ALAOTRA GREBE ENDANGERED

Tachybaptus rufolavatus (Delacour, 1932)

Order PODICIPEDIFORMES Family PODICIPEDIDAE

Summary This endemic Madagascar waterbird, known chiefly from Lake Alaotra, is in the irreversible process of disappearing through hybridisation with the Little Grebe *Tachybaptus ruficollis*.

Distribution The Alaotra Grebe is known primarily from Lake Alaotra (40 km by 3-5 km) and adjacent marshes, at c. 700 m in north-eastern Madagascar (Delacour 1932, Lavauden 1937, Voous and Payne 1965). A prediction that it would be reported from Lake Itasy and other marshes in central Madagascar (Lavauden 1937) has been partially fulfilled, with records from Ankazobe (80 km north of Antananarivo) in December 1947 (Salvan 1971), a crater-lake north of Analavory (80 km west of Antananarivo) on an unknown date (but apparently around 1970) (Salvan 1972a), "Mianinarivo" (correctly, Miarinarivo: J. T. Hardyman *in litt.* 1984) (one town of this name is near Analavory and just north of Lake Itasy, another is 100 km north of Lake Alaotra) on an unknown date (Voous and Payne 1965), and Lake Kazanga (just south of Lake Itasy) in July 1971 (when at least 10 were seen) (Salvan 1972a). Moreover, the species has been collected as far south as the Isalo massif, in January 1963, and as far west as Majunga in November 1969 (see map in Salvan 1971), and it was seen between the Antsingy massif and Antsalova (near the coast due west of Antananarivo) in July 1970 (Salvan 1971) and in the Antsingy reserve (R.N.I. no. 9 du Tsingy de Bemaraha) itself on an unknown date (but apparently around 1970) (Salvan 1972b) (this and the previous record may perhaps be the same). However, it is to be observed that, since hybridisation with the longer-winged, dispersive Little Grebe *Tachybaptus ruficollis* has been taking place from at least 1929, and had seemingly intensified by 1960 (see under Threats), and since many hybrids can be extremely difficult to distinguish as such (see Voous and Payne 1965), the validity of many – if not all – of these records away from Lake Alaotra (which remains the only known breeding site) must be doubtful.

Population Numbers are unknown, but certainly very small. At Lake Alaotra in May 1929, when 15 specimens were first collected, it was found breeding in fair numbers (Delacour 1932); in May/July 1960, when 13 more specimens were collected, the estimated total number of birds seen at the lake was 50 (Voous and Payne 1965) (this presumably includes the 13 collected). More recently it has been stated that this species "seems in expansion" (Salvan 1972a), presumably as much in terms of numbers as of range; however, the records that are evidently the basis of this view, apart from the doubt cast on them under Distribution above, can be interpreted in much less encouraging ways, e.g. that they only represent the true but hitherto unrecognised distribution of the species, or even that they reflect an unprecedented dispersal from Lake Alaotra in the face of deteriorating conditions there. However, 12 birds were seen on Lake Alaotra in December 1982 (O. Langrand *in litt.* 1984).

Ecology Lake Alaotra is a large but shallow water-body, in 1929 fringed with dense vegetation (dominated by papyrus and reeds) and dotted with water-lilies (Rand 1936). The Alaotra Grebe is almost exclusively piscivorous (Voous and Payne 1965), breeding April to June in 1929 (Rand 1936), January to March in 1960 (Voous and Payne 1965). Its short wing is considered an indication of highly sedentary behaviour (Voous and Payne 1965), but subsequent records away from Lake Alaotra have been seen to call this assumption in question (Salvan 1972a).

