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Further breeding records from Northern Rhodesia (No. 4)

by C. W. Benson and Charles R. S. Pitman

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The same considerations apply in this paper as referred to in the introduction to No. 3 (Benson & Pitman, 1963).

Egretta intermedia brachyrhynchos (Brehm)

G. Wedekind found a mixed colony of about 50 nests of this species, 50 of *Phalacrocorax africanus* and 25 of *Anhinga anhinga*, on the Kafue River at 14° 18′ S., 27° 14′ E., 8th April, 1963. The nests of the three species were completely intermingled, some being only four feet above water-level; others as much as 12 feet. One egg taken from a C/3 of the egrets measures 51 x 36 mm., and was fresh. But some clutches (mostly C/3) judging from their staining were well incubated, and there were some young in down, even perhaps as much as three weeks old.

Pitman in his Faunal Survey of Northern Rhodesia (1934: 177) in fact records nesting in the Lukanga Swamp at the end of March. A C/2 fresh was collected for him on 27th March, 1932, measuring 52.3 x 39.0 and 54.0 x 38.4 mm.

G. F. T. Child found a colony of 12 nests in a partially submerged Acacia tree, on the Northern Rhodesia side of the Kariba Lake, near Binga at about 17° 37′ S., 27° 16′ E., on 30th October, 1959. There were one or two young per nest, in varied stages of development. For the only other positive record of this species breeding locally (by R. I. G. Attwell), see Benson & Pitman (1963).

Butorides rufiventris (Sundevall)

W. F. Bruce-Miller observed nest-building in a dense reed-bed at a dam on his farm in the Choma District at 16° 39′ S., 27° 01′ E., 20th January, 1963. On the 29th 13 birds were flushed from a compact area about 10 x 20 yards, in which there were at least four nests, one of which contained four eggs; another one. To avoid disturbance no further observations were made. E. L. Button observed a single nest in the Itawa Swamp containing young almost fledged, late March, 1945. For other recently recorded breeding localities, see *Bull. Brit. Orn. Cl.* 78, 1958: 165 and Benson & Pitman (1963). At the locality Ngoma, Attwell and J. B. Shenton have reported egg-laying as early as March, in colonies numbering up to 30 pairs, clutch-size up to three.

Anastomus lamelligerus lamelligerus Temminck

D. Vesey-FitzGerald, while flying over the Kafue Flats on 15th October, 1962, on locust investigations, at about 15° 37′ S., 27° 20′ E. observed a colony extending over several acres. The nests containing eggs were clustered in groups, and were piles of dry herbage in an open, flooded area.

Previous records for Northern Rhodesia and Nyasaland, summarised by Benson *et al.* (in press), indicate egg-laying from January to July only. The explanation of this late date may be the exceptionally high floods on the Kafue Flats in 1962, large areas remaining inundated throughout the dry season which in a normal year would be dry by September.

Bostrychia hagedash brevirostris (Reichenow)

J. M. C. Uys inspected the four following solitary nests on the Kafue River around 14° 55′ S., 25° 52′ E. on 17th December, 1962, contents as follows:—

(1) Two nestlings and one infertile egg. Nestlings about 14 inches long, covered in grey-black down, blacker on crown, remiges starting to emerge.

(2) Fresh nest, still empty.

(3) Two eggs, parent sitting tightly.

(4) Two eggs, one chipping open.

Uys found another nest containing eggs (number not recorded) on the Kafue at 14° 42′ S., 26° 15′ E. on 6th April, 1963. All five nests were five to eight feet above the water-level, in *Syzygium* trees (one in a *Diospyros mespiliformis*) overhanging the east bank of the river, sited so that only in the late afternoon could any rays of the sun reach them. They were frail platforms of diameter about 12 inches, made of *Syzygium* twigs, sparsely lined with *Oryza* grass.

Many dozens of nests found by C.R.S.P. in Uganda have invariably been placed in shade, often in really deep shade.

P. S. Wright has described a similar nest from the Kafue at 15° S., 26° E., on 11th February, 1963, 10 feet above the water. It contained three nestlings in black down, with remiges starting to emerge, showing bronzy reflections as in adults. There were still three nestlings on the 24th, but, only two on the 26th and one on 2nd March (note the remarks by Skead 1951 on mortality among nestlings). They had irides dark brown, not

white as in adults. When being fed they kept up a continuous "chirr, chirr, chirr, . . .". Each awaited its turn to be fed, and there was no evidence of competition.

