

Identification Discussion Paper: A Frigatebird Photographed at Ashmore Reef in October 2007

David James, 11 August 2011

This discussion paper concerns a photograph of a young frigatebird from Ashmore Reef on 26 October 2007. The photographer, Grant Penrhyn, originally labelled it as a Lesser Frigatebird *Fregata ariel* (LEFR), but has since considered that it might be a 2nd year Christmas Island Frigatebird *F. andrewsi* (CIFR). Grant asked Mike Carter who thought it more likely a LEFR than a CIFR. Mike sought opinions from some other people, including me. This is my response.

The subject bird from Ashmore Reef is shown in Plate 1.

Thanks Mike for sending this through, it is an interesting bird and potentially an important record too. There are several ways of identifying the three Indo-Pacific frigates to species in juvenile plumage, which I documented in James (2004), though it is rarely easy. However, I suspect that this bird presents an unusual identification issue that was not fully covered in that article. A series of photos of the individual would help a lot, because the important ventral pattern is on a curved surface, so different angles change the way it looks. Higher resolution of the one photo would also be very useful.



Plate 1. The subject bird, photographed at Ashmore Reef in October 2007 and suspected to be a 2nd year Christmas Island Frigatebird (Photo by Grant Penrhyn)

The subject bird was labelled by Grant as a 2nd year bird, but it looks to me like a juvenile. The throat feathers are very ginger, indicating rather fresh plumage on the head (the head feathers quickly wear to buff and then cream soon after fledging). They do moult in new buff feathers on the head early in second year, but it is not the case here, for two reasons. Firstly, as far as I have been able to determine, they never get a fully ginger head again, only a patchy

mix of fresh and old feathers; and they lose a lot of the black breast band by this time anyway. Secondly, there does not appear to be any moult of the flight feathers. Most frigatebirds would be moulting flight feathers by 2nd year, though this does not always seem to be the case. Typically, 2nd years would show worn primary tips and juveniles would not, so higher resolution would be helpful. Nevertheless, the underwing as a whole has a distinctly fresh look about it.

Three points seem to rule out juvenile LEFR: the axillary spur reaches well onto the underwing, the spur originates midway along the side of the breast patch, and the breast patch is oval, not triangular.

The axillary spur is very long and extends well out into the underwing coverts, beyond the base of the outermost sub-humeral feather (Plate 2). The sub-humerals are the feathers forming the outer part of the black wedge at the base of the underwing (together with the axillaries, which are on the body); the sub-humerals and axillaries face downwards like the lesser and median secondary and primary coverts, so we see their upper surfaces, which look black, while the primaries, secondaries and greater coverts face upwards, so we see their under surfaces, which look duller. On the Geoff Jones photo of a juvenile LEFR (Plate 3) it can be seen that the spur does not reach the underwing coverts at all, and gets nowhere near the outer edge of the sub-humerals. This is always true of juvenile LEFR.

The second point against juvenile LEFR is the location of the spur. On the subject bird it originates midway along the side of the white belly patch. On juvenile LEFR it typically originates off the front corner of the white belly patch. The third point is closely related to the second; on LEFR the belly patch is roughly triangular in shape with a posterior (rounded) apex towards the vent and an anterior base cut (almost) straight across the breast abutting the breast band. The axillary spurs extend out from the anterior corners.

Great Frigatebird *F. minor* (GRFR) also needs to be considered, especially since it breeds at Ashmore Reef. I see one feature that I initially thought might rule out juvenile GRFR, the length of the axillary spur. Most literature suggests that juvenile GRFR does not have a spur, but in fact about a third of them do. It is usually restricted to the body, but it can reach onto the underwing coverts in the most extreme cases. I don't think I have ever seen it reach, unbroken, to the base of the outer sub-humerals.

In favour of GRFR is the location of the spurs originating on the midway side of the belly patch and the oval-shape of the belly patch (Plates 4 and 5).

Eliminating CIFR on appearance is difficult, as it varies quite a bit. The belly patch is a little too oval in shape. Typically CIFR has a belly patch that is an odd shape somewhere between a triangle and an oval. It is asymmetrical like an egg (i.e. broader/shorter anteriorly, and narrower/longer posteriorly) and a bit hexagonal (i.e. with vague angles rather than continuous curves). This is shown in Plates 6 and 7. The rich ginger of the throat is much brighter than the typically dull buff of CIFR and somewhat characteristic of GRFR. However, CIFR can show a bright ginger throat in photos, largely as an artefact of lighting I suspect. The bill does not seem particularly long. None of these characters are definitive.