Threats The species is threatened by hybridisation with the far more widespread and numerous Little Grebe, and by alteration of habitat in its only known breeding area. Although only first noted in any numbers in Madagascar in 1945 (Milon 1946), the Little Grebe was evidently fairly widespread in the island in the nineteenth century (up to 17 skins in museum collections), with the earliest record in 1837 and a breeding record from 1895 (Schlegel and Pollen 1868, Hartlaub 1877, Oberholser 1900, Delacour 1933, Milon 1951, Benson 1971). Despite reports that *ruficollis* disappeared from near Antananarivo around 1955 (Salvan 1972a, Milon *et al.* 1973), it was "by far the commonest species" of grebe at and around Antananarivo and Lake Alaotra in 1960 (Voous and Payne 1965) and had also become widespread in the Mangoky river region by this time (Appert 1971). Its post-1945 increase in abundance appears to be related to the conditions created by the introduction of exotic fish, especially tilapia, into many lakes and pools throughout Madagascar (Appert 1971). Hybridisation by the Little Grebe with the Alaotra Grebe, though first recognised in the 1960s (Voous and Payne 1965), has been recorded at least as far back as the 1920s (the type-specimen and up to four others of the original series of 15 appear hybrid) (Voous and Payne 1965), and even a specimen from 1862 seems suspect (Benson 1971). Of 39 grebes collected in north-central Madagascar in 1960, 13 were *rufolavatus*, 13 *ruficollis*, and 13 hybrids or suspected hybrids of the two; although there was a bias towards collecting birds that proved to fall into this last category, it seemed likely on this evidence that the pure *rufolavatus* strain was "doomed to vanish" (Voous and Payne 1965). Observations at Lake Alaotra in April 1971 confirmed that hybridisation with *ruficollis* was on a large scale (D. A. Turner *in litt.* 1983). Tilapia were already in Lake Alaotra in 1960 (Voous and Payne 1965), and while this may not have been directly injurious to the population of the piscivorous *rufolavatus* (indeed, if *rufolavatus* is truly "in expansion" this may well be due to tilapia) it may have provided greater attraction to the more mobile *ruficollis* and thus accelerated the rate of genetic swamping, and may equally have reduced cover needed by *rufolavatus* for breeding. By 1972 Lake Alaotra was said to be of limited interest only, owing to developments there for rice-growing and fish-farming (Salvan 1972b), a view confirmed by recent observations (O. Langrand *in litt.* 1984).

Conservation Measures Taken None is known.

Conservation Measures Proposed Nothing can be done to prevent the extermination of the Alaotra Grebe in the wild; however, a survey to assess its present condition would be most valuable for, if sufficient numbers of "pure"

birds survive, it might be feasible to devise a programme of captive propagation for them.

References

Appert, O. (1971) Die Taucher (Podicipidae [*sic*]) der Mangokygegend in Südwest-Madagaskar. *J. Orn.* 112: 61-69.

Benson, C. W. (1971) Quelques spécimens anciens de *Podiceps ruficollis* (Pallas) provenant de Madagascar et des Comores. *Oiseau et R.F.O.* 41: 89-93.

Delacour, J. (1932) Les oiseaux de la Mission Franco-Anglo-Américaine à Madagascar. *Oiseau et R.F.O.* 2: 1-96.

Delacour, J. (1933) Les grèbes de Madagascar. *Oiseau et R.F.O.* 3: 4-7.

Hartlaub, G. (1877) *Die Vögel Madagascars und der benachbarten Inselgruppen*. Halle.

Lavauden, L. (1937) Supplément. A. Milne Edwards and A. Grandidier, *Histoire physique, naturelle et politique de Madagascar, 12. Oiseaux*. Paris: Société d'Editions Géographiques, Maritimes et Coloniales.

Milon, P. (1946) Observations sur quelques oiseaux de Madagascar. *Oiseau et R.F.O.* 16: 82-86.

Milon, P. (1951) Notes sur l'avifaune actuelle de l'île de la Réunion. *Terre et Vie* 98: 129-178.

Milon, P., Petter, J.-J. and Randrianasolo, G. (1973) *Faune de Madagascar, 35. Oiseaux*. Tananarive and Paris: ORSTOM and CNRS.

Oberholser, H. C. (1900) Catalogue of a collection of birds from Madagascar. *Proc. U. S. Natn. Mus.* 22: 235-248.

Rand, A. L. (1936) The distribution and habits of Madagascar birds. *Bull. Amer. Mus. Nat. Hist.* 72: 143-499.

Salvan, J. (1971) Observations nouvelles à Madagascar. *Alauda* 39: 37-42.

Salvan, J. (1972a) Statut, recensement, reproduction des oiseaux dulçaquicoles aux environs de Tananarive. *Oiseau et R.F.O.* 42: 35-51.

Salvan, J. (1972b) Remarques sur l'avifaune malagasy et la protection d'espèces aviennes mal connues ou menacées. (Communication 26, pp. 179-182, in:) *C. R. Conférence Internationale sur la Conservation de la Nature et de ses Ressources à Madagascar*. Morges: IUCN (NS) Doc. suppl. no. 36.

Schlegel, H. and Pollen, F. P. L. (1868) *Recherches sur la faune de Madagascar et de ses dépendances, d'après les découvertes de François P. L. Pollen et D. C. van Dam*. 2me partie. Mammifères et oiseaux. Leyde.

Voous, K. H. and Payne, H. A. W. (1965) The grebes of Madagascar. *Ardea* 53: 9-31.