Other recent breeding records are from the Zambezi at Livingstone, in trees overhanging the river, as follows:— C/3 (one fresh, two about three days set), 26th November, 1961 (V. J. Barnett); two feathered young, still in nest, 26th April, 1962 (E. A. Zaloumis). The nests were respectively 20 and eight feet above water-level.

Assuming that the figures of incubation and nestling periods (26 and 33 days respectively) in Skead (1951) are locally applicable, and using not only the above data but also those in the Check List and in *Bull. Brit. Orn. Cl.*, 81, 1961: 157, egg-laying apparently occurs in every month from August to March inclusive. The season may be much more extensive than Skead found in the Cape Province.

Dendrocygna bicolor (Vieillot)

Coll. oviduct egg, Mongu, 5th May, 1962 (Zaloumis). Egg ivory-white, smooth, 53.8 x 40.9 mm.

Accipiter melanoleucus melanoleucus Smith

Coll. one fresh egg (typical) from a C/3, Lusaka, 15th September, 1962 (R. H. Smeaton and R. V. Wood). Nest in riparian forest, seen by C. W. B. on 2nd October, when one of the parents was incubating.

Gallinula angulata Sundevall

This species seems strictly seasonal in its breeding, Benson *et al.* (in press) giving 84 egg-laying records (67 from Southern Rhodesia), all for December to May, with a peak of 27 for January and 32 for February. It may also be seasonal, breeding only in the rains, in South-West Africa and in Huila, southern Angola. Andersson (in Gurney, 1872) records it as nesting abundantly at Ondonga in February and March. Traylor (1963) gives no breeding records. But thanks to a grant from the Frank M. Chapman Memorial Fund, made at the instance of Dr. D. Amadon, C.W.B. was able to study the material of this and various other species collected by Ansorge in Angola, in the American Museum of Natural History. Of two specimens from Dongwenna, 28th March, 1906, Ansorge nos. 493/4, 493 is an adult male, 494 a young bird still completely in black down. The label of the latter is endorsed that it is the young of 493, "swimming actively behind its parent and the only young one accompanying its parent". The tip of the bill was "snow white", as is still apparent, for the apical 3 to 4 mm. The shield was "burnt sienna with a narrow pale purplish band around forehead". A female collected between Bissapa and Que on 11th January, 1906, has the label endorsed "had a large egg, broken by the shot". A female from Tala Kilau, 30th March, 1906, is not fully grown, having wing 83 and culmen (exposed) 19 mm. only (27–31 mm. in adults).

Fulica cristata Gmelin

Coll. C/3 about half incubated, from a pan near Ndola, 1st May, 1963 (Button). Eggs pale greyish-white, original colour probably pale brown,

dissolved out by water; finely and sparsely spotted all over with blackish on underlying ashy; size 52.2 x 35.7, 53.4 x 36.2, 53.6 x 36.0 mm. This is only the second local breeding record of this species, which is uncommon in Northern Rhodesia. Button noticed no other pairs on this pan. A third record is from the Tondwa Plain, Mporokoso District, where on 26th June, 1963, L. D. C. Allen found four downy young with their parents. He was able to catch one of the young, considered less than one week old.

Grus carunculatus (Gmelin)

Dr. Lawrence H. Walkinshaw has drawn our attention to the degree of success in the rearing of young in this species. Twenty-eight records have now been accumulated for Northern Rhodesia of nests with eggs, of which 12 are of C/1 and 16 of C/2. Two of the C/1 refer to fresh eggs, but five at least may have been full clutches, since in three cases the egg was being incubated and in two others it was hatching. Nevertheless the proportion of C/2 clutches is well over 50%. Despite this, out of 58 records of young in various stages of development, in all cases still under parental care, only one is of two young, Attwell recording "two well grown but not yet capable of flight" on the Busanga Plain, Kafue National Park, 26th September, 1960. In the Check List there is a record of two young about fledged, but these were in no way connected (*Bull. Brit. Orn. Cl.*, 79, 1959: 18). *Pace* Benson (1960), who gives two records of C/2 hatching, there is no positive evidence that this really applied to *both* eggs. Apart from Attwell's record and one other (by Fuller) mentioned below, the only record of two young is one by Carr, see the Check List (young just hatched). C. D. Simpson has recently reported two nests from the Kafue National Park. One contained C/2 on 17th August, 1963, but on the 26th only the one chick was found. Another held C/2 on 22nd August, 1963, on the 30th only the one chick was found. In both cases the chick was out of the nest but in the vicinity. West (1963: 68), considering six Southern Rhodesian clutches, found that in five C/2 (clutch-size not known in the other case) in three cases only the one egg hatched. In the other two cases only the one chick was seen, but it is not certain whether only the one had hatched. In all six cases there was only the one chick.

