

First observation of a Brolga (*Grus rubicunda*) pair attending three young

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Abstract

Clutch size in the Gruine cranes is consistently two. Three-egg clutches, including in the Brolga (*Grus rubicunda*), are extremely rare, and there are no previous records of Brolgas with a brood of three. In June–July 2024, during surveys of crane breeding success in the Gulf Plains Bioregion, north-west Queensland, a Brolga pair was observed with three fledged juveniles. The young were of similar appearance and aged approximately 4–5 months. The group maintained tight cohesion while walking and in flight, typical of Brolga families, and was ~2.4 km distant from other Brolgas. The behaviour of the group and characteristics of the young were consistent with a Brolga pair attending a brood of three.

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Clutch size in the thirteen species of Gruine cranes is usually two, and three-egg clutches are extremely rare (Allan 1996). Scambler *et al.* (2020) reviewed over 150 years of records from museum collections, published literature and sighting reports for the Brolga (*Grus rubicunda*), and found eight 3-egg clutches – including one from near Burketown, in the Nicholson River basin, Gulf Plains Bioregion (see Fig. 1 in Scambler *et al.* (2020) for map of locations) – and no broods of three. Scambler *et al.* (2020) also reviewed behavioural and other evidence for adoption in cranes and concluded that successful three-egg clutches, rather than adoption, were the probable explanation for two observations of Australian Sarus Crane (*G. antigone gillae*) pairs attending three young.

Surveys of crane breeding success in multiple catchments in the Gulf Plains Bioregion have been conducted in five breeding seasons between 2017 and 2024 (for survey methods, refer to Sundar *et al.* 2019). Productivity of both crane species in the Gulf varied between seasons in the surveys done in this period (JDAG, unpublished data). Of the Brolga

broods observed, the majority have been with one young, while up to 33% of broods have been of twins (Sundar *et al.* 2019). In this note we report the first observation of a Brolga family comprising an adult pair and three juveniles.

On the afternoon of 27 June 2024, during crane surveys in the Leichhardt River basin, Gulf Plains Bioregion, a group of five Brolgas was sighted near a road approximately 120 km south of Burketown (at -18.806371, 139.800906). This group comprised two adults, accompanied by three juvenile birds that all seemed identical in appearance. JDAG estimated their age as approximately 4–5 months, based on known developmental stages of juvenile Brolgas (Inka Veltheim and JDAG, unpublished data), namely body size relative to the adults, head colour (mainly brownish-grey, slightly darker around the eyes and lacking any trace of the red of adults), bill length (only a little shorter than those of the adults) and colour (only a small amount of orange-yellow colour remaining at the base of the bill) and a well-developed ‘bustle’ (the long, drooping tertial feathers which conceal the tail), which is less prominent in younger birds. The

group of five birds maintained tight cohesion while walking (and subsequently in flight), as typically seen in Brolga families. They slowly walked away from the road when we stopped, giving good views at first for approximately one minute, then further fragmentary views as they walked into a more heavily vegetated area. JDAG followed the birds quietly in an attempt to photograph them, but they soon took flight and circled around towards the road before alighting more distantly. Only a distant photograph was obtained of the family in flight (Fig. 1), confirming that the three juveniles were fledged but showing little detail of their appearance. No other Brolgas were observed in the area; the closest birds seen were a flock approximately 2.4 km to the north-east. The behaviour of the group as a family, and the evident similarity in age of the three juveniles, support the hypothesis that they were all members of the same brood, rather than a smaller brood with an additional adopted member (see Scambler *et al.* 2020 and references therein). The assumption that this group was a family is also consistent with the known three-egg clutches of the species, including one from the Burketown area (Scambler *et al.* 2020).

This observation is remarkable not only as the first record of a brood of three Brolga juveniles, but also in the context of the 2024 breeding season, when the survey data (unpublished) showed that

of the 84 Brolga broods observed, the vast majority (81%) were comprised of one young, with only 16 (19%) twin broods and this single brood of 'triplets'. The incidence of twin broods in 2024 was considerably lower than that reported for the highly productive breeding season of 2017 (Sundar *et al.* 2019). This instance of three fledged young may thus relate more to a particularly productive territory and/or a very experienced pair of adults than to an exceptional year.

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Figure 1. Brolga pair with three juveniles in flight, Gulf Plains, 27 June 2024. The three juvenile birds (second from left and the two at lower right) are distinguishable from the adults by the more uniform colour of the head, appearing greyish and a little darker on the face, as well as by smaller-bodied appearance). Photograph by John D. A. Grant.

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