

All crevices in the walls of houses should be stopped up, and clods of earth removed, and it might be advisable to run a line of ashes next the wall, sprinkled with a little kerosene, or a weak solution of carbolic acid in the proportion of one part acid to one hundred parts of water.

With regard to the larva, where attacks have been going on during the growing-season the roots should be thoroughly examined during the winter, and all maggots destroyed, and the roots dressed with lime, soot, or similar applications. The best remedy for a vine-border is to clear it away and replace with clean soil. Watering with a strong solution of ammoniacal liquor and common agricultural salt is effective in preventing the increase of this pest.

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ART. XLI.—*Note on the Wandering Albatros (Diomedea exulans).*

By Sir WALTER BULLER, K.C.M.G., D.Sc., F.R.S.

[Read before the Wellington Philosophical Society, 19th February, 1890.]

VOLUME XXI. of our "Transactions," just received in London, contains a paper by Mr. A. Reischek on "The Habits and Home of the Wandering Albatros."

The author of that paper, having visited the Antipodes and Auckland Islands in the Government steamer "Stella" during the breeding-season of that species, seems to have enjoyed exceptional opportunities for studying its history in the adolescent state. But, unfortunately, through an-obvious inaccuracy of observation, he has failed to give us any very definite information on the only point that presents any difficulty.

He says (*l.c.*, p. 128), "The albatros takes five years to become fully matured, and in each year there is a slight change of plumage. The young, which are hatched in February, are covered with snow-white down, and a beautiful specimen in this stage exists in the Otago Museum. In the following December they lose their down, and the plumage is of a brown colour, with white under the wings and on the throat. In the second year the plumage is the same, except that there is more white on the throat and abdomen. In the third year there is still more white, although mixed with blotches of brown. In the fourth year they very nearly acquire the full plumage. The male is white with a few very fine dark specks, except the wings, which are dark-brown. In the fifth year they reach their full growth, and the mature plumage is displayed—white with blackish-brown wings."

Mr. Reischek's account of the nestling agrees with Mr. Gould's, which is as follows: "The young are at first clothed in a pure-white down, which gives place to the dark-brown colouring mentioned above" ("Handb. B. of Aust.," ii., p. 433).

But the specimen in the Otago Museum to which Mr. Reischek refers is not, as his remarks would imply, a nestling covered with white down, but a well-grown fledgling, with tufts of white down still adhering to the plumage. This fledgling has not assumed "plumage of a dark-brown colour," but is of pearly whiteness. It is thus described in my second edition of "The Birds of New Zealand" (vol. ii., p. 192): "A fledgling, however, in the Otago Museum—obtained at Campbell Island—is entirely without the dark plumage. It has not yet completely lost the dense, fluffy, pure-white down which forms the clothing of the nestling. The head, neck, shoulders, rump, tail, and entire under-surface are of the purest white, having a fine silky gloss; the interscapular region is traversed longitudinally with club-shaped marks of greyish-black, increasing downwards, the larger feathers having their apical portion completely covered; upwards, towards the shoulders, these marks diminish till they become mere arrow-heads; on the mantle there are numerous marginal bars, but there is no vermiculation. The wings are brownish-black on their upper surface varied with white, all the coverts having white margins, and the quills are black. Bill yellowish-horn colour, with a bluish tinge on the upper mandible."

This is undoubtedly the "beautiful specimen" referred to by Mr. Reischek, because Professor Parker mentions in a letter to me that he had called his attention to it specially after his return from the Auckland Islands. Its condition is quite inconsistent with Mr. Reischek's account of a direct transition from the snow-white down into the dark plumage.

In my account of the species (*l.c.*) I have described another example, obtained at Waikanae, of small size, and evidently a young bird. This one had the whole of the plumage pure-white without any markings, excepting on the wings, which were black on their upper surface, largely dappled with white especially towards the humeral flexure. It is figured in my plate of the species, being the back figure standing on a rock.

The following was the only explanation I could offer (*l.c.*, p. 192): "We cannot suppose that the albatros is first pure-white, then dark-brown, and, after passing through several intermediate states, pure-white again in extreme old age. Nor would it be altogether safe, from the materials at present before us, to construct a new species. I am inclined rather to account for the differences I have mentioned on the supposition of the existence of dimorphic phases of plumage,

as in some other oceanic birds." This view may be the right one, or it may not; and it seems to me unfortunate that, with such excellent opportunities for studying the subject, Mr. Reischek did not place that matter beyond all doubt.

As to its requiring five years for the albatros to attain the mature white livery, this must of necessity be only conjecture. In my account of the bird I have described no less than ten phases of plumage in its progress towards maturity. That it takes a considerable time—probably several years—to develop the fully-adult plumage is perfectly clear, but it is manifestly impossible to fix the annual changes of plumage without having the birds constantly under observation.

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ART. XLII.—*On the Assumed Hybridity between the Common Fowl and the Woodhen (Ocydromus).*

By JAMES MURIE, M.D., LL.D., F.L.S.

Communicated by Sir Walter Buller, K.C.M.G., F.R.S.

[*Read before the Wellington Philosophical Society, 19th February, 1890.*]

Plates XXI.—XXIV.

SINCE the publication of Darwin's classical works, "The Origin of Species," and "Variation of Animals and Plants under Domestication," the subject of hybridity, or hybridism, has been rendered highly attractive, and instructive to a remarkable degree. One sequel of his writings has been to foster the spirit of observation and inquiry regarding individual bodily variations or peculiarities of habit, however slight or merely of passing occurrence they might seem to be at first sight.

The special interest attached to the supposed hybrid about to be reported on is one of negation rather than support. But a register of the data nevertheless shows certain side-lights, which may be of use hereafter when similar inquiries as to mixed parentage are undertaken.

Before proceeding to inquire into the evidence to be derived from the anatomy of the attributed cross-bred fowl more immediately the subject of this paper, I shall shadow forth in a cursory manner what hitherto has been asserted in support of the interbreeding of the weka and the fowl. In the first edition of "The Birds of New Zealand," 1872, p. 165, the author, in referring to the North Island woodhen (*Ocydromus earli*), drew attention to a reputed hybrid with the fowl seen