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Courtship Behavior of the Buff-necked Ibis (*Theristicus caudatus*)

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ABSTRACT.—Buff-necked Ibis (*Theristicus caudatus*) courtship displays include "Bill Popping" and grasping twigs, behaviors reported for other species of ibis. *Received 4 Dec. 1997, accepted 20 Aug. 1998.*

The courtship displays of the ibises (Threskiornithidae) are poorly known and little documented, including those of the South American Buff-necked Ibis (*Theristicus caudatus*; del Hoyo et al. 1992, Hancock et al. 1992). Here, I present field observations of apparent courtship displays by this species made at Parque Nacional San Luis (22° 40′ S, 57° 21′ W), depto. Concepción, on 25 October 1996, in the semihumid forest/savanna region of northern Paraguay.

At approximately 09:00 I heard and observed two Buff-necked Ibises at the top of a dead tree, approximately 30 m above the ground making snapping noises with their bills. The presumed male and female would, in turn, grasp dead twigs (2–3 cm diameter) with their bills and release them, never breaking the twigs from the branch. Occasionally, the birds would make low grunts. This continued for about 3 min until the birds abruptly stopped, faced each other, pointed their bills vertically (similar to photo in del Hoyo et al. 1992:480) and gave a loud squawking call. Then they slapped their bills together horizontally, making a sound similar to two hollow pieces of bamboo hitting each other, and flew away together to the northwest.

About 30 min later, approximately 1.5 km northwest of the first site, I heard the same snapping sound and quickly located a pair of ibises, perhaps the same birds, displaying in a similar manner. Again, the behavior lasted about 3 min and ended with the birds slapping their heads together and flying away. On 30 October 1997, a male (testes 18 × 11 mm, KU #88342) and female (ovary 20 × 14 mm, largest ovum 3 × 3 mm, oviduct convoluted 3 mm, specimen deposited in Museo Nacional Historia Natural del Paraguay) were collected that may be the pair I observed earlier. Based on the specimen gonad sizes, the birds were in breeding condition.

The behaviors I observed resemble courtship and breeding displays of other ibises (del Hoyo et al. 1992, Hancock et al. 1992). Unmated male ibises use Bill Popping (Hancock et al. 1992) when soliciting females. This behavior involves the bird snapping its gaped bill shut, occasionally making a popping sound. Some ibis grab a twig and shake it during this behavior. The initial "snapping" noise that I heard may have been a product of Bill Popping by the male. Although the pair I observed never removed twigs from the tree, they did grab sticks during the encounter—a further indication that this was the Bill Popping behavior described in Hancock and coworkers (1992).

Males will also respond to females entering their territories with a ritualized form of Sparring display (Hancock et al. 1992). Sparring behavior consists of one bird, in this case the male, lunging at the other. The female will flee and not fight back. Both of the behavioral series I observed ended with the birds confronting one another (i.e., slapping bills together) and then departing. Perhaps this was a modification of the Sparring behavior described in Hancock et al. (1992).

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LITERATURE CITED

DEL HOYO, J., A. ELLIOT, AND J. SARGATAL. (Eds.). 1992. Handbook of the birds of the world, vol. 1. Lynx Edicions, Barcelona, Spain.

HANCOCK, J. A., J. A. KUSHLAN, AND M. P. KAHL. 1992. Storks, ibises, and spoonbills of the world. Academic Press, San Diego, California.

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Habitat Use by Masked Ducks Along the Gulf Coast of Texas

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ABSTRACT.—We counted 47 Masked Ducks (*Nomonyx dominicus*) in seven flocks during the fall and winter of 1992–1993 on 1009 64.75-ha plots in the Coastal Plains of Texas. Among the three wetland subclasses used by Masked Ducks, bird densities were higher on lacustrine littoral aquatic-bed rooted vascular and lacustrine littoral aquatic-bed floating vascular than palustrine scrub-shrub broad-leaved deciduous wetlands. These wetlands provide important habitat even though they are not the most abundant wetlands in the region. *Received 23 June 1998, accepted 25 Aug. 1998.*

Masked Ducks (*Nomonyx dominicus*) are small, scarce, and reclusive inhabitants of wetlands throughout eastern South America and north into Texas and Florida (Johnsgard and Carbonell 1996, Lockwood 1997, Todd 1997). Little ecological data exist for this species anywhere, but particularly at the northern extent of its range. Appropriate habitat has been subjectively defined as overgrown swamps and marshes, where aquatic plants like water hyacinth (*Eichornia crassipes*) and water lilies (*Nymphaceae* spp.) occur (Johnsgard and Carbonell 1996, Todd 1997). Our objective was to quantify habitat use by Masked Ducks in the Coastal Plains of Texas.

The study area covered 5.5 million ha from Galveston Bay, Texas south to the Rio Grande River (Anderson et al. 1996, 1998). The region is dominated by coastal prairie and sandy plains in the southeast, and rice fields and coastal marsh in the northeast (Anderson et al. 1996). Palustrine and estuarine wetlands (Cowardin et al. 1979) are the most abundant of the wetland systems (Muehl et al. 1994).

We conducted ground based surveys of all wetlands located on 512 quarter-sections (64.75-ha plots) in 1991–1992 and 1009 in 1992–1993 (Anderson et al. 1996, 1998). Surveys for Masked Ducks on wetlands were conducted during September, November, January, and March. Wetlands were classified according to Cowardin and coworkers (1979). Surveys were part of a larger project addressing waterbird habitat use (Anderson 1994, Anderson et al. 1996), waterbird abundance (Anderson et al. 1998), and wetland abundance (Muehl et al. 1994).

We compared densities (no./ha) of Masked Ducks among wetland types on which they occurred using ANOVA and Scheffe's procedure as the mean separation technique with $\alpha = 0.05$ (SAS Institute Inc. 1988). We included in the analysis all wetlands of a type on which Masked Ducks were observed (Anderson et al. 1996). We compared microsite habitat use in wetlands with two-way contingency tables and a *G*-test (Sokal and Rohlf 1995). Count

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