FEATURE ARTICLES

THE ROOSTING HABITS OF CHARADRIIFORMES IN RHODESIA

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It is well known that many species of Palaearctic waders, gulls and terns roost communally, particularly those species found in numbers in coastal areas, but we appear to have very little information on our indigenous birds. Similarly there is little information available on the actual sites preferred for roosting and on roosting associations.

In Rhodesia two species of Jacanidae, 43 species of the various families forming the Charadrii and seven species of Laridae have occurred. Information is still required on such indigenous species as the Lesser Jacana Microparra capensis, Lesser Black-winged Plover Vanellus lugubris, White-crowned Plover Vanellus crassirostris and the White-collared Pratincole Galachrysia nuchalis in particular. All of these, except the Jacana, are scarce or occur in remote parts of Rhodesia and are thus poorly studied. Other birds such as the Avocet Recurvirostra avosetta, several Palaearctic waders and the Sooty Tern Sterna fuscata and Caspian Tern Hydroprogne tschegrava, which are rare or vagrant visitors to Rhodesia are better known elsewhere and are not dealt with in this paper except where specific information is available, e.g. the Broad-billed Sandpiper Limicola falcinellus.

Attempts have been made in the past by various authors to determine the reasons behind communal roosting; whether it is an anti-predator device or a central point for passing on knowledge on good feeding areas (e.g. Ward and Zahavi, 1973). I will only make a few comments on this behavioural aspect. However, my main aim is to be able to gauge likely roost sites, which species are likely to occur at different sites and in what associations. This information is of particular value to wader ringers who frequently have trouble getting viable catches of birds and has been gathered over several years of nocturnal ringing.

Species are dealt with under normal roosting associations with supporting notes on deviations from the norm.

Jacana Actophilornis africanus

At any dam, pan or river where this species is found in reasonable numbers communal roosting occurs outside the breeding season though concentrations are greatest later in the dry season as suitable habitat becomes scarcer. Pre-roost assemblages occur at various points in the vicinity of the roost site with birds flighting to their final destination in small, ragged parties about half-an-hour before dark. The roost site may be on the edge of a bed of Phragmites, on waterlilies, in clumps of

sedge or in beds of marsh grasses or Polygonum and normally in shallow water.

At Lake McIlwaine (17 55S 30 30E) during the 1973 drought, numbers of Jacanas were very badly depleted because of the complete lack of suitable habitat and the entire population of about 14 birds roosted on a small, bare ant-hill island in association with a flock of Ruff Philomachus pugnax.

Up to 70 birds have been seen in a roost and individuals have been seen assembling from as far as 2 km from the roosting area. Birds usually sleep from 0,5 m to 2 m apart.

Turnstone Arenaria interpres

Turnstones normally roost on gravel or stones on off-shore islets. Although they were sometimes joined by Ruff there did not appear to be any association.

Small plovers

Ringed Plover Charadrius hiaticula, White-fronted Plover Charadrius marginatus, Kittlitz Plover Charadrius pecuarius and the Treble-banded Plover Charadrius tricollaris prefer to roost back from water but on broad, fairly bare, open shorelines. Where all species are present, regardless of the number, they form mixed roosts; individuals sleeping separately in ungulate hoofprints or other small hollows in the substrate. Treble-banded Plovers prefer to roost on gravel or stones where this is available; for instance at sewage works in the Salisbury area they have taken to forming fair-sized mixed roosts with Common Sandpipers Tringa hypoleucos amongst large granite fragments on the tops of sprinkler filter tanks, when these were not in action.

Ringed Plovers seem more inclined to roost on the shores used for feeding during the day whilst Kittlitz Plover and Treble-banded Plover concentrate from over a considerable area of shoreline. The latter species also concentrates at sewage works at night, during the wet season, from a fairly wide area. Daytime roosts of Kittlitz Plovers are frequently encountered in numbers up to 100 or more but daytime communal roosting has not been noticed in the other species in Rhodesia but has been found by the author in the Cape Province, though only once in the Treble-banded Plover.

Larger Plovers

The Grey Plover Pluvialis squatarola, although rather scarce in Rhodesia, reflects its normal coastal roost flocking behaviour at Lake McIlwaine. Birds roost at the waters edge on their own, together or with Greenshank Tringa nebularia and Marsh Sandpiper Tringa stagnatilis. They do not appear to congregate from any great distance here, presumably as they are migrants unfamiliar with the terrain.

