

SHORT COMMUNICATIONS, NOTES AND REPORTS

Incubation patch on a male Cape Griffon

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Just before and during the incubation of an egg or a clutch of eggs, a parent bird usually develops an incubation patch (= brood patch) in the skin over its sternum, or ventral side of its body. This is a featherless zone or apterium, devoid of both contour and downy feathers, and which develops many blood vessels for the transfer of body heat to the egg(s) (Proctor & Lynch 1993). Some few families of birds lack incubation patches, in others both sexes incubate and both partners have the patches (Skutch 1976). Among raptors there are those species where only the female incubates, those where the male may

also incubate for short to longer periods, and those in which females and males equally share the incubation (Newton 1979).

It is well known that both sexes incubate the clutch in vultures, both in the wild (Mundy *et al.* 1992) and in captivity (Mendelssohn & Leshem 1983). One pair of Cape Griffons *Gyps coprotheres* at the VulPro facility close to Hartebeespoort Dam (NW province), South Africa, was seen copulating in May to July and a single egg was laid. Unfortunately it broke. A second (replacement) was laid on 25 June. Each morning the partners changed over for incubation

duties. The nest had been constructed on the ground because the male had an amputated wing, and the female had a badly broken but re-set wing. Both birds were adults.

After a few weeks of incubation, and after an exchange of parents at the nest, the male was captured. An incubation patch, about 14–15 cm long and about 10 cm wide, was located on his ventral surface (Figure). The same was found on the

female, but of a slightly different colour, being more pink. On 18 August the egg was found out of the nest and broken, and it was not determined whether or not it was fertile. (In June, motile sperm had been collected from the male). The incubation patch of the male was much larger than the average size of a Cape Griffon egg, which is approximately 9.8 x 6.8 cm (Mundy *et al.* 1992).



Incubation patch on a male Cape Griffon, August 2010. Photo by M. Dube.

It is said that the apterium develops from “increasing levels of the hormone estrogen” (Proctor & Lynch *op. cit.*). In addition to the two gonadotrophins from the pituitary, other work indicates that perhaps

three hormones are involved: oestrogen, progesterone and prolactin, with testosterone somehow involved in the male (Jones 1971). We suppose that a link between ovulation and the development of an incubation patch is

straightforward in the female (she 'knows' when she has laid an egg). But how does it work in the male? Presumably he has some female hormones, but how does he 'know' when to produce an incubation patch?

– this can only be when he sees and feels the egg in the nest (cf. Selander 1964). We suppose therefore that the male griffon's incubation patch develops from one to several days after the pair's egg is laid.

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