to relate the natural history of aggression to human problems. For example, the ornithologist James Fisher gives an excellent review of instances of conflicts between different species of birds occupying the same habitat and comes to the conclusion that the more similar the two species or subspecies are the more likely they are to fight, just as they would members of their own species, and that the more dissimilar they are the more likely they are to be tolerant. J. A. King [*Proc. Am. Phil. Soc.* **98**, 327 (1954)] has obtained a similar result between like and unlike breeds of dogs. Yet Fisher concludes that this is just like the race problem, where increased dissimilarity is associated with increased aggression. Similar paradoxical conclusions are found in many of the other papers. If biologists wish to be taken seriously in their attempts to relate animal sociology to human sociology, they must become more generally knowledgeable and base their contrasts and comparisons on sound factual and theoretical information.

As scientists begin to make detailed and repeated studies of animal societies under natural conditions, certain general results begin to appear. One is that a well-organized animal society in a natural habitat shows very little harmful and destructive fighting, even under conditions of great stress, as when attacked by a predator or subjected to general starvation. On the contrary, such societies exhibit behavior that would in human terms be called cooperative and even altruistic. Destructive fighting *does* appear when social disorganization is brought about by forcing strange individuals together and confining them in unfamiliar habitats. This suggests that one major general cause of human destructive behavior is social disorganization rather than some hypothetical and supposedly incurable "drive." If this is correct, it is a curable and controllable phenomenon.

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Memoirs 1, 2, and 3, American Entomological Institute

The hymenopterous family Ichneumonidae, which is estimated to contain nearly 10,000 species in North America alone, is one of the largest, and evolutionally one of the most complex, taxa among the insects. Its members are parasitic on other insects and related arthropods, and the group should attract a wide interest because of its great and primarily beneficial economic importance. Until recently, however, there has been an almost total lack of adequate systematic literature on these wasps so that the many exciting problems which they offer to all areas of biological research have been difficult of access for want of a reliable means of identifying the species, or even the genera, in question. Therefore the present contributions—**A Catalogue and Reclassification of the Indo-Australian Ichneumonidae** (1961, 526 pp., $14.50) by Henry Townes, Marjorie Townes, and Virendra K. Gupta; **Ichneumon-Flies of America North of Mexico: 4. Subfamily Gelinae, Tribe Hemigasterini** (1962, 309 pp., $9.50) by Henry Townes and Virendra K. Gupta; and **Ichneumon-Flies of America North of Mexico: 5. Subfamily Diplazontinae** (1964, 308 pp., $9.50) by Clement E. Dasch—are especially welcome because they are systematic and bibliographic works of the highest quality, designed to lessen the most fundamental difficulties encountered in studying the Ichneumonidae. The monographs are published by the American Entomological Institute (5950 Warren Road, Ann Arbor, Michigan).

In Memoir No. 1, *A Catalogue and Reclassification of the Indo-Australian Ichneumonidae*, the area covered is the Oriental and Australian zoogeographic regions that extend from southeast Asia through the East Indies and the Pacific islands (south of Japan) to Australia and New Zealand. For this area the authors have cataloged each described species together with all references that add new information rather than merely quoting previously published sources. Geographic range is given and hosts are listed where known. But the volume is not simply a compilation of names and references. In the great majority of cases Townes has examined the types of the species treated, so that each form is assigned to its genus and each synonymy is established on the basis of his own unique knowledge of the Ichneumonidae. Only by this effort could a rational and useful classification be attained. The characters used in ichneumonid taxonomy have changed so radically during the last few decades that the descriptions of earlier authors are mostly worthless for locating their species in the modern system. A vast amount of new information on adult and larval morphology as well as on the life histories of the Ichneumonidae has here been synthesized to produce a classification in which the tremendous phyletic diversity of this numberless family is more nearly reflected and more astutely analyzed than in any of its predecessors.

Many will criticize Townes, however, because he does not follow certain rules of the International Commission on Zoological Nomenclature. He believes that nomenclature should be based only on taxonomic and bibliographic facts. He does not recognize, therefore, the principle of *nomina conservanda*. I admire Townes's courage in maintaining those names that by clear right of priority ought to be used in a perfectly objective system of nomenclature. Only time can tell whether his system will prevail for the Ichneumonidae, but it should be pointed out that it is Townes who has done, and who is doing, the fundamental work on this family, the work that all future students must make their guide. It may perhaps be questioned whether these students, whatever their attitude in general toward the International Commission, will not follow Townes

in their choice of names for the Ichneumonidae simply because they will be loath to abandon the nomenclature they first learned.

