

An Observation of Nesting Behaviour in Marshall's Fig-Parrot *Cyclopsitta diophthalma marshalli*

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Summary. This note describes the nest-site and nest-excavation behaviour of a pair of Marshall's Fig-Parrots *Cyclopsitta diophthalma marshalli* on Cape York Peninsula, Queensland. The female excavated a hole in the dead trunk of a Coconut Palm *Cocos nucifera* (the circular entrance-hole just admitting her body), while the male clung head-down from the trunk above her, apparently guarding. This activity occurred in May 2008, and the nest was being attended in October of that year.

The Double-eyed Fig-Parrot *Cyclopsitta diophthalma* and the Red-cheeked Parrot *Geoffroyus geoffroyi* have the unique habit among Australian parrots of creating their own nest-hollow, by completely excavating the entrance and enlarged chamber in soft or rotten wood (as opposed to termitaria; e.g. Lendon 1973; Courtney 1974; Forshaw & Muller 1978; Higgins 1999; Forshaw 2002). The three Australian subspecies of Fig-Parrot are distinct and are usually referred to by their subspecific names, i.e. Marshall's Fig-Parrot *C.d. marshalli* for the most northern one on Cape York Peninsula (northern Queensland), Macleay's Fig-Parrot *C.d. macleayana* of the Cairns region (Qld), and Coxen's Fig-Parrot *C.d. coxeni* of the Border Ranges region (southern Qld/northern New South Wales). Macleay's Fig-Parrot is currently considered vulnerable, and Coxen's endangered (critically so in NSW), under legislation.

Apart from the above statements that Marshall's Fig-Parrots excavate their own nest (e.g. Higgins 1999), no exact details of this behaviour appear to have been recorded, and the breeding behaviour of wild Fig-Parrots is very poorly known (Forshaw 2002). It therefore seems worthwhile to describe the behaviour of a nesting pair in the Iron Range National Park area (Cape York Peninsula) in May 2008. Such information may throw light on the nesting requirements or behaviour of the other (threatened) subspecies. For instance, the only published claim of a clutch and nest-site of Coxen's Fig-Parrot has been discredited (see Beruldsen 2002). Recently, there have been two brief accounts of nests of Fig-Parrots (excavation and fledging dates, and site characteristics: Garnett & Temby 1998; Cooper 2003).

At Iron Range with Peter Odekerken on 19 May 2008, Peter Valentine informed us that a pair of Marshall's Fig-Parrots had been seen and photographed at a nest on that day at nearby Portland Roads. We arrived there at ~1100 h and located the nest-tree, which was the dead topless trunk of a Coconut Palm *Cocos nucifera* behind the sandy beach of this small village. Three small circular holes were visible in the trunk, clustered at a height of ~10 m, but no parrots were seen. The nest-tree was partly overhung by the fronds of adjacent living palms.

On the next morning, we returned to the site and set up camera tripods near the stump. Suddenly, at ~1030 h, a pair of Marshall's Fig-Parrots arrived at the nest, the female immediately partly entering one hole and apparently biting at the inside (chips were falling down), while the male took up a position ~2 m above the nest-holes, hanging head downwards and watching alertly (Plate 26).

As the female spent some time, perhaps a minute or more each time, with her head out of sight in the hole and with just her tail protruding, the male (which took no part in excavating) appeared to act as a sentry against possible approach by a predator. Acting alone, she would have been an easy target for a hawk or a butcherbird *Cracticus* sp.

My first photograph was taken at precisely 1034 h and the last at 1136 h (time recorded on the camera), after which the pair departed into the lowland tropical rainforest as swiftly as they had arrived. The time that they had spent constantly working at the nest was therefore well in excess of an hour, as photographic operations were slow to start, and ceased some minutes before the parrots departed. The female spent most time at one hole, but occasionally partly entered the other holes. The entrance-hole was almost perfectly circular, and evidently a tight fit for the female (Plate 27). On a return visit to the site in early August 2010, Peter Odekerken (pers. comm.) found that the nest-tree had been removed as part of an 'improvement' program for the area, apparently in ignorance of the parrots and their ecotourism value to the local community.

From this single observation only, it would seem that the female does much (if not all) of the excavating while the male may stand guard, at least sometimes in a head-down position similar to that described by Charley (2000). Our observation supports a previous report that, in captive Macleay's Fig-Parrots, only the female was seen to excavate (Forshaw 2002; *contra* Higgins 1999, p. 264, who misquoted 'Forshaw' [1981] as stating that one male assisted, when Forshaw stated only that 'the female did most of the excavating'). Elsewhere, Higgins (1999, p. 265) stated that the nest-hole is 'excavated... by female only', which seems likely but requires further confirmation. In captive and wild Macleay's Fig-Parrots, only females have been observed excavating (I. Gynther pers. comm.).

Also, our observation appears to be the first record of this species (at least in Australia) nesting in a Coconut Palm, although Cooper (2003) reported a Macleay's Fig-Parrot 'trying' to excavate a hole (presumably unsuccessfully) in the hard trunk of a live Coconut Palm, in June. Higgins (1999) listed nine other species of nest-tree. Interestingly, Lendon (1973) recorded the Red-cheeked Parrot nesting in Coconut Palms on the island of Morotai (Moluccas, Indonesia), although this record of this tree species was not cited by Higgins (1999).

Laying for Marshall's Fig-Parrot reportedly occurs in September–October (Forshaw 2002), although one nest fledged young on 12 October (Garnett & Temby 1998). The latter incident indicates laying before mid August (from incubation and nestling periods of ~3 weeks and at least 5–6 weeks, respectively, in Higgins 1999 and Forshaw 2002). The nest at Portland Roads was being attended in October 2008 (P. Odekerken pers. comm., from information from visiting birdwatchers). Cooper (2003) reported a Macleay's Fig-Parrot, in early July, starting to excavate the previous year's nest-hole in a dead tree, although Garnett & Temby (1998) reported a Marshall's Fig-Parrot excavating a nest-hole in mid October. Thus, Fig-Parrots in the tropics may start early and have an extended breeding season, raising two broods per year. Captive Macleay's Fig-Parrots do so, and wild birds of this subspecies double-clutch within a year (I. Gynther pers. comm.).

It appears that Fig-Parrots construct a series of nest-holes freshly each year at a favoured site, although modification of existing holes apparently also occurs (Cooper 2003). Fig-Parrots always construct a fresh nest-hole each breeding season, including apparent 'trial' shallow scoops or incomplete nests (tunnels but no chambers), although only one results in a completed nest-chamber (I. Gynther



Adult male Marshall's Fig-Parrot clinging above nest-hole, Portland Roads, Qld, May 2008

Plate 26

Photo: John Courtney



Adult female Marshall's Fig-Parrot at entrance to nest-hole, Portland Roads, Qld, May 2008

Plate 27

Photo: John Courtney

pers. comm.). Therefore, it is uncertain whether the case observed by Cooper (2003) was enlargement of an uncompleted hole, or preliminary excavation, as there is no information on the subsequent progress of that nesting event.

We are grateful to Associate Professor Peter Valentine (James Cook University) for drawing our attention to the nesting Marshall's Fig-Parrots, and I am grateful to Peter Odekerken for his generosity in inviting me to accompany him on a photographic expedition to Cape York. Thanks also to reviewers Dr Robert Heinsohn and Dr Ian Gynther.

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Received 15 June 2010

