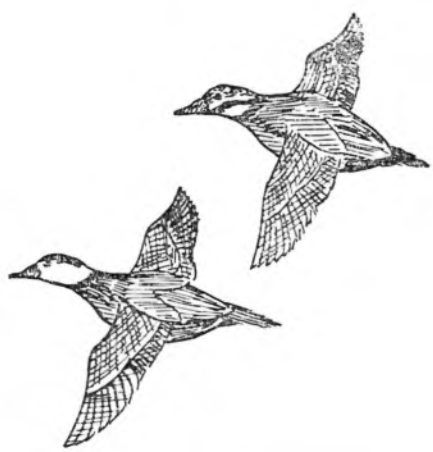
geese regularly were shot at they did not become unduly wild, and seemed reluctant to change their normal lines of flight. One authority has recorded how wary is *Plectropterus* when flighting to a feeding ground which it will circle more than once before coming down. This was not my experience at Nakuru where both *Plectropterus* and *Alopochen* despite much shooting habitually flew straight to their goal and when unmolested settled immediately.

Feeding and damage to crops

The Egyptian Goose is usually found in pairs or groups of pairs or in small flocks of sub-adults but in parts of South Africa it joins up seasonally into vast flocks to raid the wheatlands where it becomes a real pest and causes tremendous damage. Spur-wings can also cause severe damage, by trampling, when feeding in flocks in growing crops. Like Egyptian Geese, they are very partial to ground-nuts and to sweet potatoes. The tops of the sweet potatoes are eaten and the tubers are ruined by nibbling.

Spur-wings are mainly nocturnal feeders, though by day they are sometimes found on grasslands far from water. These big birds can create havoc amongst growing crops of beans and ground-nuts which they are accustomed to visit as dusk falls and just before dawn, but though easily scared from cultivation, I have frequently seen them unconcernedly raiding a particularly tempting crop in broad daylight. Geese and ducks are incredibly destructive to ground-nut plots, for to get at the nuts they destroy the plant. The birds do not dig for the nuts but pull out the plant, with the nuts attached to the roots. I imagine that the nuts were originally found by chance when a goose accidentally pulled up a plant. It is a simple matter for the powerful goose to jerk the plant out of the ground, but not so easy for a duck. Not being strong enough to uproot the plant directly, the duck, having firmly seized the plant in its bill, gyrates around it, meanwhile pulling hard, until achieving the desired result. This is an example of the type of curious complaint so often received by a Game Warden in Africa – havoc caused by ducks to numerous ground-nut plots. It sounds highly improbable, but investigation confirmed its truth; and the culprit, the Fulvous Tree-Duck or Whistling Teal *Dendrocygna bicolor* was not only caught in the act, but had a crop stuffed with ground-nuts; every plot examined had really been devastated and around each uprooted and discarded plant were the unmistakable signs of the *modus operandi* of the marauder.



White-headed Ducks in West Pakistan

CHRISTOPHER SAVAGE

Summary

An influx of White-headed Ducks *Oxyura leucocephala* was observed in West Pakistan in December, 1964. Five specimens were caught and sent to Slimbridge. Some notes are given on their behaviour and measurements.

The White-headed Duck *Oxyura leucocephala* is known in India and Pakistan from less than thirty published records over the last hundred years, from which it is classi-

fied as a fairly regular winter visitor by Ripley (1961). The author, however, counted about 470 on the lakes of the Punjab Salt Range on 6th December, 1964. The lakes are quite large in extent and it is possible that without a powerful telescope on a stand the stiff-tails might easily have been overlooked amongst the thousands of other waterfowl. It is probable therefore that the number seen may not have been as unusual as would appear, particularly as two weeks later most had dispersed and one lake had only 90 whereas previously it had held 373. In view of the increasing rarity of the species in Europe (Hoffmann, 1964) some notes on its ecology and behaviour are of interest.

The lakes used by the stiff-tail are the less brackish of those in the Salt Range, namely Khabbaki, Kallar Kahar and Nammal (with total dissolved salts of 1,760, 8,060 and 3,180 parts per million respectively). They are for the most part four to six feet in depth with little cover vegetation but extremely rich in submerged water herbs such as *Ruppia maritima* L., *Melilotus indica* (L.) All., *Hydrilla verticillata* Poir. and *Potamogeton nodosus* Poir. as well as yellow-green algae. No stiff-tails were found at Uchhali (with total dissolved salts of 37,520 parts per million) which seemed devoid of submerged vegetation but rich in blue-green algae. The algae no doubt attracted the flock of 390 Greater Flamingoes *Phoenicopterus ruber roseus* which was present.