The commoner, larger, indigenous plovers are all communal roosters to varying degrees outside the breeding season. The Crowned

Plover Vanellus coronatus usually roosts in its general feeding area, small compact parties forming a looser communal roost preferably in short, well-grazed grassland with bare patches. Both the Blacksmith Plover Vanellus armatus and Wattled Plover Vanellus senegallus are waterside birds that overlap quite considerably in habitat preference although their breeding seasons here only overlap a little, the former being the earlier breeder. The Blacksmith Plover forms scattered roosts usually on bare, open mud-flat well back from water but during the rains will flight to tarmac airfields several kilometres away. Although I have frequently watched flights of Wattled Plovers to and from roosting areas I have only actually found one communal roost, in the Umboe valley near Sinoia, where birds roosted in shallow water in a well grazed vlei. Both species form daytime roosts but these are much more marked in the Wattled Plover. In this species concentrations of up to 80 + birds have been found from mid-day to late afternoon loafing on banks dividing ponds at sewage works or on bare patches by water at dams and usually only during the months of March to early September.

Snipe

The Painted Snipe Rostratula benghalensis, although not a true snipe, may be included here as it occupies similar habitat. Although concentrations of this snipe have been found on suitable waters at no time has any form of communal roosting been noticed either during the day or night. This species is very much the "loner" of the wader world.

Late in the dry season when the Ethiopian Snipe Gallinago nigripennis are concentrated at favoured localities, such as Rainham Dam (17 46S 30 53E), communal roosting is apparent both during the day and at night. In the daytime roosting concentrations may be found in fairly short grass in wet vleis or in nearby sedges and grass left by the receding water. At night, after feeding, birds concentrate and sleep in footprints in the mud on open, wet mudflats close to the water when water levels are low or as in the daytime when water levels are higher.

Calidrine waders

Calidrine waders are the best known communal roosters amongst waders. The commonest species to visit Rhodesia is the Little Stint Calidris minuta. When in any numbers it favours roosting in fairly compact flocks on wet mud or sand at the water's edge. Roosting flocks rarely exceed 150 in this country and on a large body of water such as Lake McIlwaine two or three roosts may occur at different localities. There is considerable inter-roost movement during the season but the majority of birds are true to their roost from season to season. Odd birds frequently roost with the small plovers. All Broad-billed Sandpipers recorded at the lake have been captured in Little Stint roosts. Curlew Sandpipers Calidris ferruginea, when in any numbers, prefer to join Ruff roosts on off-shore islets, but when in ones and twos will frequently join Little Stint roosts. Sanderling Calidris alba are very scarce visitors but odd birds have been found roosting with Curlew Sandpiper on off-shore islets.

Ruff and Tringine waders

Ruff generally form the largest roosts of any Charadrii in Rhodesia. Their choice of roost sites vary with the season. At Lake McIlwaine, when there is little feeding habitat exposed, they roost communally with Curlew Sandpiper and Common Sandpiper on small, rounded granite outcrop islets. At later stages of water recession they form mixed roosts with Marsh Sandpiper, Wood Sandpiper Tringa glareola, Curlew Sandpiper and Greenshank Tringa nebularia in shallow water with a little, low emergent vegetation. Once small, bare, off-shore islets become exposed they shift to these but desert them when they become too large and dry. Once again they are joined by Curlew Sandpiper and sometimes a few Little Stint. Marsh Sandpiper frequently roost in the shallow water on the sheltered side of these islets. During the rains most of the remaining birds resort to sewage works where they roost on the partially flooded drying beds in associations with Little Stint and Wood Sandpiper. Ruff appear to flight considerable distances to suitable roosts and most birds in the south and west Salisbury area probably flight to Lake McIlwaine. In Botswana birds were seen to flight at least 20 km to a suitable roost site.

Marsh Sandpiper and Greenshank prefer to roost in very shallow water and almost invariably form mixed roosts sometimes joined by Ruff, Curlew and Wood Sandpipers. In November/December 1975 a mixed roost of these two species plus Ruff was found at Rainham Dam. From ringing and intensive nocturnal observations at Lake McIlwaine it was found that the Marsh Sandpiper and Greenshank were flighting the 10 to 15 km from there to Rainham Dam each evening. The large majority of birds arrived after dark. The reasons for the formation of this roost at Rainham is obscure as both species normally roost on the lake and relatively few birds feed at Rainham during the day.

