A report on the White-winged Wood Duck in southern Sumatra

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The presence of the White-winged Wood Duck *Cairina scutulata* in Jambi province of Central Sumatra, and in Sumatra's southernmost province of Lampung, has previously been reported (Holmes 1976). From April 1976 to January 1977 some time was devoted to searching for this bird particularly during the last month. A brief report is presented on the findings.

Habitat

The province of Lampung (formerly part of the province of South Sumatra) lies between latitudes 4° and 6° South, and has an equatorial climate of constant high temperature. There is a wet season between November and March and a drier season between May and September. In a few years there are droughts of up to three months, which allow some of the swamps to dry out.

The province has extensive low plains, with ranges of mountains along the western side, and swamps near to the east coast (see Figure 1). Rain forest formerly covered the whole province, but primary forest is now confined to the most remote mountainous areas. Patches of primary forest and more extensive secondary forest remain in the north and east of the plains, but shifting cultivation has left very extensive grasslands and scrub.

Freshwater swamps extend along the main river valleys and broaden out near the coast, where they become somewhat peaty. In an area of 24,000 sq km of plains, there are some 1,400 sq km of open swamp and 730 sq km of swamp forest (Howard Humphreys *et al.* 1977). These figures are based on air photographs taken in 1969. They refer to all the plains area except the Mesuji river basin in the north. A dominant tree in the swamps is a form of *rengas* (probably *Melanorrhoea* sp.), a tall and imposing tree that has an abundance of natural cavities. The open swamps have secondary vegetation of grass and tall scrub, with groves of trees in places.

The White-winged Wood Duck is a familiar bird to many villagers under its Indonesian name of 'Bebek hutan', meaning forest duck, or its Lampungese name of 'Serati'. In contrast to Assam and elsewhere, where the ducks require the shelter of heavy primary plains forest (Mackenzie & Kear 1976), in Sumatra they appear to tolerate very much more open and disturbed forest. My own records come mostly from remnant patches of woodland in the swamp, or dense old secondary dryland forest adjacent to the swamp. Sometimes the ducks use quite open woodland with little shade, though probably suitable tall trees must always be present. At night they feed out in the grasses of the open swamp. In Jambi they were seen in the weedy stubble of swamp rice and they may feed in plots of young rice, but presumably they would not visit the intensive irrigated ricefields on adjacent dry land.

Many of these habitats are close to quite large villages, and indeed the ducks apparently breed within shouting distance of such villages. They are relatively undisturbed on their night feeding grounds, but it is important to know how much interference they will tolerate in their daytime roost or breeding place. In the Jambi locality, the ducks were feeding in daylight within 70 metres of three occupied farmer's huts, but of course they would fly off at human approach.

Diurnal rhythm

As in Assam, the birds flight just before dusk, at around 18.15 local time, when it is almost too dark to see them. They return just before dawn, at about 05.30, or if undisturbed they may remain on the open swamp until the middle of the morning. I have flushed a bird at midday, and another in the late afternoon (17.00). They almost invariably call in flight and thus readily reveal their presence. They may fly four kilometres or more across open and populated terrain between their roost and feeding grounds. All my sightings have been of either one or two birds.

Description

Except for the bird reported previously in Jambi, I have seen them only in flight and have never obtained a full description. I have now seen a total of five birds in Sumatra (others being only heard), and every one showed a considerable degree of albinism so

that the impression has been that of a predominantly white bird with irregular black markings. In discussion with Mr Mackenzie and Dr Kear, it was pointed out that inbreeding, which is thought to be a cause of albinism, may be associated with the greater tolerance to habitat variety and to human disturbance shown by Sumatran birds. Another factor encouraging inbreeding may be the perennial nature of many of the swamps, which only dry up in very dry seasons, thus allowing the birds to be more sedentary than they would be in a more monsoonal climate.

Breeding

Around the village of Bujung Tenuk, near Menggala in North Lampung (site A on Figure 1), I was shown four reputed nest holes, all in *rengas* trees standing in swamp. Three of these were sites of previous years. One was four metres up in a deep hollow in the fork of a tree standing in a dense grove of woodland. Villagers reported that this site had been visited again in January 1977, but there was no sign of breeding. Another former site, also still visited sometimes, was a hole eight metres up in the straight trunk of a tree standing in the open in deep swamp. The site used in January 1977 was five metres up, in a large hole in the decaying trunk of an old tree, standing in the tall grass of an open swamp in which the remaining trees had been burnt in a previous year. This site would be exposed to sunlight and it is interesting that it was chosen when a dense and apparently more suitable grove of trees

