

slightly notched tail and finely pointed wings. Keeping these comments in mind, the photo indeed adequately includes these points and I would guess an observer could identify a Black Swift if using this guide in the field. I am sure photographing such a fast flying bird is a challenge as well.

Other features in the guide include a glossary, key to state, province, and international location codes, and an index. Folded in the front cover is a quick alphabetical index. For some bird groups that are difficult to identify and tell apart, such as the gulls, a special identification tip section is included (i.e., page 289).

Overall *The Stokes Field Guide to the Birds of North America* will serve well the naturalist and wildlife observer that prefers photos over drawings. The Guide is said to be the most up-to-date guide currently available and includes all the latest high-interest rarities

(back cover). This alone makes it a worthwhile volume to have. Dimension-wise, it is not a small guide (22 × 15 × 5 cm), but smaller than some (i.e., Sibley 2000; 25 × 16 × 4 cm), and is rather heavy (1.36 kg), however do not let size hold you back on picking up a copy; it is a very useful guide and with bird watching as popular as ever, it is a good guide to have in your wildlife library.

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Manual of Central American Diptera, Volumes 1 and 2

Edited by B. V. Brown, A. Borkent, J. M. Cumming, D. M. Wood, N. E. Woodley, and M. A. Zumbado. 2009 and 2010. NRC Research Press, Ottawa, Ontario, Canada. Volume 1, 714 pages, \$95 CAD. Volume 2, 748 pages, \$95 CAD.

Like the common housefly, the newly published *Manual of Central American Diptera* (MCAD) is a curious beast that is best understood when put in context. Rather than being the product of spontaneous generation, this two-volume set is the culmination of a decade of writing, illustrating, and editing on the part of six editors and dozens of chapter authors. The current manual is the latest contribution to a long-term international collaboration on the part of dipterists. A three-volume *Manual of Nearctic Diptera* was published in 1981-1989 and *Contributions to a Manual of Palaearctic Diptera* was published in four volumes in 1997-2000. A multi-volume *Afrotropical manual* is in progress, with publication likely by 2020. The current work keeps in the spirit and format of these previous and future works.

But why so much organized and concerted effort on flies of Central America? Firstly, flies are a hyperdiverse group of organisms. The currently described 153,000 species in Diptera represent about 10% of all described animal species. Despite this, most species of flies have yet to be formally described. As a comparison, there are as many described species in a single family of flies (Tachinidae) as there are in all of the Class Aves. And Tachinidae is not even the most speciose family in Diptera. Flies are found in every region of the world, in every microhabitat, and in every ecological niche. The tropical regions, especially the Neotropics, are the center of diversity for many families of flies. Central America holds many undescribed species, genera, and possibly even families of flies.

Before delving headlong into cataloguing the diversity of flies in Central America, the MCAD first out-

lines the context of flies within the natural and human worlds. An introductory chapter outlines the geographical focus of the manual on the seven nations of Central America, plus the southern and coastal parts of Mexico. This opening chapter, by head editor Brian Brown of the Natural History Museum of Los Angeles County, also lays out the format of the following chapters and emphasizes the ecological importance of flies. Tips for collecting and studying flies in the wild are also offered. The next chapters are on morphological terminology, natural history, economic importance, and phylogeny of flies. These chapters provide an excellent overview of the diversity of forms, lifestyles, and impacts of the fly families that make up the rest of the manual. The morphology chapter, especially, is of high value, as it provides not only a unified system of morphological naming, but also detailed illustrations of structures. I find myself referring back to these illustrations and descriptions often when reading other chapters.

The next two chapters of the manual showcase both the utility of the MCAD and also the incredible effort that went into its production. Chapters six and seven are dichotomous keys to all 105 of the fly families of Central America as adults and larvae, respectively. It is here that the myriad of illustrations within the MCAD become abundantly clear. The reason for the high quality and quantity of illustrations highlighting and explaining every small fly part imaginable is the decision to re-purpose many of the illustrations used in the *Manual of Nearctic Diptera*. These illustrations, painstakingly originally produced, need only new labels to be useful in the current work. Where

the original drawings are not sufficient, many new drawings are included. Also included in the first volume are full-colour photographs of every fly family. The photographs were supplied by Prof. Steve Marshall of the University of Guelph and are of the high quality that entomologists and photophiles have come to expect from him.