The point that normally two eggs are laid but only the one chick is reared has not escaped the notice of the Ila people of the Namwala District, for Uys tells us that *Grus carunculatus* is regarded by them as a poor parent, unable to rear more than one young. Further corroboration comes from A. T. Fuller, the Manager of Lochinvar Ranch, who on one day in October, 1960 saw some 60 young under parental care, all singles, except for one pair just able to fly.

Benson *et al.* (in press) give 45 records of egg-laying by months (in some cases back-calculated even from small young) for Northern Rhodesia and Nyasaland (five records), from April to November (peak in May to August). The fuller information now available supports this, though Vesey-FitzGerald has recently reported a C/1 about to hatch, Abercorn, 2nd March, 1959.

Rhinoptilus cinctus emini Zedlitz

During 1963 J. M. Feely saw three lots of young with their parents, in

the Luangwa Valley between 11° 50′ S. and 12° 10′ S., on bare ground in Mopane woodland, in the lights of a landrover at night:— 10th July, three one-third of adult size; 17th September, two half of adult size; 22nd September, three half of adult size. The first lot were probably from eggs laid in late May, the other two in early August. These are the first local breeding records.

The records of three young seem unusual. Benson *et al.* (in press) give eight egg-laying records, all from Southern Rhodesia, in all of which the clutch-size was two. Possibly these young did not come from the same clutch, though on the other hand *R. chalcopterus* commonly lays C/3 (there is of course no question of the authenticity of Feely's records).

Pterocles gutturalis gutturalis Smith

Coll. C/3 about two-thirds incubated, Lochinvar, 2nd June, 1963 (C.W.B.). The eggs, laid in a shallow scrape in open grassland, are elliptical and well glossed, pale brown, marked all over with bold spots and scrawls of light burnt umber on underlying very irregular spots of light violet-grey; size 45.0 x 33.0, 44.0 x 34.0, 45.0 cx 34.2 mm. Another clutch about to hatch, collected by Bruce-Miller on his farm near Choma on 25th July, 1963, also consisted of three eggs.

For evidence that this species is migratory, see *Bull. Brit. Orn. Cl.*, 81, 1961 : 160. Fuller reports that since he assumed residence at Lochinvar in 1955, after the locally breeding birds have departed in October, regularly for about one week in early December flocks of up to 1,000 birds descend to drink for a few minutes at small pools formed by rain on land being planted with maize, at any time of the day, and then pass on south. The birds are very tame, allowing Fuller's tractor to approach within 20 yards. Possibly they are on passage from as far away as the Rukwa Valley, whence Vesey-FitzGerald & Beesley (1960) report an influx in the dry season. Perhaps they (and the locally breeding birds) "winter" in drier country, in Bechuanaland or South-West Africa, but evidence from anywhere south of the Zambezi of an influx from the north at the start of the rains, as far as we are aware, is not yet forthcoming.

Pterocles bicinctus usheri Benson

Coll. two chicks by hand, Luangwa Valley at 13° S., 18th August, 1963 (W. F. H. Ansell). The chicks were accompanied by both parents, and have been preserved in spirit. They were probably not more than two weeks old, and not yet fully feathered, though would have apparently resembled an adult female when all the feathers had been acquired. In the same locality Feely noted a pair with two chicks not more than one day old, 21st July, 1963. There are now nine Northern Rhodesian breeding records, reflecting egg-laying during June to August. Unlike *P. gutturalis*, this species probably does not have any long distance movements, for Feely has five records of individuals or pairs in the Luangwa Valley in February and March, and another of a pair in *Brachystegia* woodland (not a normal habitat) in plateau country to the east, 20 miles north of Diwa Hill, in October. In the Rhodes-Livingstone Museum there is a specimen from Livingstone, collected in January, and two from Zimba, 17° 20′ S., 26° 12′ E., in February.

Centropus cupreicaudus cupreicaudus Reichenow

C. S. Holliday collected a male on the Machili River at 17° S., 3rd September, 1963, at a nest with one fresh egg, smooth, white, slightly glossed, size 36 x 28 mm. Both the specimen and the egg are in the Rhodes-Livingstone Museum. The date is unusual, the data in Benson *et al.* (in press) showing that *Centropus* spp. lay mainly in the rains, and only one record is given for laying as early as September, for *C. superciliosus*. The nest was merely a platform of *Phragmites* reeds and finer grass-stems, three feet above water in a reed-bed. No doubt a superstructure would have been developed in due course.