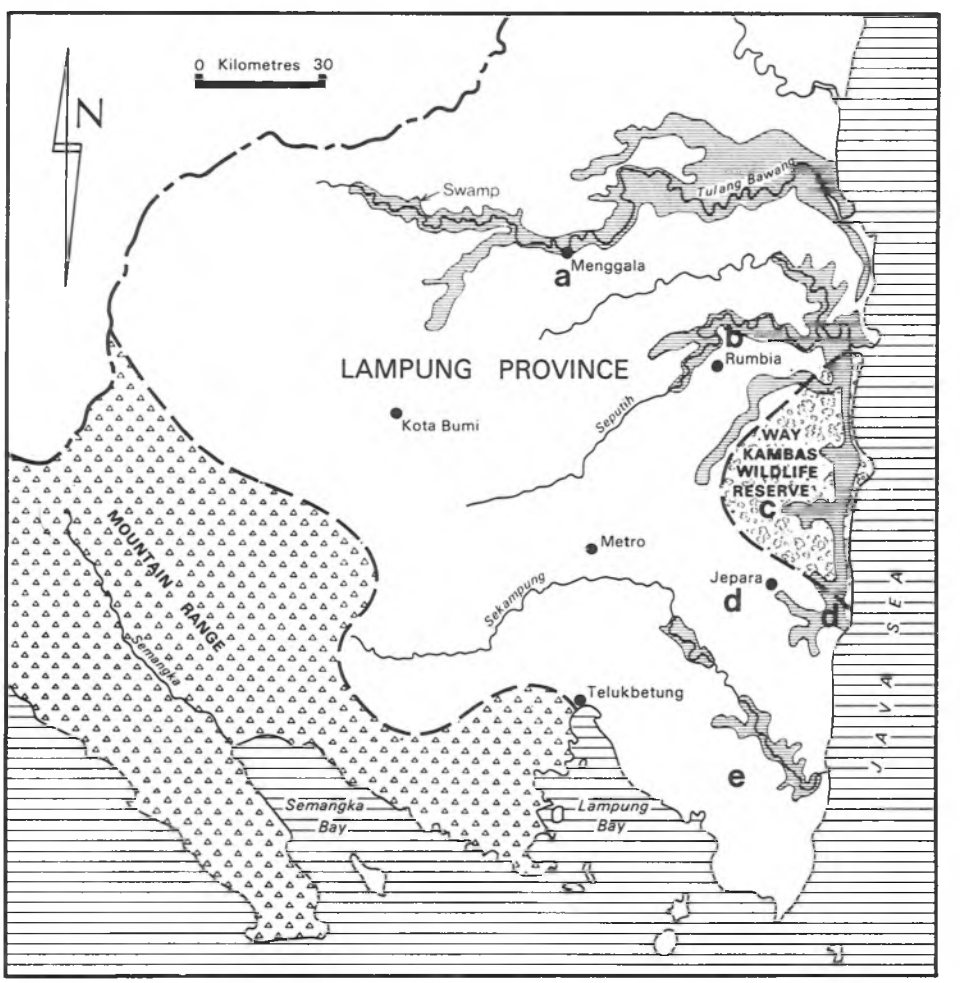

Figure 1. Location of White-winged Wood Duck in Lampung Province, South Sumatra

was available a hundred metres away.

On 15th January the nest contained 8 eggs, one of which was said to have been laid within the last two days. All the eggs were wet and extremely stained and it was impossible to determine which was the newest egg. They weighed between 80 and 87 grams and measured 66–69 × 48–50 mm.

It is important to stress that I did not actually see a bird at this nest though I heard one near it at night. It is possible that the nest had been abandoned a month or so previously. There is even a remote chance that the villagers had deceived me, for financial gain, by placing eggs of domestic Muscovy Duck *Cairina moschata* in the hole!

The ducks are said to breed in the wet season. In mid-January, when the eggs were examined, villagers reported having seen an adult with two ducklings in the swamp at night, while a family of seven ducklings was said to have been captured the previous week. I was unable to confirm these reports. The guide to one of the sites said that the birds would not breed until the level of the flooded swamp had risen another metre. Probably the species has a fairly extended breeding season lasting from December to March or April.

Population

I was able to confirm that birds were present at every piece of suitable habitat which I surveyed, namely the Menggala area on the Tulang Bawang river (A on Figure 1), Rawa Susuk on the Seputih river north of Rumbia (B), in the Way Kambas reserve (C) and at two sites near Jepara (D), and along the Ketibung tributary of the lower Sekampung river (E). This was seven sites in all, and villagers clearly knew the bird at other sites. With such a high success rate there is no doubt that the species remains widespread in the more remote swampy areas of the province, and, by extrapolation, over much of the southern half of Sumatra as well.

