

Ent. Mitt. Zool. Staatsinst. Zool. Mus. Hamburg Bd. 3, Nr. 58 (1967)

## Considerations about the American and European apidology

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In 1965 Dr. P. H. TIMBERLAKE has been publishing his large paper: A Revisional Study of the Bees of the Genus *Perdita* F. SMITH, with Special Reference to the Fauna of the Pacific Coast (Hymenoptera: Apoidea). Part VI. University of California Publications in Entomology, Vol. 28, pp. 125—388, 22 plates, 77 figures in text. University of California Press, Berkeley and Los Angeles. (Price \$ 5,00). This monograph of the North American genus *Perdita* ist worked out with great carefulness and exactness as well as the typographic get-up is faultless. In the first place there is presented a key for identification of all species dealt with in this part and then follow the detailed descriptions of the single species within the frame of the particular subgroups. There are also designated the holotypes, allotypes and paratypes of the individual species and their placement in collections.

*Perdita*: they are small bees pertaining to the subfamily Panurginae and are distinguished by morphological characters and color markings. They live mostly in desert and arid territory of the American south-west. At the end of the past and at the beginning of this century was concerned with their studies the American apidologist T. D. A. COCKERELL who described a great numbers of new species. Today's their greatest authority is Dr. P. H. TIMBERLAKE of the Citrus Experiment Station of the University of California, Riverside, who solely in this Part VI describes in detail and precisely in the sphaeralceae group 88 new species, 24 subspecies and 2 variations and the whole are placed into 26 subgroups. The descriptions are accompanied by very fine and instructive drawings of the head, the genitalia and the subgenital plates of males. It will be a fine hobby for American apidologists to find out the opposite sex of bees which is lacking till today.

This work is in the series of books dealing with American bee taxonomy an important and a fine foundation stone and is an indispensable source to all faunistic and applied apidology in the genus *Perdita* in North America.

The American apidology commences after the war to develop in the only right direction and in a good form. The groundwork of all faunistic work is the solid work in taxonomy in the frame of the single genera of bees, that is their descriptions and identification keys. The initiator of this vast enterprise is Dr. CHARLES D. MICHENER, Watkins Professor of Entomology of the University of Kansas, Lawrence, U. S. A.

The introduction to all work in American bees is the morphology of the bee body by MICHENER 1944 and the Catalog of North-American

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Apoidea by MICHENER and others in MUESEBECK-KROMBEIN-TOWNS 1951. Only then follows the thorough and precise elaborations of the single bee genera: LA BERGE (*Melissodes* 1956—61), STEPHEN (*Colletes* 1954), TIMBERLAKE (*Perdita* 1954—64), HURD (*Xylocopa* 1963), MICHELL (*Megachile* and bees of the Eastern United States 1960—62) and MICHENER, this is not only the SNODGRASS in Apidology but also a pioneer of non investigated regions of the earth. For instance his last large work on Australian and South Pacific bees, 1965, 362 pp. 15 Plates, 789 figs. and 112 new species described.

But this promising trend of the American apidology is not yet today by far finished. As yet, however, there are left over to work out the monographs of the following American genera of bees: *Prosopis*, *Andrena*, *Panurginus*, *Halictus*, *Sphecodes*, *Anthidium*, *Eriades*, *Osmia*, *Coelioxys*, *Nomada*, *Epeolus*, *Anthophora*, *Bombus* and the others minor genera.

In the American monographs all data are based on the material which has been collected and assembled up to 40 years before it is monographically worked out. Every work is carry out in universities and that by the leading specialists with their stuff of collaborators.

The American publications are equipped with complementary illustrations, especially are pictured the morphological characters and the genitalia, which make the study and the identification easy. For the unflinching determination they make use solely of the analytical keys, but hardly use the differential diagnosis.

The Americans are in apidology already so far advanced that they devote themselves to the biology and application of Apoidea and utilize the particular species of bees for the extensive pollination of agricultural crops.

And what is the state of affairs of our days in the European apidology? For it are characteristic the mere contributions to single species of bees, but hence no modern monographs. The monographs by SCHMIEDEKNECHT and FRIESE are today already considerably obsolete, even in some passages very ancient. Since the working arsenal of the European apidology is out of use and imperfect, so the working with it is very difficult and therefore there are few workers. Nowadays it is impossible concretely to speak about the European apidology only with this exception of NOSKIEWICZ's monograph of the genus *Colletes*.

In American taxonomy of bees there is by far not so much a chaos as in the European one although North America is on bees species much richer than Europe and the study of bees there was beginning much later. All this be cause of European dismemberment and from this the resulting technical obstacles and also then for want of criticism of some fore-going workers. But the Americans have the taxonomy of bees not so much loaded with errors, they work in tranquillity, all is available to them and they have an expanded co-operation.

The first exigency in the European apidology is to bring the bees taxonomy to definitive order. For technical hindrance it will be a hard task if ought it executed perfectly. First of all it would be necessary to constitute an European club of type-users (typologists) which would be in charge of these main tasks:

1. To work out a list of all types of bees (holotypes, allotypes, paratypes, cotypes and lectotypes) which are deposited in museums and private collections.

2. To provide a list of public and private collections of bees which are authoritatively identified by specialists. All taxa which are determined and deposited in museums or private collections in Europe are after all identified in accordance with types because a determination of another source can be erroneous. The identification of taxa perform safest the specialists after  $\pm$  of the types.

3. To make possible the access or loan of types of bees to specialists who are in need of them for their taxonomic work.

It would be curious but it is not out of the question that a modern monograph of European bees shall once be worked out by Americans.

4. To provide photocopies of descriptions of bees from the ancient literature after LINNAEUS 1758.

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Zeitschrift/Journal: [Entomologische Mitteilungen aus dem Zoologischen Museum Hamburg](#)

Jahr/Year: 1965

Band/Volume: [3](#)

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