The thing that does rule out CIFR, in my opinion, is the time of year (October) 1,900 km from the nesting grounds in juvenile plumage. CIFR eggs hatch from April to June and the oldest chicks can fly around the nest trees by September. By mid October some can fly

around the island, but they return to the nest trees at night. In November they are still in the colonies waiting for their parents to feed them. Around December they head to sea with their parents and begin to learn how to feed for themselves, and soon they relocate in family flocks to the non-breeding islands. A lone juvenile at Ashmore Reef in October is not possible. Even if it could fly that far, it would not be able to feed, unless its parents were there too.

So, what can this bird be? On my initial view the spur made me think of CIFR. If I cover up the spur I see a classic juvenile GRFR (Plate 8). I think it must be a GRFR with an abnormally well-developed axillary spur. I think this is a more parsimonious explanation than a CIFR at an impossible place and time.

Reference

James, D.J. (2004), 'Identification of Christmas Island, Great and Lesser Frigatebirds', *BirdingAsia* 1, 22–38.

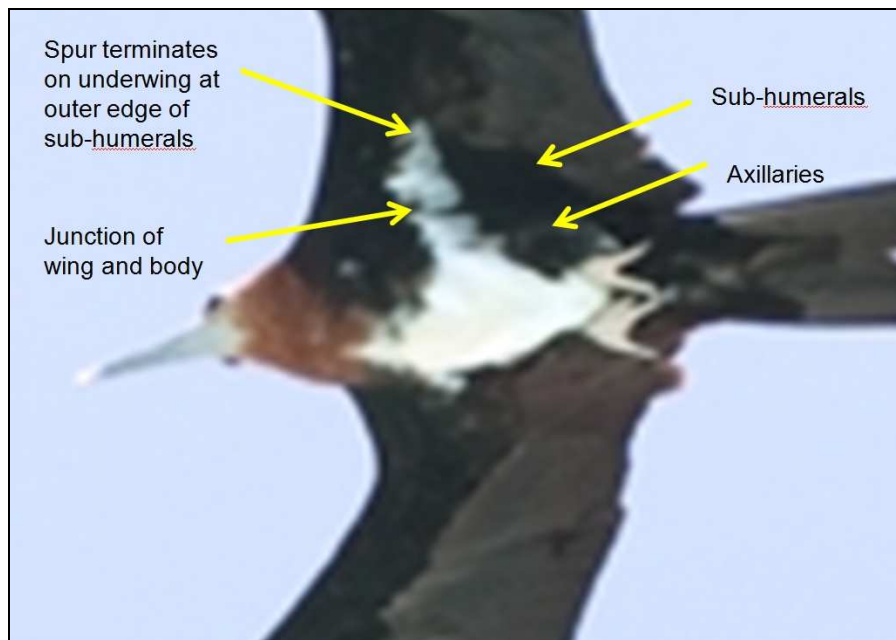


Plate 2. The subject bird, with arrows indicating the location of important features relative to the axillary spur