C.W.B. has examined a pair of feathered nestlings from Chitau, Angola, 24th March, 1933, in the American Museum of Natural History. They have wing 115, 120; tail 48, 55; culmen (from base) 28, 28 mm. They only differ constantly from adults in the following respects:— crown dull bluish-black, lacking any violaceous gloss; primaries and secondaries with a little dark brown barring towards tips (chestnut of upper side, including dark brown of mantle, otherwise immaculate as in adults); tail blackish brown rather than brown.

Hirundo albigularis subsp.

Button observed a pair nesting in the eaves of a deserted barn at Fort Rosebery, 20th October, 1961. The nest contained three eggs. This is the first breeding record of this species from Northern Rhodesia. It is most likely referable to *H. a. ambigua* Bocage, an older name than *H. a. microptera* Hartert, nearest to which specimens from the Mweru Marsh have been attributed. An adult female collected by M. P. Stuart Irwin on Lochinvar Ranch, 30th May, 1963, has wing 133 mm., and so is nearest to *H. a. albigularis* Strickland.

Hirundo rustica angolensis Bocage

Feely observed a pair of adults accompanied by three fledged juveniles which roosted in a nest placed on a rafter over the porch of the rest house on the Nyika Plateau at 7,000 feet while he was there from 10th to 12th December, 1962. The young, watched from a distance of only two feet, still had well developed gape-wattles and short outer rectrices. This is the first breeding record from Northern Rhodesia, though there is one from Livingstonia, northern Nyasaland. This is a very uncommon species, of which there are no records further to those in the Check List, except for the present one. The record by Benson from Johnston Falls is of four individuals, the exact date 14th August, 1956.

Amblyospiza albifrons albifrons (Vigors)

Coll. feathered juvenile ♂, Chunga, 15° 00′ S., 26° 00′ E., 14th February, 1963 (Wright). This specimen is not fully grown, having wing 72, tail 30, culmen (from base) 14 mm. only. It had probably fallen out of a nest.

Anomalospiza imberbis imberbis (Cabanis)

Coll. two feathered nestlings, wings 43, 45 mm., Chilanga, 2nd February, 1963, from a nest of *Prinia subflava* containing no eggs or young of its own (C.W.B.). Friedmann (1960) writes that the nestling of *Anomalospiza* is

not known to have any mouth-markings or papillae, but that further information is needed. Mouth-markings were lacking in these two specimens, which were also examined by C. M. N. White. The interior of the mouth was flesh-coloured, the tongue being purplish pink, and the interior of both mandibles bright yellow. Viewed externally, the upper mandible was sepia, the lower ochre with extreme tip sepia. There was a pale yellow gape-wattle.

The crop-contents were examined by K. J. Wilson, an entomologist in the Department of Research and Specialist Services. One of the specimens contained six complete caterpillars (*Plusia* sp.); 10 pairs of caterpillar mandibles and 12 of orthopteran and assorted mandibles; six legs of a louse (mammalian ectoparasite); and much indistinguishable debris of insect origin. There were also several small pieces of a pinkish quartz-like substance, and vegetable matter consisting of seven minute sub-circular brown seeds and one small pyramidal-shaped seed. The other specimen also contained small pieces of the quartz-like substance, but no vegetable matter. There was much material, apparently of insect origin, too macerated to be identifiable, but also two fragmented caterpillars and two wasp heads.

V. J. Wilson collected a similar feathered nestling at Chipengali, 13° 25′ S., 32° 40′ E., 18th February, 1963. It was in a "warbler's nest" with another nestling exactly the same, which was spoilt in skinning and not retained. For the only other Northern Rhodesian breeding record, see *Ostrich*, 1961 : 95.

There are two adult males in the Rhodes-Livingstone Museum, collected at Livingstone on 17th February and 24th March, 1963.

Estrilda paludicola benguellensis Neumann

C.W.B. found a nest containing four feathered young at Salujinga, 10° 58′ S., 24° 07′ E., 19th March, 1963. The nest was on the ground, in a thick growth of the fern *Pteridium aquilinum* and wild ginger *Aframomum* sp., in abandoned cultivation. Superimposed was a "cock-nest", as is usual in *E. astrild*. *E. paludicola* was very frequently noticed while at Salujinga for ten days at this time, mostly in dambos, but *E. astrild* was never seen.

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