While the introductory chapters, family keys, and illustrations are more than enough reason to invest in the MCAD, they are not enough to fill two 700+ page volumes. The remainder of volume one and all of volume two are filled with individual chapters on each of the fly families found in Central America. Each of these chapters contains a short, diagnostic description of the morphology of the family and background on the biology, economic importance, classification, and potential identification challenges within the family. Also included in each chapter are dichotomous keys to each genus found in Central America, and yet more high-quality illustrations. Some of these chapters are admittedly works in progress as the diversity

of some groups has only begun to be studied. Other families are well-studied or less diverse and these chapters could serve as complete guides to the entire Neotropical region.

With the MCAD in hand (or more likely in a backpack considering the size of the two volumes), one could provide themselves an identification and background information for any one of thousands of genera of flies they may encounter in Central America. Those not planning a trip to this part of the world may enjoy simply surveying the diversity of form and lifestyle represented by this broad group of unique creatures. What is certain, though, is that 1400 pages may be sufficient to provide a little context for those buzzing little "moscas" of Central America, but it is not enough space to truly capture the beauty and wonder found in the world of Diptera.

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Godwits: Long-haul Champions, New Zealand to the World – One Bird's Voyage

By K. Woodley. 2009. A Raupo Book, published by Penguin Books, Penguin Group (NZ), 67 Apollo Drive, Rosedale, Auckland 0632, New Zealand www.penguin.co.nz 240 pages, approximately \$50 NZD.

This prominent book from New Zealand naturalists comes as a mixed bag: it's truly an elaborate international Bar-tailed Godwit monograph of relevance for North America and for the East Asian Australasian (EAA) flyway, but it does not achieve on the conservation side at all.

Of course, the 239 pages greatly impress by their minute detail, through the thoroughness of the text, with the great effort invested by the author, and indeed through its fascinating photos (once again, many brilliant shorebird master pieces from J. van de Kam, from the author and from many international naturalists can be enjoyed). The text makes for a reading in bird physiology, describes literally every feather of the godwit, and is full of global shorebird gospel (specific terminology like radius, ulna, humerus, keratin, moult patterns etc. are also found throughout, but it usually lacks the statistical basics to make sense of the information provided). Myself, I am not a big fan of equaling avian body fat with airplane fuel, of hyping up evolutionary traits, and elaborate on scientific ivory-tower questions and statements like 'do birds sleep while on non-stop migration' or "*A wing area reduction of 10 per cent will increase the minimum turning radius by 11.1 per cent*". The 16 lavishly illustrated book chapters deal with virtually all aspects of Bar-tailed Godwits and shorebirds along the huge EAA flyway and beyond. Readers will find that the author chooses his sources and words extremely carefully and strategically (as shown for instance in the frequent use of terms like 'may', 'could', 'potentially', risk, threat, serious). The

chapters explain to the naturalist all details of 'being godwit', 'being waderologist', how to capture birds, how to count them, what it means to participate in the infamous cannon-netting operations, and finally, how to run satellite telemetry (the real clue of this authoritative monograph). The earlier investigations tracking godwits into the Yellow Sea and at the Yalu Jiang reserve (where the huge shorebird concentrations were hardly known to even the local staff prior to this effort!) makes for a shorebird classic, and so do the shore bird counting, leg flagging and inventory training sessions in China held by Australian and New Zealand shorebird enthusiasts. Ultimately, this book culminates with 'E7', the celebrated international Bar-tailed Godwit media star who now allows for many people to have a career and a living by flying for them a round-trip migration New Zealand Yellow Sea Alaska, and which was followed via the internet and Google maps in-time through the use of satellite telemetry (presumably supported by American tax money).

Throughout the book, one will find many wise citations made by naturalists and ornithologists. I really like the opening chapters of this publication, and the nice descriptive Alaskan breeding ground chapter from the Old Chevak camp (godwit crèches are reported. But it's of peculiar note that Woodley does not elaborate whether his birds engage in Extra Pair Copulations (EPCs)). Further, I like the many environmental and shorebird history facts presented, e.g., for the Yellow Sea and for the entire New Zealand and British context. The author makes clear that godwits and shore-



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