

DESCRIPTION OF THE COURTSHIP AND COPULATION BEHAVIOR OF THE CRANE-HAWK

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Abstract.—This paper provides the first description of the courtship behavior and copulation of a pair of Crane-Hawks (*Geranospiza caerulescens*) as recorded in northeastern Venezuela. Copulation is described as is the brief aerial display and courtship feeding that preceded it. Courtship feeding is elementary and consists of the male placing food near the female.

DESCRIPCIÓN DEL PATRÓN DE CORTEJO Y CÓPULA EN *GERANOSPIZA CAERULESCENS*

Sinopsis.—Este trabajo provee de la primera descripción del patrón de cortejo y cópula en *Geranospiza caerulescens*, observado en el noreste de Venezuela. Se describe la copulación como también el breve vuelo de despliegue y alimentación de cortejo que precede a ésta. La alimentación de cortejo es elemental y consiste del macho colocar comida cerca de la hembra.

The literature contains sparse information on the reproductive behavior and nesting of the Crane-Hawk (*Geranospiza caerulescens*) (Friedmann and Smith 1950, Mader 1981), a medium size long-legged hawk, which ranges from northern Mexico to eastern Bolivia and northern Argentina (Blake 1977, Brown and Amadon 1968, Haverschmidt 1968, Meyer de Schauensee and Phelps 1978, Wetmore 1965). Even less is known about its courtship. From 19 to 22 Mar. 1988, I had the opportunity to observe some aspects of the courtship behavior and copulation of a pair of Crane-Hawks, approximately 6 km southwest of El Furrial, State of Monagas, Venezuela. The purpose of this contribution is to describe for the first time aspects of the reproductive behavior of this species.

OBSERVATIONS

On 19 Mar. 1988, between 0635 and 0650, I continuously observed a pair of Crane-Hawks at the edge of a mixed palm savanna near dense vegetation bordering a small stream and a shallow pond. A number of tall trees, 25–30 m high, dominated the surrounding bushy vegetation, which did not exceed 6–8 m high. The vegetation type of the region is typical of the "Savanna grasslands of the Guyana shield" (Cole 1986:93) and is characterized by open campos cerrados-savanna woodlands with a few trees and a more extensive tree growth along streams and low wet areas. A number of palm trees occupy the wetter open areas and the general sector has been used extensively for agricultural purposes with seasonal burning and ploughing.

The first bird was seen sitting in one of the tall trees on a leafless lateral branch some 25 m from the ground. After flying off, it turned around and came back to the other side of the tree where a second, slightly

larger bird, was sitting. I assume the first bird was a male because of its obviously smaller size, and that the second bird was a female. Before perching near the female, the male flew around the tree three times, flapping his wings slowly and partly gliding as he approached the perch. The male then landed near the female where he sat for nearly 30 s, after which she flew away climbing beyond the top of the tallest trees. She then glided rapidly towards the mist nets that had been set below the tree 2 d earlier at the edge of shrubby vegetation. The female circled them three times and returned to the same perch, near the male. The male then flew away from the perch directly into the empty nets where he was caught. Gender was confirmed through the bird's greatly enlarged cloacal protuberance. When released, the male flew in circles over the nets four or five times and landed near the female. During this period of observation, the male was calling frequently, and a variety of calls (described in Brown and Amadon [1968:376] and Friedmann and Smith [1950:449]) were heard at different intervals. The female also called, but less frequently, although I had the impression that both birds were at times calling alternatively or in sequence. In some instances, it seemed that the female was responding to the male. After having preened his feathers, the male flew away nearly a minute later and was followed by the female within a few seconds. Both birds disappeared in the distance and were not seen again in the area until my departure around 0930.

On 20 March, mist nets were deployed before sunrise around 0530 and no Crane-Hawk was noticed in the vicinity. Later, at 0610, as I came back to the area to check the nets, I saw the male flying in circles some 8 m above the female perched on a branch some 10 m above the ground in the same tree that she had used on the previous morning. Suddenly, the male swung around, made a broad circle, and flew towards a Blue-black Grassquit (*Volatinia jacarina*) trapped in one of the nets. He swooped toward it, hovered very close to the net, and tried to remove the bird with his bill. The net was violently shaken. He then flapped his wings strongly and gained altitude well above the tops of the trees. He appeared to be unsuccessful in removing the grassquit, which remained motionless in the net. The male then glided towards the female holding something in the bill and perched next to her. He appeared to deposit an object close to her feet. Some 20 s later, without any warning, the male flew off about 1 m above the female and dropped onto her back, grasping on to her with his feet in the middle of the dorsum. She immediately opened her tail and oriented it in a perpendicular position some 45° from the horizontal so that her cloaca became exposed sideways. In the meantime, the male maintained his equilibrium on her back by beating the wings slowly and grasping with the bill the feathers of her occiput. He then opened his tail as the female had done, oriented it perpendicularly (45°) but in the other direction, and shifted the lower part of his body so that his cloaca would meet the female's. Contact lasted about 10 s, after which the male flew away and perched at the top of a tall tree some 200 m distant. The female continued to sit at the same place and watched the

nets. Ten minutes later, although the female was still on her perch, I inspected the nets to release the grassquit. The bird had been killed and its head had been removed neatly at the base of the cervical vertebrae. What the male had been carrying in the bill and what he had deposited near the female's feet was the head and skin of the neck of a male Blue-black Grassquit. A few minutes later, the female, oblivious to my presence (the nets being located less than 30 m from her perch) flew away and landed at the top of a distant tree. None of the birds were seen before I departed at around 0645. No nest was found in the area.

Two birds were seen again in the same area on 21 and 22 March and they were either perched or foraging, but no calls were heard, nor were additional breeding displays observed.

DISCUSSION

Several points emerge from these observations. First, my observations describing the courtship display a pair of Crane-Hawk differ significantly from those reported by Brown and Amadon (1968:378). The precopulation display that I have described is relatively simple and does not consist of aerial flapping and soaring or other demonstrations (Brown and Amadon 1968, Mader 1981). Second, the courtship display I observed included courtship feeding followed by a brief series of calls and copulation, as is known for several other species of raptors. Indeed, what I saw is very similar to that described by Smeenk and Smeenk-Enserink (1983:135) for the Harrier Hawk (*Polyboroides typus*) although the two species are not closely related. Finally, the time of the year when the display and copulation took place coincides with the breeding dates of this species as reported previously in Venezuela and adjacent areas (Friedmann and Smith 1950, Haverschmidt 1968, Mader 1981).

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