

with figures, are given by Mr. Lucas, who compares them with the corresponding parts of *Phalacrocorax carbo*, *P. urile*, and *P. dilophus*. Mr. Lucas finds *P. perspicillatus* "to have been a much heavier bird than *P. carbo*, and a bird of weaker flight; with more robust and muscular legs, and a more slender and more feeble head and neck."—J. A. A.

Lucas on the Osteology of the Thrushes and Wrens.*—Mr. Lucas concludes "that the Miminæ hold a somewhat intermediate position between the Wrens and Thrushes, and if the characters described are of sufficient value to be considered *family* characters (which is extremely doubtful) each of the groups under consideration seems to have equal right in that respect.

"The Wrens, as represented by the species in hand, form a harmonious group, agreeing very closely with one another in their osteology, and presenting some well-marked distinctive characters.

"The Thrushes also, when compared with the Wrens, present well-defined characters, and while differing among themselves more than do the Wrens, these differences are nevertheless very slight.

"Aside from *Galeoscoptes*, the Miminæ are fairly well marked, having a very characteristic shape to the maxillo-palatine process. This maxillo-palatine is so entirely different from that of the Wrens that from what little experience I have had I should hesitate to unite two groups so dissimilar in this respect. On the other hand, *Galeoscoptes* has such decided leanings toward the Thrushes, not only in its skull, but in other portions of the skeleton, that it would seem to connect them with the Miminæ. Be this as it may, *Galeoscoptes* is certainly nearer to the Thrushes than any other member of its group, while *Harporhynchus* seems to be the farthest removed."

It would thus seem that the position of the Miminæ as a subfamily of the Turdidæ was more in accordance with the osteological characters of the Miminæ than is its present position among the Troglodytidæ. "In fact," says Mr. Lucas, "it seems more and more clear that the Miminæ should not be included in the very sharply defined family Troglodytidæ." On the other hand, he believes that the true affinities of both *Chamæa* and *Certhia* are with the Wrens.

Mr. Lucas's important paper is illustrated with figures of the skull, sternum, and pelvis in *Merula*, *Campylorhynchus*, and *Harporhynchus*.—J. A. A.

Shufeldt on the Osteology of the Ardeinæ.†—This paper contains a detailed description of the osteology of *Ardea herodias* and *Nycticorax violaceus*, with excellent figures of the principal parts of the skeleton in

* Notes on the Osteology of the Thrushes, Miminæ, and Wrens. By Frederic A. Lucas. Proc. U.S. Nat. Mus., 1888, pp. 173-180.

† Osteological Studies of the Subfamily Ardeinæ. By R. W. Shufeldt, M. D., C. M. Z. S. Journ. Comp. Med. and Surg., July and October, 1889. (Separates repaged.)

these two forms, as well as of some bones of *Ardea candidissima*. The paper concludes with a 'Synoptical and Comparative Review of the chief Osteological Characters of certain species of North American Ardeinæ.—J. A. A.

Shufeldt on the Relationships of the Genus *Chamæa*. *—Upon a careful comparison of the structure, external and internal, of *Chamæa* with a variety of more or less closely allied forms, Dr. Shufeldt finds its closest agreement to be with the genus *Psaltriparus*, and that it thus has distinctly Parine rather than Troglodytine affinities. The principal forms with which comparisons were made are, among Wrens, the genera *Thryothorus*, *Salpinctes*, *Campylorhynchus*, and *Cinnicerthia*; among Tits, the genera *Parus*, *Lophophanes*, *Psaltriparus*, *Ægithaliscus*, and *Auriparus*; among other birds, the genera *Certhia*, *Regulus*, *Polioptila*, *Accentor*, etc. He first compares in detail their pterylography and topographical anatomy, and then their osteology and more or less their viseral anatomy. Figures of the skulls are given of eight species, including of course *Chamæa*. In the totality of its characters *Chamæa* is found to be much more closely related to the Bush-Tits than to any of the Wrens, unless it be the South American genus *Cinnicerthia*, which, however, is known to Dr. Shufeldt only from an examination of skins and plates representing its external characters. The last-named genus he conjectures, we fear without just grounds, may have, like *Chamæa*, Parine affinities. His passing remarks on *Perisoreus* are of interest, as showing that while in its external characters it so strongly recalls the Tits, it is essentially a Garruline bird, a comparison of the skeleton of *Perisoreus* with that of *Parus* at once dispelling the resemblance suggested by the external characters.—J. A. A.

Shufeldt's 'Studies of the Macrochires'.—Under this title † the author treats at some length several forms not belonging to the group of Macrochires, as *Ampelis cedrorum* (pp. 306-318), *Trogon mexicanus* and *T. puella* (pp. 318-338), and the North American Hirundinidæ (pp. 352-355) the latter with special reference to their relationship to the Swifts. *Ampelis*, as shown by Garrod, may be regarded as "an average Oscinine bird," with, says Dr. Shufeldt, "here and there in its economy traces of a Clamatorial type, such as is shown by its free lachrymal bone and a few other minor points." It apparently has no close morphological relationship with the Hirundinidæ. In the present memoir it was chosen on account of its average Passerine character for comparison with the other forms treated.

* On the position of *Chamæa* in the System. By R. W. Shufeldt. Journ. of Morph., Vol. III, No. 3, pp. 475-502.

† Studies of the Macrochires, Morphological and otherwise, with the view of indicating their Relationships and defining their several Positions in the System. By R. W. Shufeldt, M. D., C. M. Z. S., Captain, Medical Corps, U. S. Army (communicated by W. K. Parker, F. R. S., F. L. S.). Journ. Linn. Soc., Zoölogy, Vol. XX, pp. 299-394 pll. xvii-xxiv. (Published Oct., 1899.)