

ornithology in Australia, and discusses the whole nomenclature problem as well as the zoogeography of the region.

The volume as a whole contains an enormous amount of information and ornithologists both in Australia and elsewhere should feel grateful to Mr. Mathews for his painstaking researches and for presenting the results in such an available form.— W. S.

Witherby on the Moulting of the Rook.¹— The well known Rook of England and Europe and an eastern subspecies ranging to Japan differ from the Crows in having the face and upper throat bare of feathers in the adult, though they are normally feathered in juvenal birds. The method by which the feathers are lost has been a frequent subject for speculation and most writers seem to have preferred to speculate rather than to experiment, as frequently happens in similar cases. Mr. H. F. Witherby, however, by securing a good series of birds of all ages in the flesh, and studying them intelligently, has cleared up the whole matter. He finds that at the post-juvenal moult a new set of feathers is acquired and the bird has a fully feathered face which it retains until January or later. The feathers are then moulted simultaneously with the wearing of the body plumage as the breeding season approaches. As the feathers drop out the papillae become active, but instead of producing feathers there arise only short 'pins' a millimeter or so in length, rarely terminating with short degenerate feather structures. The down feathers which are scattered here and there over the throat and face do not moult, and with the pins they suffer gradual abrasion until the next autumnal moult. At this and each succeeding post-nuptial moult the throat develops a covering of gray down which with a few degenerate feathers that appear with it soon wears away until the area is bare. The papillae of the face do not seem ever to become active again after the post-juvenal moult.

Mr. Witherby has done an excellent piece of work in demonstrating exactly how and when this peculiar loss of feathers occurs. Why the feather papillae should regularly become inactive he leaves to some one more conversant with feather development, and generously offers them his material.

While conducting this investigation on the moult of the head Mr. Witherby naturally took note of the sequence of plumage elsewhere, which he describes in detail and which is essentially the same as in our American Crow.— W. S.

Trevor-Battye's 'Camping in Crete.'²— This handsome volume forms a book of old world travel more than usually interesting to the

¹ The Sequence of Plumages of the Rook. With Special Reference to the Moulting of the "Face." By H. F. Witherby. *British Birds*, Vol. VII, No. 5, October 1, 1913, pp. 126-139.

² *Camping in Crete* | with Notes upon the Animal | and Plant Life of the Island | By | Aubyn Trevor-Battye | M. A., F. L. S., F. Z. S., F. R. G. S., etc. | Including a Description of certain Caves and their Ancient Deposits | By Dorothea M. A. Bate, M. B. O. U. | with thirty-two Plates and a Map. | Witherby & Co. | 326 High Holborn, London | 1913. 8vo. pp. i-xxi + 1-308. Price 10s 6d.



Witherby, H. F. 1914. "Witherby on the Moulting of the Rook." *The Auk* 31, 118–118. <https://doi.org/10.2307/4071874>.

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