

THE OVERLAP OF BREEDING AND MOULTING IN SOME IRAQI BIRDS

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The energy demanding processes of breeding and moulting do not usually take place at the same time in birds. However, in a number of tropical land birds these are shown to overlap (Payne 1969, Foster 1975). Such cases reported for the temperate region are few and hence it may be of interest to record a few instances of overlap of breeding and moult I have come across during field work in Iraq.

1. *Vanellus leucurus* (Lichenstein)

A female incubating White-tailed Lapwing collected near its nest with a full clutch of four eggs on 23 July 1974 was moulting wing and body feathers. Wing Primary (descendant) : 1 to 3 new (Rt & Lt); 4 brush (Rt) 65 mm of which 36 mm out, (Lt) 66 mm of which 41 mm out; 5 pin (Rt) 26 mm, (Lt) 23 mm; rest old. Secondary : The penultimate feather pin on both sides, rest old. Tail : No moult, all worn out. Body : Only the head feathers in moult, rest badly worn. The two incubation patches on either side of the body were devoid of any feathers. So also the inner part of both the thighs were naked.

Breeding season : From last week of April to July. The present finding is a very late breeding record.

Status : Since the northernmost wintering area and the southernmost breeding ground of the White-tailed Lapwing coincide in Iraq, the status of this bird is not clear. It is possible that the breeding birds may move southwards in winter or they may as well winter in Iraq.

2. *Charadrius alexandrinus* Linnaeus

A male Kentish Plover, sitting on an incomplete clutch of one egg, collected on 6 July 1974 at 0900, was moulting wing and body feathers. Wing Primary (descendant) : 1 brush (Rt) 23 mm of which 11 mm out, (Lt) 26 mm of which 11 mm out; 2 pin (Rt) 6 mm, (Lt) 3.5 mm; rest old. Secondary : The penultimate feather $\frac{1}{2}$ to $\frac{3}{4}$ grown on both wings, rest old. Tail : No moult. Body : Anterior breast and some feathers of back in moult. The three incubation patches were naked, devoid of any feathers.

Breeding season : Early March to mid July.

Status : Similar to the preceding species.

3. *Pterocles senegallus* (Linnaeus)

A male Asian Spotted Sandgrouse, sitting on a full clutch of three eggs collected on 7 July 1974 at 0630, was undergoing heavy wing moult.

Wing Primary (descendant) : 1 to 6 new, 7 brush, rest old (both wings). Secondary : 1 full grown base in sheath, 2 old, 3 new, 4 pin, 5 new, 6 & 7 old, 8 to 10 new, rest present.

Breeding season : May to August.

Status : Resident with some local movements in winter.

4. *Apus pallidus* (Shelley)

Out of the twenty-nine specimens examined from a collection of Pallid Swifts made from a breeding colony on 5 May 1972, eight were moulting the first innermost primary and its covert. Case history of the moulting birds are as follows : a male and a female incubating in two different nests, two males and two females rearing nestlings in four different nests. Breeding status of a male and a female not known. However, the male had well developed testes and the female had pin head size ova in the ovary.

Breeding season : March to June.

Status : Breeds and winters but moves away during the hot summer months.

5. *Hirundo rustica* Linnaeus

A female Common Swallow, rearing a brood of three nestlings about sixteen days old, collected on 9 June 1974 was moulting the first innermost primary (pin (Rt) 4.5 mm, (Lt) 4.0 mm) and the anterior region of the incubation patch which contained pin feathers. While the male of the nest collected next day showed no wing moult, it was, however, moulting its anterior breast feathers. Another male prospecting nest site collected on the same day did not show any moult (Kainady 1976).

Breeding season : March to June.

Status : Summer breeding visitor.

6. *Pycononotus leucotis* (Gould)

A White-eared Bulbul rearing a brood of four nestlings, which had primary feathers about 5 mm out of sheath, netted on 19 August 1975 had the three innermost primaries and their coverts new on both wings. There was no tail or body moult.

Breeding season : April to August.

Status : Resident

All the birds reported above have a seasonal periodic breeding cycle as is the case with all other birds breeding in Iraq. Clear cut overlap of moulting occurred in *A. pallidus* (male & female) in the middle of the breeding season. In *C. alexandrinus* moulting started at the laying stage. Advanced stage of moult shown by incubating *V. leucurus* (female) and *P. senegallus* (male) indicates that they also began moulting during the laying stage or probably earlier. In *H. rustica* the overlap took place in both the sexes while rearing the nestlings.

In all cases except *A. pallidus*, moulting occurred towards the close of the breeding season and none showed arrested moult during breeding except *P. leucotis*.

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الخلاصة

في هذا البحث تقرير عن التداخل بين التكاثر وانسلاخ الريش لستة انواع من الطيور العراقية .