In addition to the catalog of species, Townes has included a key to the described genera of the area covered. This key is of interest as a tool for identification and as an exposition of some of the morphological bases on which the author has established his new classification. In this last regard it must be noted that the key makes available a bounty of new and fundamental characters worthy of the attention of students of the family in every part of the world; whereas, with respect to utility in the work of identification, those who deal with the Indo-Australian fauna will find that it is a practical and honest guide. Many times, of course, the user will fail to reach a satisfactory conclusion because he has before him an undescribed genus. This is unavoidable in a treatise on a region where some 80 percent of the species remains undescribed. The beauty of the present key is that it not only points out what is known but serves as a guide to problems needing further investigation.

This catalog, therefore, is the basic work from which all future progress in the study of the ichneumonid fauna of the region that it treats must stem. Townes and his distinguished collaborators, Marjorie Townes, Virendra Gupta, and Gerd Heinrich (whose life-long studies on the subfamily Ichneumoninae are a monument in their own right), deserve the gratitude of all biologists for having accomplished this needed task with such skill.

The second memoir in the series is a monograph of the North American Ichneumonidae of the tribe Hemigasterini. Most of these species parasitize cocoons of sawflies and, indeed, "seem to be one of the main biological agents for the control of these insects." They are abundant and attractive wasps but have never received serious consideration from American entomologists. The older literature consists only of scattered descriptions of new forms, and a collation of these shows that Townes's study has revised the number of genera from 8 to 13 and the number of species from 50 to 133. We may thus gain some idea of the magnitude of work that remains to be done on the Ichneumonidae of even so comparatively well-studied a fauna as the nearctic and some appreciation of the labor necessary to complete the volume in hand.

The plan of the monograph is simple. Workable keys are given to genera, species, and subspecies. Each taxon is described at length and in proper sequence. Full generic and specific bibliographies are adduced. In the discussion of each species and subspecies, information appears on geographic range, season and habitat of occurrence, and available host records. Especially laudable is the method of presenting locality data. There is a map that gives an instantaneous impression of the range and a statement of individual localities for every specimen examined. Information of the latter type has been decried as useless, and no one would deny that it is burdensome to collate and adds to the expense of publication. Fieldworkers, however, will thank the author for his consideration in this matter because such data are invaluable to those interested in observing and collecting the species in their natural habitat.

The illustrations include figures of the whole insect for a representative species of each genus (the type where possible) and also details of many of the special characters used in the keys. These figures are magnificent, and congratulations should be given to Y. Morimoto, Takayo Ito, and Akiko Mochizuki who drew them.

Even if there is no question that this work is a model of its kind, one matter of evolutionary philosophy in which some biologists may take issue with Townes should be emphasized—the question of subspecies. There is, of course, much doubt in some quarters that the concept is a useful one, but, if it is to be used, many biologists would recommend that it be employed strictly for geographic races and, furthermore, only when many specimens are at hand to show the whole pattern of variation and the areas of intergradation between the subspecies recognized. Although it seems evident in many cases that Townes's concept of subspecies is a geographic one, there are, nonetheless, other instances (for example *Cubocephalus alacris erythropygus* and *Cubocephalus a. alacris*) where his subspecies appear almost completely sympatric and where it thus seems possible that they are really two distinct species or only minor, nongeographic variants in the population. Furthermore, he often describes new subspecies on the basis of very few specimens, or of a single specimen (for example *Cubocephalus incisus atriventris*), a practice that could lead to some confusion and inconvenience during later studies if this one specimen itself should happen to be intermediate in a cline between two other presently unsuspected subspecifically distinguishable populations.

This criticism, however, is a minor point when compared with the value of the monograph as a whole. It is a classic of systematic entomological literature and, like the Indo-Australian catalog, a work that lays open for the first time, to biologists working in all areas, a new field heretofore strangled in the toils of confused descriptions and erratic nomenclature.

Much the same can be said of the third memoir, Clement E. Dasch's treatment of the nearctic members of the subfamily Diplazontinae. The manner and thoroughness of presentation are on a level comparable to Townes's work, and my experience in studying my own material of this subfamily shows that the book is as reliable in practice as it is pleasing in aspect. The Diplazontinae is a widespread and abundant subfamily that parasitizes the larvae of Diptera, primarily Syrphidae. Many of the Syrphidae are among the most important natural enemies of aphids, so those who are studying the biological control of insect pests will find it especially useful to have this excellent review of a group of parasites whose influence must be weighed in any program involving Syrphidae. Dasch is at present extending his studies to other subfamilies, and, on the basis of this present work, his future contributions may be awaited with interest and pleasure.

Finally, I would like to call attention to the fact that these three volumes are only the first in an envisioned series of catalogs and monographs of the Ichneumonidae. Several more manuscripts, such as a revision of the ichneumonid genera of the world and catalogs of the neotropical and eastern palaearctic faunas, are now in preparation. If these volumes are expensive, they are also invaluable. Individual biologists and libraries everywhere are urged to support this worthy and unique enterprise which is doing so much to clarify our knowledge of one of the most interesting and important groups of insects.

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