

Up-down display of Black-necked Stork at Hexham Swamp, Hunter Wetlands National Park NSW

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INTRODUCTION

Birds offer a great range of behavioural displays which as in the following case may serve to reinforce pair bonds, assert territorial rights and can also indicate aggressive intent. This note concerns spectacular displays made by a pair of Black-necked Stork *Ephippiorhynchus asiaticus*, a large species which is uncommon in the Hunter Region of NSW.

OBSERVATIONS

On 21 May 2014 at Hexham Swamp (32°51'11"S 15°40'59"E; elevation 1m) three Black-necked Storks were present including a pair distinguished by eye colour, dark in the male and yellow in the female, that had been there regularly since mid-January. The third bird appeared to be a younger female based on yellow eye and duller leg colour. The changes of plumage and their timing for immature birds is not well known (Marchant & Higgins 1990). Soon after I arrived the older female chased the third bird away. The regular pair then spent a period either preening or stationary. The older female began foraging away from the male and was subsequently joined by the male. **Figures 1 and 2**, selected from a 29-image sequence which finished at 9:00am show key features of a display between the adult pair triggered by the close approach of the immature female. They faced each other and the male bowed over with wings extended. The female responded by also raising her wings. The birds had raised wings as depicted in **Figure 2** with the wing tips quivering quickly. The third bird was in the foreground throughout but moved away a few metres. Finally the older female flew at the younger female at 9:07am and chased it away, later to be joined by the male. The third bird was approximately 50m away. The third bird stayed there for 40 minutes then flew some hundreds of metres south to the edge of Ironbark Creek. Later

in the morning the pair flew towards the Ironbark Creek end of the swamp to be approached by the third bird which was quickly chased away, resulting in a vigorous aerial display. I was in a moving vehicle so no images were obtained.



Figure 1. The start of the up-down display with the female commencing to elevate her wings and the male bowing before her. The immature female bird is in the foreground.

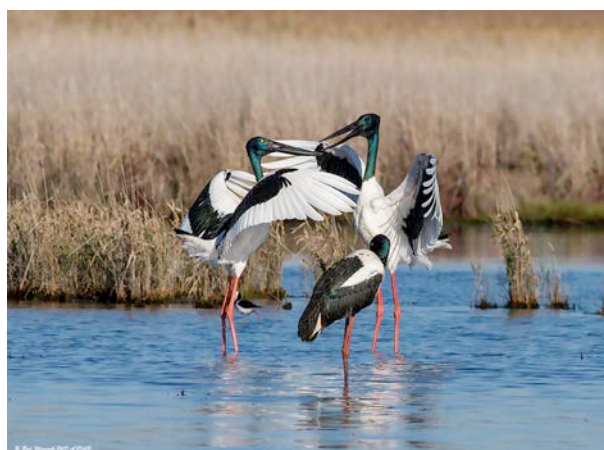


Figure 2. Image taken midway through the up-down display sequence. The yellow eye of the intruding female bird is visible in enlarged images.

DISCUSSION

The above behaviour was new to me so I immediately sent an image and a description of the display to Greg Clancy who has conducted a long-term study of this species. Greg replied as follows:

‘The behaviour is what I have observed a few times during my studies. I have described this behaviour in my paper on nesting (Clancy & Ford 2011). What is happening is that a mated pair is occupying their territory and a third bird, an interloper, arrives. The interloper attempts to usurp the territorial bird but the pair usually display to each other with what is known as the “up-down display”. This seems to send a signal to the interloper that this pair is a mated pair and the respective bird is not interested in “divorcing and remarrying”. This is usually enough for the interloper to get the message and move on but sometimes a chase is needed. I have recorded this mostly when a female interloper arrives but I suspect that an interloper male would be treated similarly.’

Clancy & Ford (2011) recorded the ‘up-down display’ 15 times at or near nests; on 10 occasions immediately after an adult male had landed on the nest. Four displays occurred during the pre-egg-laying stage, six during incubation and five while nestlings were on the nest. Two displays occurred while a third adult was present. The ‘up-down display’ was also observed away from the nest eight times. Six of these displays occurred while a third adult was present, once while an additional adult pair of storks was present, once when an adult female landed in a wetland near an adult male, once while a juvenile stork was nearby, and once as a White-bellied Sea-Eagle *Haliaeetus leucogaster* flew low overhead.

Marchant & Higgins (1990) suggest the ‘up-down display’ is a greeting display and emphasised the solitary nature of the Black-necked Storks; consequently interactions and agonistic behaviour were virtually unknown within Australia prior to Clancy & Ford’s studies.

At Hexham Swamp the adult pair often fly to distant Casuarina trees and land in them near the Maryland side of the swamp which raises the possibility of nesting in Hexham Swamp. However, in NSW only 10% of the 70 nests observed were in trees less than five metres in height (Clancy & Ford 2011). In Hexham Swamp, the number of large trees is limited and the most

suitable are near human habitation. While most nesting occurs in or adjacent to fresh water swamps Black-necked Storks have nested in mangroves with trees as small as four metres used (Marchant & Higgins 1990). Consequently, future breeding at Hexham Swamp, which is at the southern limit of the species’ breeding range in eastern Australia, would seem a distinct possibility following the recent opening of the floodgates to restore tidal inundation (Chapman & Hyde 2012). The main breeding season is between August and January, although there are records for all months except February (Cooper *et al.* 2014).

REFERENCES

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