The Wood Sandpiper prefers marshier localities at which to roost. At Lake McIlwaine and other dams good numbers roost until the receding water leaves the various forms of low emergent vegetation; at this stage the numbers of both the feeding and roosting drop. In marshy areas, such as well grazed wet vleis, and dams as mentioned above concentrations of up to 60 birds may be found roosting, either standing in shallow water or lying in foot/hoofprints in wet mud at the water's edge. If associating with other roosting waders it appears to prefer the company of Ruff but may be found with Marsh Sandpiper, Greenshank and Little Stint.

The Common Sandpiper is the only member of this group to commonly associate with an Ethiopian species while roosting. As mentioned earlier it was found in some numbers (up to 30 of each) with Treble-banded Plover on sewage filter tanks. It may also roost on dried mud or gravel beds near water with this plover. Birds flight in from nearby streams to roost at sewage works. At dams and on rivers they will roost on rock out-crops if there is no other habitat available (cf. Ruff). The only Terek Sandpipers Xenus terek recorded roosted on the water's edge with Little Stint and Curlew Sandpiper.

Black-winged Stilt Himantopus himantopus

The Black-winged Stilt flights into favoured areas where they roost communally in shallow water, sometimes with Ruff and Greenshank. In Botswana they are noted for making flights of several kilometres to roost.

Coursers

Both the Bronze-wing Courser Rhinoptilus chalcopterus and the Three-banded Courser Rhinoptilus cinctus normally occur singly or in pairs though the latter species maintains a family bond for much longer after the breeding season. Neither species are communal roosters but pairs and family parties do roost close together under bushes.

The Temmincks Courser Cursorius temminckii may form flocks on migration or in non-breeding quarters. Loose feeding assemblages normally move closer together at night sleeping in scattered parties, each bird a few metres from the next. The Temminck Courser prefers well grazed veld with bare patches on which to roost.

Dikkops

No communal daytime roosts of the Spotted Dikkop Burhinus vermiculatus have been found in Rhodesia as is often a feature of winter concentrations in the eastern Cape. This bird is not common in Rhodesia which may account for this lack of concentrations though in western Botswana where it is common no non-breeding concentrations were found. Normally roosts under bushes in bare areas.

The Water Dikkop Burhinus vermiculatus when in numbers, forms communal daytime roosts sometimes in footprints in open sand or more normally amongst boulders and rock out-crops where these are present.

Laridae

The terns and gulls are noted for their communal breeding and roosting habits. Lesser Black-backed Gulls Larus fuscus and Grey-headed Gulls Larus cirrocephalus are both normally communal in their roosting habits and at Lake McIlwaine formed mixed roosts both in the daytime and at night. During the day they form loafing/preening roosts on mudbanks by the water's edge and at night roost on rocky bare mud/sand islets.

The two lake terns, the White-winged Black Tern Chlidonias leucoptera and the Whiskered Tern Chlidonias hybrida, both prefer to roost on low, bare mud/sand islets and when both are present form mixed roosts. Occasionally odd Grey-headed Gulls and a few waders will roost with them if their numbers form a large enough attraction.

Conclusion

It would appear that virtually all Charadriiformes have formed the communal roosting habit. I have found that birds of many

species roosting separately are much easier to catch with a torch and hand-net than those roosting communally which would certainly make communal roosting attractive as an anti-predator device. Further, intersive studies of the small Charadrius plovers shows that birds roosting communally spread out in the daytime to those feeding "territories" used daily. Therefore communal roosting may not be particularly important in denoting suitable feeding localities.

In Rhodesia the only species, for which there is adequate information, that do not roost communally are the Painted Snipe, Spotted Dikkop (though does elsewhere) and the two coursers, Bronze-winged and Three-banded. Further information from Rhodesia on the latter three species in areas of high populatio densities, may show them to roost communally at some time of the year, but the skulking Painted Snipe appears to be the one definitely true solitary rooster.

ELEVEN YEAR OLD OLIVE THRUSH

Turdus olivaceus

Ring Number:	643-0354
Ringing date:	19 March 1967
Locality:	Sandringham, Johannesburg (26 09S 28 07E)
Age:	Juvenile
Ringer:	Witwatersrand Bird Club
Recovery date:	16 January 1978
Locality:	Lyndhurst, Johannesburg (26 08S 27 07E)
Recovery details:	Found dead