Further north up the eastern coastal plain, the swamps become more extensive and probably peaty in nature, and may not be suitable, though the margins of the swamps and the riverine belts running through them would almost certainly be. My record of a bird flying back to roost in the littoral forest along the east coast is also an encouraging sign. It is unlikely that the duck occurs in the mountainous regions, except perhaps in intermontane basins, some of which are swampy, particularly in the Semangka valley.

Mackenzie & Kear (1976), suggest that one pair per 100 ha of *ideal* environment is probably maximal population density in N.E. Assam. In the Menggala area of Lampung there could have been four pairs present in an area of 500 ha, though some of the villager's information may have been duplicated. In more densely populated areas of the province, or in the more extensive coastal swamps, one pair per 500 ha might be a more reasonable estimate, though it is not possible to guess what the total population is.

Factors in conservation

The White-winged Wood Duck has been fully protected in Indonesia since a decree of 1972, although at present the effect of such protection is limited, since there is no evidence of direct hunting pressure on this or any other duck in Sumatra. There are no guns among the general rural population, and apart from those birds that are popular as cage birds, hunting is largely restricted to big game hunters and local trappers. Villagers would take casually any duck eggs for food, but these would be mostly the Indian Whistling Duck *Dendrocygna javanica* which is very common. Ducklings are sometimes netted at night using strong lamps.

Loss of habitat and human overpopulation are therefore the main threats to the duck in Sumatra. Although tolerant of considerably more disturbance than elsewhere in its range, it is assumed that birds present in seriously disturbed sites are a remnant population, and that numbers have already declined considerably in the more densely settled lands. Incoming farmers will continue to clear all the remaining dryland forests and will attempt to reclaim as much of the swamps as they can. Even if sufficient stands of woodland remain in the reclaimed swamps, the continuing search for building timber, the intensive use of the land for rice and fishing, and the frequent passing of people will ensure the ultimate loss of the species from such areas.

At present, the lands along the Tulang Bawang and Mesuji rivers in the north-east of Lampung may be a major stronghold. However much of this area is already scheduled for settlements or other development. The main hope is that sufficient areas of swamp will always be too difficult and too remote for reclamation to be possible, although as timber becomes increasingly scarce any patches of woodland will even-

tually disappear. Government attempts at major reclamation schemes would have a more immediate effect.

Hence in the long term only positive measures can be effective in the conservation of both this and a great many other species in Sumatra. There is already one large wildlife reserve in the plains, the Way Kambas Reserve near the east coast of Central Lampung, which covers an area of some 80,000 ha. The reserve consists of logged dryland forest with coastal and riverine swamps, and the duck is known to be present. Ultimately of course even reserved land in the lowlands will come under pressure for settlement.

Surveys required

It has only recently become apparent that the White-winged Wood Duck may be still a common and widespread bird in Sumatra, but there is no information on its distribution or total population. A survey is now required to assess the habitat requirements of the species, the numbers involved, and the conservation measures needed to maintain a viable population in a country in which the human population is rapidly growing.

Lampung is likely to be a suitable area for survey as it has moderately good access, and as it shows all stages of transition from remote forested swamp to densely populated agricultural land. Also, for any team based in Jakarta, it is comparatively near and hence cheap to reach. Both four-wheeled drive road transport and especially some form of powered boat would be essential but would be extremely expensive to hire.

Two prolonged visits would be necessary, the first in order to organize the collection of information by local people, in as many localities as possible, and the second to gather this information and carry out sample checks. One objective would be to assess the tolerance limit to habitat and human disturbance. If the second visit was carried out between March and May, it should be possible to obtain ducklings for the purpose of study and for breeding in captivity.

At the same time, attempts would be made to determine its range in Sumatra. It has been recorded from the three south-eastern provinces of Lampung, Palembang (South Sumatra) and Jambi, and possibly on the island of Siberut off the west coast. There are other older records but I am not aware of any from the northern half of Sumatra. There exists a vast expanse of swampy terrain on the eastern coastal plain, north to beyond the Barumon river (latitude 2° N), but much of this is peaty and we need to know whether peat swamps, and the forest growing on them, are suitable habitat. I would expect to find the duck only on the margins of such peat swamp. The Way Kambas reserve must also be surveyed to assess its carrying capacity and present population.

In West Java, there are still occasional rumours of the duck in localities other than the Udjung Kulon reserve which require verification, as the ability of any shy water bird to survive in Java would be an achievement in itself.

Finally, and further afield, a watch should be kept for the duck in the extensive swamps of Southern Kalimantan (Borneo); its apparent absence from that island may be indicative of a comparatively recent immigration into the known areas of its Sundanese range.

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Summary

The habitat, nest sites and possible population of the White-winged Wood Duck *Cairina scutulata* in southern Sumatra are discussed. Surveys are required to discover more from the area.

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