

BOOK REVIEW

Rediscovering the New World¹

Claudio J. B. de Carvalho²

²Department of Zoology, Universidade Federal do Paraná, Curitiba, Brazil. cjbcarva@ufpr.br

Diptera, one of the megadiverse orders of the Insecta, has around 160,000 described species (Chris Thompson, pers. comm.). Flies are probably the best cataloged of all insect groups, with taxonomic catalogs for all biogeographic regions. During the 7th International Congress of Dipterology, 8–13 August 2010, in San Jose, Costa Rica (the first in a neotropical country), more dipterists were from neotropical countries than any other part of the world. Prior to the ICD-7, most dipterists living in Central or South America studied flies using the Manual of Nearctic Diptera (MND), in three volumes, published from 1981–1989. It was indeed this manual that was one of the most important for all Neotropical dipterists (see also Contreras-Ramos 2010).

The project to publish, in two volumes, the Manual of Central American Diptera (MCAD) was put together by a team of international taxonomic experts. This first volume has 49 chapters, including chapters on adult morphology and terminology to those on the 'nematocerous' and basal Brachycera families. The apical Cyclorrhapha families were included in the second volume of the MCAD, which was published last year (Brown *et al.* 2010).

The Central America region covered by the MCAD comprises tropical Mexico (mainly lowlands) to Panama. Fortunately for those of us living in neotropical countries, the superb biogeographical evolution here is the result of a very diverse and exuberant biota, in which Diptera is certainly one of the most outstanding results of this evolution. The format of the MCAD followed the format of the MND. While following that format was useful, the classification it adopted was not. That is, the MCAD followed the classification in MND, which is 30 years old. Some of the 42 families were treated as single families, such as the Tipulidae, even though today they may be divided into several families.

I agree with William Eberhard, who noted in Costa Rica at the ICD-7 and in the foreword to volume 1 of the MCAD: "Life is exciting for an entomologist living in the tropics." Studying New World tropical flies is essential for understanding the evolution of flies in general. Within the classical

Neotropical region, the tropics have always been known as one of the richest biological areas in the world. The MCAD project began with Costa Rica as the main focus, and only later grew to include the remainder of Central America. Most identification keys for families or genera are easy to use to identify flies in South American lowlands. Unfortunately, the South American highlands continue to be poorly known.

Few regional and recent books for the identification of Diptera have been published (Zumbado 2006, Wolff 2006). However, these regional books are very important contributions that will help researchers in their fly studies in neotropical countries. In Brazil, the book *Insects of Brazil: diversity and taxonomy* (Rafael *et al.*, in press) will soon be released. Maybe in the near future, the projects MND and MCAD will grow to include the southernmost areas of South America, and will initiate a new project, such as Manual of South America Diptera (MSAD) to include the entire South American continent. Today MCAD will be very useful for all those also in South America, acting as a first step, while we are awaiting the publication of comprehensive MSAD. Only then we will have a complete synopsis of the Diptera of the New World, and then we will really rediscover the New World, only 500 years after it was discovered.

REFERENCES

- Brown, B.; A. Borkent; J. M. Cumming; D. M. Wood; N. E. Woodley & M. A. Zumbado 2010. **Manual of Central American Diptera**. Ottawa, NRC Research Press, vol. 2, 715–1445 p.
- Contreras-Ramos, A. 2010. Book review: Manual of Central American Diptera. Volume 1. B. V. Brown, A. Borkent, J. M. Cumming, D. M. Wood, N. E. Woodley, and M. Zumbado (Eds) (2009) National Research Council of Canada, Ottawa, 714 p. *Zookeys* 52: 65–67.
- Rafael, J. A.; G. A. R. Melo; C. J. B. de Carvalho; S. A. Casari & R. Constantino. In press. **Insetos do Brasil: diversidade e taxonomia**. Ribeirão Preto, Editora Holos.
- Zumbado, M. A. 2006. **Dípteros de Costa Rica y la América tropical = Diptera of Costa Rica and the New World tropics**. Santo Domingo de Heredia, Instituto Nacional de Biodiversidad, 272 p.
- Wolff, M. 2006. **Insectos de Colombia**. Medellín, publicación del autor, 460 p.

¹Brown, B. V.; A. Borkent; J. M. Cumming; D. M. Wood; N. E. Woodley & M. A. Zumbado. 2009. **Manual of Central American Diptera, volume 1**. Ottawa, NRC Research Press, 714 p. US\$94.95, ISBN 978-0-660-19833-0