occurrence with interesting bits of life history gleaned from other publications or from the author's personal experiences, forming a very readible and instructive account which cannot but prove of value to visitors to what we trust may soon become another of our National Parks. The Baileys have prepared similar admirable guide books or reports on the natural history of parks that have been already established and the present publication should emphasize the importance of saving this region for the tourist and naturalist.—W. S.

Lowe on the Primitive Character of the Penguins.—In this important and interesting paper[1] Dr. Lowe presents the results of his studies of the pterylosis of the Penguins; of the character of their tarso-metatarsus; of the fore limb—both recent and fossil; together with embryological and myological data.

His conclusions with regard to the ancestry of these peculiar birds are that they are not degenerate flying birds but have sprung independently from a common generalized ancestor, probably some bipedal dinosaur, and from the very beginning have been specialized for an aquatic life. He would therefore divide recent birds into three subclasses "(1) a true aquatic [group], represented solely by the Penguin; (2) a cursorial [group], represented by such forms as the 'Ostriches'; (3) a flying [group], represented by the carinate division of birds."

He further points out that other swimming and diving birds, such as Auks, Grebes, Loons, etc., are merely flying birds, usually still able to fly, which have adapted themselves to an aquatic life. Their pterylosis is the same as in other carinate birds and their osteology even in the most modified forms is that of the true flying carinate type. "They swim and dive in spite of being flying birds." The Penguin on the other hand is the only true aquatic type having specialized directly from a primitive non-flying ancestor.

"The purely aquatic character of the Penguin" he writes, "has not, as far as I can gather, been noticed before. It seems to be one of those things which once said seems obvious enough; but it wanted saying." As Dr. Lowe points out it is hardly conceivable that the tremendous differences between the Penguins and carinate birds could have been brought about by adaptation of the latter to a purely aquatic life when we know from fossil evidence that such birds as the Loons have been swimming and diving since Eocene times with no striking modifications from the feathers or skeletal characters of the flying birds.

The detailed results of Dr. Lowe's studies form most interesting reading for anyone concerned with the phylogeny of birds.—W. S.

Ball's 'Jungle Fowls from Pacific Islands.'—This paper[2] of Dr.

[1] On the Primitive Characters of the Penguins, and their Bearing on the Phylogeny of Birds. By Percy Poycroft Lowe. Proc. Zool. Soc. London, 1933. Pp. 483–588, pll. I–VI., June 30, 1933.

[2] Jungle Fowls from the Pacific Islands. By Stanley C. Ball. Bernice P. Bishop Museum Bulletin 108. Pp. 1–121, pll. I–VII. Honolulu, Hawaii, 1933.