonid species still remain to be collected. More than 95% of quarter-degree grid cells still have not been sampled, or have only had superficial *ad hoc* sampling conducted in them. This short-coming is exemplified by high species turnover between sampling methods within a locality in existing inventory surveys. To fill these massive sampling gaps requires implementation of intensive long-term, continuous inventory regimes, using a diverse and comprehensive range of sampling methods with a high degree of spatial and temporal coverage to efficiently document species richness. This is a critical need, particularly given the rapid escalation in habitat transformation, largely as the result of anthropogenic impact. Over the last 27 years I have conducted continuous inventory surveys in Africa, which have produced in excess of 5 million ichneumonid specimens. There are, however, many challenges and constraints associated with mobilizing existing specimen data for the hyper-diverse Ichneumonidae. These include major logistical bottle-necks associated with curation, digitization and description of sampled specimens, centred on a lack of resource capacity to address this backlog within a reasonable time frame. These challenges will escalate with effective implementation of a comprehensive regional sampling/inventory strategy. Leveraging appropriate resources is a critical requirement to elevate biodiversity data of this group of parasitoid wasps through the value chain for the benefit of science and society. As part of the Afrotropical Hymenoptera Initiative that I am driving with the associated website www.waspweb.org we are slowly addressing this paucity of biodiversity data. Immediate goals are to produce well-illustrated identification keys to all Afrotropical ichneumonid genera, providing a contemporary state-of-the-art resource available to a range of end-user competency. Provision of this current synthesis of Afrotropical ichneumonid systematics, including an overview of species richness, distribution and biological associations will provide a dynamic resource facilitating future research on this ecologically and economically important family of insects.