The stiff-tails generally kept very much to themselves, being preoccupied with feeding almost throughout the day, while the majority of other ducks present spent the day resting. They could be easily approached in a boat to within thirty to forty yards whereupon they dived to escape pursuit. Only occasionally would they take to wing and then usually because other birds nearby were doing so. Their take-off and flight was grebe-like with a long run before getting airborne and even then they flew heavily with very fast wing beats and seldom attained a height of more than five feet. On the water they held their tails at an angle of 45° except when disturbed and often had a puffy look like the African White-backed Duck *Thalassornis leuconotus*.

The white head of the male is very conspicuous in December but the bill is a slaty colour, not the bright blue of illustrations which presumably is only present at the height of the breeding season. The black markings on the head of the male also showed considerable individual variation, particularly over the eye and at the back of the head. Some individuals had the black extending down the neck to meet the dark collar at the base of the neck, and one had a black spot on the cheek behind the ear coverts. The females were much duskier than usually illustrated and also showed some variation in head marking. Examination of birds in the hand suggested that their autumn moult was complete but when skinning a casualty some new growing feathers were found.

Table I. Measurements of White-backed Ducks caught in the Punjab Salt Range, December 1964

weight gms	*wing mm*	*culmen mm*	*tarsus mm*	*tail mm*
Male				
865	168	46	45	87
794	170	46	46	85
553	159	45	45	92
Female				
631	159	45	43	81
610	160	46	41	82
539	160	43	45	75

None showed any recognisable juvenile characteristics

Five specimens were obtained for the Wildfowl Trust and were dispatched with the minimum of delay through the cooperation of the Pakistan authorities. The birds were in fair condition, but the one which was skinned had hardly any subcutaneous fat and it is probable that they had not long arrived from their autumn migration. The gizzard of the dead bird was found to contain beside gastroliths a quantity of small black seeds believed to be of *Ruppia maritima* and two kinds of buff coloured seeds, one of which could be of *Melilotus indica*. This contradicts Stuart Baker (1929) who describes their diet as 'mainly animal' but does support Dementiev and Gladkov (1952) who mention *Ruppia maritima* as a food source in the south east of the Caspian Sea. Measurements of the birds handled are given in Table I.

Additional note. Numbers continued to build up to a peak of over 700 in February, 1965, and that in spite of heavy mortality from shooting to which ten ducks were an easy prey. These numbers are a complete surprise to local ornithologists, but local hunters say that the species has been as common as this for some years now. This is no cause for complacence as it is highly probable that the increase is due to changes in distribution forced upon them by disturbance from the Hamun-e Hirmand (see p. 125).

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Wildfowl Survey in south-west Asia: a progress report

CHRISTOPHER SAVAGE

Summary

A private survey was started by the author during 1964, with the advice and encouragement of the Wildfowl Trust, to study the distribution and status of wildfowl species in southwestern Asia particularly in the context of the human changes which are taking place. The scope of enquiries includes the Middle East, India and Pakistan but ringing of birds will be confined to Iran and Pakistan through the Game Departments of these countries. A reconnaissance was made of the Hamun-e Hirmand in Iranian Sistan where recession of the swamp affects the local economy as well as wintering waterfowl. Information, particularly details of game bags, would be welcomed from Members.

Introduction

In recent years many changes have been taking place in south-west Asia which affect wildfowl. Increasing human population, improvements in communications and greater availability of modern firearms have increased 'hunting pressure' more than in other parts of the world, while changes in land use have been destroying old habitats and creating new. In West Pakistan, for example, drainage of some 'jheels' much favoured by many species in the past has been more than compensated by water-logging elsewhere, to the detriment of pochards but to the benefit of the surface feeders. This inter-relationship of engineering, agriculture and wildfowl ecology, and its implications in terms of conservation, has been little studied as yet and it is as a contribution to this study in Asia that the author, a civil engineer by profession, initiated this survey during the summer of 1964.