

yet almost all the kinds have frequently produced young in the various European menageries, even the mooruk (*Casuarium bennettii*) from New Ireland. The African ostrich, though perfectly healthy and living long in the South of France, never lays more than from twelve to fifteen eggs, though in its native country it lays from twenty-five to thirty.⁵⁴ Here we have another instance of fertility impaired, but not lost, under confinement, as with the flying squirrel, the hen-pheasant, and two species of American pigeons.

Most Waders can be tamed, as the Rev. E. S. Dixon informs me, with remarkable facility; but several of them are short-lived under confinement, so that their sterility in this state is not surprising. The cranes breed more readily than other genera: *Grus montigresia* has bred several times in Paris and in the Zoological Gardens, as has *G. cinerea* at the latter place, and *G. antigone* at Calcutta. Of other members of this great order, *Tetrapteryx paradisca* has bred at Knowsley, a Porphyrio in Sicily, and the *Gallinula chloropus* in the Zoological Gardens. On the other hand, several birds belonging to this order will not breed in their native country, Jamaica; and the Psophia, though often kept by the Indians of Guiana about their houses, "is seldom or never known to breed."⁵⁵

The members of the great Duck family breed as readily in confinement as do the Columbæ and Gallinæ; and this, considering their aquatic and wandering habits, and the nature of their food, could not have been anticipated. Even some time ago above two dozen species had bred in the Zoological Gardens; and M. Selys-Longchamps has recorded the production of hybrids from forty-four different members of the family; and to these Professor Newton has added a few more cases.⁵⁶ "There is not," says Mr. Dixon,⁵⁷ "in the wide world, a goose which is not in the strict sense of the word domesticable;" that is, capable of breeding under confinement; but this statement is probably too bold. The capacity to breed sometimes varies in individuals of the same species; thus Audubon⁵⁸ kept for more than eight years some wild geese (*Anser canadensis*), but they would not mate; whilst other individuals of the same species produced young during the second year. I know of but one instance in the whole family of a species which absolutely refuses to breed in captivity, namely, the *Dendrocygna viduata*, although, according to Sir R. Schomburgk,⁵⁹ it is easily tamed, and is frequently kept by the Indians of Guiana. Lastly, with respect

⁵⁴ Marcel de Serres, 'Annales des Sci. Nat.,' 2nd series, Zoolog., tom. xiii. p. 175.

⁵⁵ Dr. Hancock, in 'Charlesworth's Mag. of Nat. Hist.,' vol. ii., 1838, p. 491; R. Hill, 'A Week at Port Royal,' p. 8; 'Guide to the Zoological Gardens,' by P. L. Selater, 1859, pp. 11, 12; 'The Knowsley Menagerie,' by Dr. Gray, 1846, pl. xiv.; E. Blyth,

'Report Asiatic Soc. of Bengal,' May 1855.

⁵⁶ Prof. Newton, in 'Proc. Zoolog. Soc.,' 1860, p. 336.

⁵⁷ 'The Dovecote and Aviary,' p. 428.

⁵⁸ 'Ornithological Biography,' vol. iii. p. 9.

⁵⁹ 'Geograph. Journal,' vol. xiii., 1844 n. 32