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BOOK REVIEW

HODGSON C.J.: THE SCALE INSECT FAMILY COCCIDAE. AN IDENTIFICATION MANUAL TO GENERA. International Institute of Entomology, CAB International, Wallingford, UK, 1994, vi + 639 pp., 168 groups of illustr. ISBN 0-85198-882-2. Price USD 125.–.

This meticulously executed monograph covers morphology, suprageneric classification, and genera of Coccidae, a speciose, taxonomically problematic, and economically important family of scale insects. Its main aim is to provide complete and comparable diagnoses as well as keys. The comments below should not be regarded as criticism: rather they define the author's self-imposed restrictions, reflecting both his idiosyncratic approach and the present level of knowledge of the group.

The monograph concerns the adult females only: almost all the taxonomy of the group is based upon this stage, particularly on absence or presence, number, position and arrangement of minute setal, sensillar, secretory and sculptural structures. However, several attempts at establishment of male-based classifications are available, though based on a limited range of genera only. Hodgson omits

these data, does not include male morphology into the introductory section, and merely states that, generally, the female-based and male-based classifications are compatible. For geographical distribution of taxa, host plant ranges, biology, lists of species and synonymy, the author refers to Ben-Dov's (1993) systematic catalogue. It is unfortunate that, at least, a summary of basic data on males, zoogeography and biology has not been incorporated in a work of this scope.

This takes us back to the introductory "morphological" chapter. It is extensive, complete, comparative, perfectly understandable, and excellently illustrated, but it is not a morphology. It is a description of the characters that may be seen on the adult female, in a slide preparation, observed by a light microscope under phase contrast. (The author cautions that other observational techniques might yield different observations, and that only structures larger than 1 µm are considered.) No morphological interpretations are attempted. However, for a practising alpha-taxonomist, this chapter must be a treasure of riches. An inclusion of a comparative matrix of character states would surely be useful for future students of natural classification of the family.

Again, the quality of illustrations must be stressed. The diversity of structures is detailed completely in the introductory part; in the taxonomical section the established type of coccomorphic illustrations – a whole insect drawing (half dorsal, half ventral) accompanied by numerous vignettes showing the details – is offered for type species of all the genera. Everything is executed in a uniform, neat and comprehensive style; but it is unfortunate that references to illustrations are omitted from keys and diagnoses of higher taxa.

The suprageneric classification is provisional and pragmatic; no attempt is made to substantiate it by phenetic or cladistic analysis but, perhaps, such an attempt would be premature at present. Ten subfamilies are recognized (three new), and the Coccinae are subdivided into four tribes (one new). Some comments on previous classifications are included, but no formal comparisons and synonymies are provided. It is regrettable, since at least in one case the author is nomenclaturally wrong (his *Cardiococcinae*, “subfam. n.”, is clearly not a new subfamily but just an upgraded ranking of a subtribe *Cardiococcina* established either by Tang et al., 1990, or by Tang, 1991). The author admits that his classification is open to reinterpretation; the diagnoses of suprageneric taxa are extensive but a little difficult to compare – this is demonstrated by the key in which 9 out of 12 antitheses merely state “Characters not in above combination”.

The core of the book is the generic section, however it mostly does not concern genera, but their type species. Considering the pre-revisionary state of taxonomy of the group, this is legitimate and the best approach. The keys (again, based on type species) appear easy to use, cover all the genera regarded as valid (also the four placed as subfamily incertae sedis) though some inconsistencies occur (e.g. the key to the *Cardiococcinae* includes *Schizochlamidia* Cockerell but not *Pseudokermes*

Cockerell – the former regarded as a subjective junior synonym of the latter in the text). Then follows alphabetically arranged redescrptions (all fully illustrated) of type species of all the valid genera as well as of those regarded as junior synonyms; one genus is described as new, and several new synonymies are suggested. All the redescrptions are accompanied by true generic discussion on scope, status and diagnostic characters. The reader has to realize that in most cases the author deals with nomenclatural rather than taxonomic generic concepts, and that the diagnostic characters may, in some cases, be applicable to type species only.

Generally, I find the book excellent and complete, and the result of many years of really hard work. Certainly, it is a perfect basis for future generic revisions and the establishment of a natural classification based on genealogy. I recommend the monograph to all involved in taxonomy of the Coccomorpha, as well as to those interested in original and commendable author's approach to alpha-taxonomic study of a speciose and formerly hardly tractable group.

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