

Emu (*Dromæus novæ-hollandiæ*) Feathers.

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IT has been usual to place the Emu in the order *Casuarii*, at the bottom of the classification of birds, but in the newest classification (Dr. Sharpe's "Hand-List of Birds") the Emu are given the primary place, in the order *Casuariiformes*. It is a happy circumstance, therefore, that the organ of the Aust. O. U. should be named after a member of the highest order of birds, both as regards classification and size, the size being exceeded by the Ostrich only; besides, the Emu is peculiarly Australian.

These noble birds have a wide range, being found in every part of the continent except in the dense scrub-covered ranges on the north-eastern coast, where the Cassowary takes their place. Emus were formerly found in Tasmania and on Kangaroo Island, and I have likewise found their bones on some of the islands of Bass Strait—namely, in the Kent Group and on King Island—which shows that they existed before Tasmania was separated from the mainland.

The late Mr. A. D. Bartlett described before the Zoological Society of London, on 24th May, 1859, what he thought was another species, and gave it the name of *Dromæus irroratus*. The type, he says, "was obtained with others far in the interior of South Australia, several hundred miles from Port Phillip." As Port Phillip is in Victoria, the exact locality that his specimens came from is somewhat vague. Subsequent to his description and to the remarks published by Gould in his "Handbook," all the West Australian birds were called *D. irroratus*.

In the Melbourne Zoological Gardens many live specimens from different parts of Australia have been received, including those from North-Western Australia, and they are practically all the same, and when the fully adult specimens—that is, over three years old—from the latter district are placed alongside those of Victoria or New South Wales one cannot distinguish any practical difference; but young specimens, both from New South Wales, Victoria, and Queensland, which have their feathers distinctly barred or spotted have been frequently received. In some cases nearly every feather was barred. The spotted plumage appears as they lose their down, but at the end of the first year many of their mottled feathers, which have got worn and ragged, are gradually shed, and new feathers, as a rule without bars, take their place, but occasionally in some birds barred feathers are again in evidence throughout the second and third years, especially on the upper part of the back and the base of the neck. For instance, there were two birds in their first year received from North-Western Australia. They both came from one nest, a male and female. The male lost all his barred feathers at the end of the first year, but the female, in her second year's growth of feathers, had a considerable number barred on



EXPLANATION OF PLATE.

- 1.—Barred feather from upper part of neck of a one-year-old Emu from North-Western Australia.
- 2.—Barred feather from back of one-year-old Emu from the Riverina district, New South Wales.
- 3.—Albino feather from back of Emu two years old, from North-Western Australia.
- 4.—Barred feather from flank of Emu nine months old, from the Riverina district, New South Wales. Shows portion of down still undetached from tip of newer feather.
- 5.—Barred feather from breast of Emu nine months old. Shows down still attached to tip of newer feather.
- 6.—Feather with barred end, from bird one year old, from South-Western Australia.
- 7.—Barred tail feather from bird one year old, from the Riverina district, New South Wales; similar feathers from other birds are often much lighter, sometimes nearly white.
- 8.—Barred feather from tail of a one-year-old bird from Gippsland, Yictoria.

the upper part of the back, and in the third year a very few faintly barred, but these disappeared in the fourth year. Her appearance in her second year would agree very well with Mr. Bartlett's description, especially as she was slight and her feathers somewhat more silky than usual; but her nest companion was much larger and stronger, and had no bars after the end of the first year. Consequently, as has been shown, many young Emus have more or less spotted or barred plumage, but these spots as a rule disappear at or before the end of the third year, though in some cases they may be more persistent; and in a clutch of young birds from the same nest some are spotted and some are not, and some only faintly so, therefore I do not think *D. irroratus* can stand even as a variety.

Young Emus vary much in the colour of their plumage; some are nearly black, whereas others again are a light greyish-brown, almost stone-colour, with the variations between, but after the third year they are practically all the same, although in adults some have the ends of their feathers darker, and also darker for a longer distance down the feather than others, and others again, especially from North-Western Australia, have a dark reddish-brown tint and a lighter mark on the feather next to the dark end, which gives them a spotted appearance, and often before the fourth year many of the feathers have a white tip instead of black; but there are links between all the variations, and two Emus are rarely exactly alike. Some also have the feathers of the upper part of the neck of a much lighter colour than others, in some cases almost white. On two occasions only have I found individual pure white feathers on the back. I have only heard of one albino specimen, and that in Northern Australia, where it was reported to a local resident by the natives; one West Australian bird had several partially white feathers on its back. Regarding the texture of the feathers, there is again a considerable difference, as some are of a finer texture than others and more silky towards the base. There is always a difference in the two feathers that spring from one base—one is longer and also sharper at the end than the other.

These birds vary in size and height; some are much more stoutly built and some have longer legs than others. The male bird seems to regard the nest as his own special property, as he not only does most, if not all, the hatching, but also protects it if need be. The male and female do not vary much in appearance, but the former generally has the ends of his feathers darker, and has a considerably larger tail than his mate.

THE veteran ornithologist and author, Professor Alf. Newton, Cambridge (England), is the first person outside of Australasia to join the Aust. O.U. No country or clime—only the wide world itself—limits the work and enthusiasm of the true naturalist.