

- DARTER. *Anhinga rufa*. 50 pairs? Several birds seen incubating in a dead tree.
- GREY HERON. *Ardea cinerea*. Under 30 pairs? Two nearly-fledged young seen.
- PURPLE HERON. *Pyrherodia purpurea*. 100 pairs? Many fledged young clambering about.
- GREAT WHITE EGRET. *Casmerodius albus*. Several hundred pairs? Young mostly fledged, but some still in down.
- YELLOW-BILLED EGRET. *Mesophoyx intermedius*. Several hundred pairs? Young of various stages.
- BLACK HERON. *Melanophoyx ardesiaca*. 50 pairs? Large fledged young wandering about.
- LITTLE EGRET. *Egretta garzetta*. 200 pairs? Young seen.
- BUFF-BACKED HERON. *Bubulcus ibis*. A bird in full breeding plumage seen, but no proof of actual breeding.
- SQUACCO HERON. *Ardeola ralloides*. 100 pairs? Many streaky juveniles wandering about.
- NIGHT HERON. *Nycticorax nycticorax*. A few hundred pairs? Many spotty juveniles walking or flying about.
- OPEN-BILL STORK. *Anastomus lamelligerus*. A few hundred pairs? Nests were scattered over a considerable area and mainly had young.
- SACRED IBIS. *Threskiornis aethiopicus*. 50 pairs? Nests had downy young, for the most part.
- GLOSSY IBIS. *Plegadis falcinellus*. Five pairs? One nest certainly occupied; perhaps two.
- AFRICAN SPOONBILL. *Platalea alba*. 50 pairs? Young at various stages.

NOTES ON THE EAST AFRICAN PORCUPINE

(*Hystrix galeata*)

By C. A. SPINAGE, F.Z.S.

The Common Porcupine is generally referred to as adapting an old ant-bear hole or something similar for its home. In the writer's experience, however, they are extremely careful and painstaking home-builders, the sites often being carefully chosen on a well-drained slope. My observations have all been confined to burrows in exotic eucalyptus woodland which they seem to favour. The holes are often excavated very deeply, as can be seen from the amount of earth thrown up which may run into several hundredweights in some cases.

A simple burrow seems to consist merely of two entrances, but in places where the animal is considerably persecuted by Africans periodically attempting to suffocate it by smoking, the burrow may be extremely complex, having as many as five separate entrance holes. The one depicted in Fig. A also had a hole that was quite well concealed in the undergrowth (inset) and without any tracks going near to it. This may have been an air hole or perhaps the ground had merely caved in when the tunnel was being excavated.

Holes tunnelled in flat ground are often dug out again after heavy rain.

In parts of South Africa the porcupine appears to have cave-like lairs in which it makes bone collections: I have only on one occasion found a piece of bone near a hole that I have examined. Whether this habit is due to calcium deficiency or whether the bones are merely tooth-sharpeners is not yet known. I placed some calcium carbonate outside a porcupine's hole to see if it attracted the occupant, but it appeared not to take any notice of it, the calcium being scattered by its walking through it.

The porcupine does not appear to be such a wholly nocturnal animal as is generally supposed: I have come across one sitting in the undergrowth in the afternoon in a quiet patch of forest, and in the same area one morning a friend's dog flushed one. Yet another observer reports seeing one walking about in the afternoon in the Mathews Range of the Northern Frontier District. This is, however, the exception rather than the rule, as from my observations I have found that they do not stir from their burrows until about nine to half-past at night. Perhaps the parents sometimes stay outside during the day when they have young inside, a habit that is common with the Bat-eared Fox.

The quill tips are smooth, unlike those of its American counterpart which are saw-edged, and once stuck into an animal's flesh gradually work themselves deeper and deeper with each successive contraction of the muscle.

The extent and complexity of some of the burrows can best be seen by reference to the accompanying sketches and the following descriptions. The dotted lines are the animal's main tracks, trees in close proximity only are shown.

Fig. A.

A1 and A2 are the main holes, A2 being 17 feet from A1 and about seven feet higher up. A3 is a small, freshly excavated hole, A4 is a small one that has been stopped up by Africans. A5 is a hole that had been stopped up by Africans and freshly opened by the porcupine. A6 is a stopped-up one, and A7 is the air-hole, or cave-in, already referred to, the inset shows the passage of the tunnel which was some four feet wide and two feet deep. The holes generally were about two feet wide and one and a half feet deep. A8 is also a stopped-up hole. As can be seen, the distance between the holes is considerable, and must have involved a great deal of excavation. The arrow at the extreme left points to a further series of smaller holes which are probably those of a Giant Rat. The other large arrows indicate the slope of the ground.

Fig. B.

This shows a simple burrow of two entrances in an undisturbed area on flat ground. B3 is a defæcating spot.

Fig. C.

C1 is the main hole. C2 was not in use, as could be seen from the cobwebs and detritus in front of it. C3 is another hole not in use, 35 feet from C2. There is no indication that this is part of the same burrow, however, except that there are no other holes near to it. C5 likewise is a small hole not in use, 39 feet from C1. C4 was not in use. The shaded areas represent the earth thrown up, in this case there must have been nearly a ton exposed.

Fig. D.

This shows an old burrow that did not appear to be in use, it was situated about 43 yards from C.

