BIOMETRICS OF BIRDS THROUGHOUT THE GREATER CARIBBEAN BASIN. By Wayne J. Arendt, John Faaborg, George E. Wallace, and Orlando H. Garrido. Proceedings of the Western Foundation of Vertebrate Zoology, Volume 8, Number 1. 2004: 33 pp. plus a CD-ROM. ISSN: 05117550. $25.00 (paper).—The avifauna of the Caribbean Islands have prompted a large number of groundbreaking studies in such diverse areas as biogeography (Ricklefs and Cox 1972), community structure (Case et al. 1983, Faaborg 1985), parasitology (Fallon et al. 2004), and the ecology of overwintering migrants (Faaborg et al. 1984, Holmes et al. 1989, Marra et al. 1998). With the rise of DNA-based studies and molecular phylogenies, some people may harbor the notion that ornithological studies based in biometrics are a thing of the past. But with the present contribution of a massive data set on the biometrics of birds of the Caribbean
basin from Wayne Arendt and co-authors, the Caribbean Islands continue to offer possibilities for new and revealing analyses of avian ecology and evolution.

Based on the measurement of almost 30,000 individual live birds of 276 species captured with mist nets, this publication presents morphological measurements for as many as nine characters, including body mass, and lengths of the wing chord, penultimate primary, tarsus, central rectrix, exposed culmen, culmen from the nares, and culmen depth and width. In addition, age and sex of each individual were recorded when known. While many of the data are from Puerto Rico, a total of 30 islands are represented, with significant samples from Cuba and the Dominican Republic, as well as many smaller islands traditionally less-studied by ornithologists.

The printed portion of this short publication begins with a preface containing a history of this compilation of avian biometrics and a summary of the many sources of data gathered here. There follows a somewhat out-of-place section on the uses of morphological data, including an extensive listing of representative works in avian genetics and evolution, energetics, age and sex determination, ecomorphology, conservation and management, biogeography, and population and community ecology. While this section serves well as a ready source of references to biometric-based studies, it more rightly belongs in the introduction and/or discussion sections, where much of the same material is repeated.

Following the preface, the authors present a short introduction, wherein the importance of morphological measures to various subdisciplines of ornithology is reiterated and other sources of mensural data are detailed. The focus is appropriately placed on the outstanding need for body mass, and especially appendicular measurements, of Caribbean birds. Study areas are briefly described, and methods of obtaining measurements are detailed, though these are by now fairly standardized. Most important is a section explaining how to read the “Morphometrics Table” and the individual files for each species, all of which are presented on the CD that accompanies this volume. Analyses and results are limited to the descriptive statistics of mean, standard deviation, and range for body mass and longitudinal measurements. The discussion again reiterates the potential value of biometric data and concludes with the authors’ statement that they hope this publication will “serve as a tool for future researchers to use in their studies in the West Indies and throughout the Greater Caribbean Basin to better explain the morphological variation among the birds.”

The literature cited section contains a useful bibliography of nearly 300 references, many of which are examples of how avian biometrics data have been used.

The heart of this publication is undoubtedly found in the accompanying CD, which contains all of the raw data as well as summary statistics for 30,000 individuals. Species are presented in phylogenetic order, and then grouped by island, age, and sex, so that subsets of these data are easily extracted. Descriptive statistics and sample sizes are presented for the species as a whole, and for each island, with separate statistics by age and sex (when known). These statistics are found at the end of the species-specific tables, but are more easily accessible and summarized in the single “Morphometric Table” for all species. Species-specific data can be found in this table, or through a convenient index of species names. Although this index presents only Latin names, this should be a minor inconvenience to only the occasional user.

Negative criticisms of this work are few. A convenient summary of banding sites and vegetation associations is printed as a table, but I think these site descriptions could be significantly enhanced by adding latitude and longitude coordinates or other locational information so that the reader may determine more precisely where sites are found. In addition, descriptions of vegetation associations are very basic (i.e., wet, dry, mesic, dwarf), and would be more valuable if more detailed. I found few problems with the text, although in two places the authors attempt incorrectly to identify species to the subspecific level. The Sharp-shinned Hawk is identified as *Accipiter striatus venator* on all islands, which is the form found only on Puerto Rico; other forms are resident on Hispaniola (*A. s. striatus*) and Cuba (*A. s. fringilloides*). Similarly, the Palm Warbler (*Dendroica palmarum*) is misidentified as the Yellow Palm Warbler on all islands. The Yellow Palm Warbler (*D. p.
(D. p. palmarum).

Finally, while this publication may be criticized for its lack of in-depth analyses, that task would be monumental; the potential applications and uses of the data as presented are enormous. Rather than jealously guarding the data, these authors and their collaborators are to be congratulated for sharing the raw data so that we all might join in the fun and benefit from its use. Publication of this data set is also likely to spur the emergence of additional data. As the authors point out, 30,000 birds is a large number, but once samples are divided by species, age, sex, and island, sample sizes can diminish quite rapidly, especially for the least common species. Additional data may be required for meaningful analyses of variation in biometrics of many of these species, and many of the most interesting endemics are not represented at all.

Nevertheless, alongside the Western Foundation of Vertebrate Zoology’s publication of a bibliography of ornithology in the West Indies (Wiley 2000), this monumental work of biometric data represents a significant advance in Caribbean ornithology. Although not intended for popular consumption, the work should find a place in the collections and databases of researchers interested in avian systematics and evolution, morphology and ecophenology, and avian biogeography and ecology in general, Caribbean ornithology in particular.—STEVEN C. LATTA, PRBO Conservation Science, Stinson Beach, California; e-mail: slatta@prbo.org

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