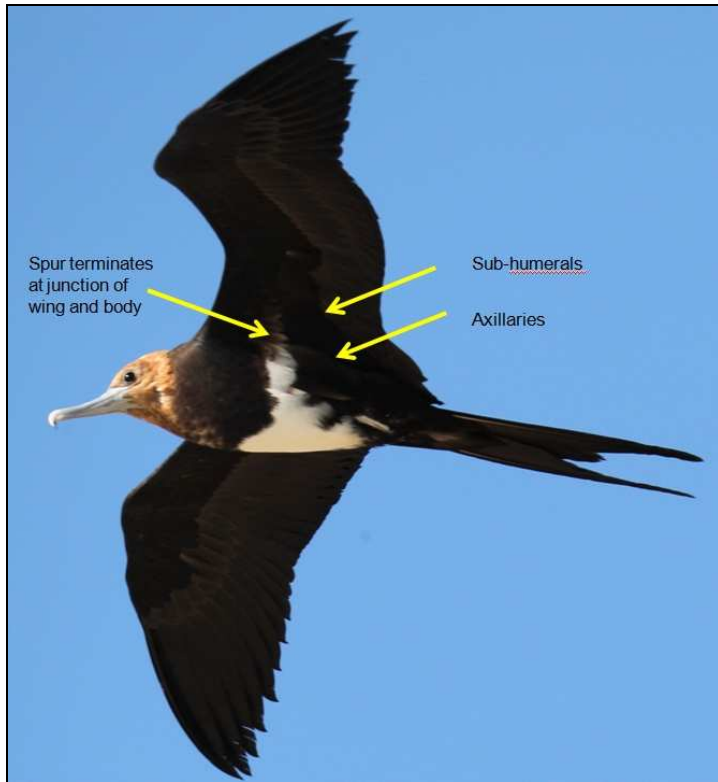


Plate 3. Juvenile Lesser Frigatebird at Ashmore Reef with arrows indicating the location of important features relative to the axillary spur (Photo by Geoff Jones, courtesy of Mike Carter)

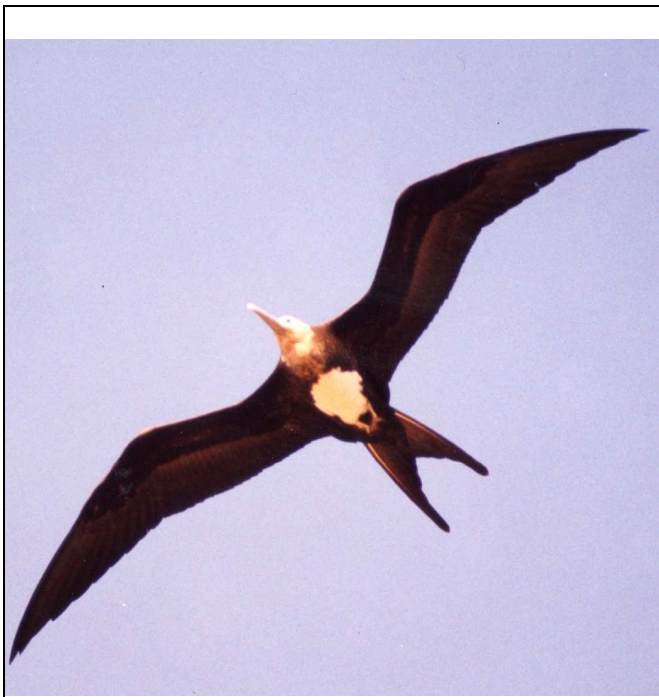


Plate 4. Fresh juvenile Great Frigatebird at Christmas Island September 2002, showing oval belly patch but no spurs (Photo by D. James)



Plate 5. Fresh juvenile Great Frigatebird at Christmas Island September 2002, showing oval belly patch and spur that originates from the mid side of belly patch and extends (brokenly) onto the underwing (Photo by D. James)



Plate 6. Worn juvenile Christmas Island Frigatebird at Christmas Island February 2002, showing asymmetrical polygon belly patch but reduced spurs (Photo by D. James)

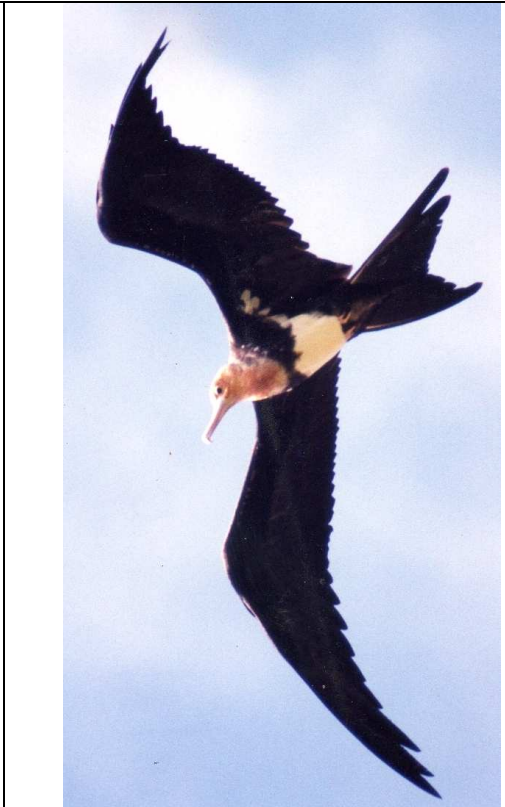


Plate 7. Fresh juvenile Christmas Island Frigatebird at Christmas Island September 2002, showing asymmetrical polygon belly patch and elongated spurs extending onto underwing (Photo by D. James)



Plate 8. The subject bird with its axillary spur drawn over resembles a fairly typical juvenile Great Frigatebird