

On 31 May I found a second nest in an arborescent cactus after watching an adult carry food to the young twice. This nest was located a few hundred meters from the first one. It was an open cup similar to the first nest, except more substantially constructed. It was supported on three sides by branches at least 15 cm in diameter. This nest contained four well-feathered young. On 2 June this nest was empty; it was lined with fine rootlets and several dark-colored hairs. Although it was severely damaged when the supporting branches were cut away, the nest was preserved (MDW #2330) and is now in the LSUMZ collection.

The juvenal plumage of these birds (LSUMZ Photograph File #116) appears basically like that of adults with the following exceptions: there are distinct dark streaks in the central gray crown patch and on the throat; the sides of the crown are duller, less rufous. The lining of the mouth is red. The lower tomium and rictal commissure are bright yellow. The mandible is yellowish, and the maxilla is grayish.

On 2 June, near the village of Náupe, I saw an adult Tumbes Sparrow perched with an immature Shiny Cowbird (*Molothrus bonariensis*) in the same small bush, but I did not establish whether the cowbird was being fed by the sparrow. These cowbirds were common brood parasites in this area; I found a total of 32 of their eggs in 14 nests of four other species breeding nearby. It seems probable that *A. stolzmanni* is also a host of this cowbird.

The coloration of the egg of *A. stolzmanni* supports

Paynter's (Breviora No. 278, 1967; Check-list of birds of the world, vol. 13, Museum of Comparative Zoology, Cambridge, MA, 1970) return of this species to the genus *Aimophila* from the monotypic genus *Rhynchospiza* of Ridgway (Auk 15:223, 1898). This type of egg is characteristic of *Aimophila*, but is possessed by only a few other emberizines (Wolf, A.O.U. Ornithol. Monogr. No. 23, 1977).

In contrast to Paynter's observations in Ecuador (1967), I found the Tumbes Sparrow relatively tame. I saw a total of 47 birds on 12 occasions in May, June, and July in Lambayeque near Náupe and Olmos.

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JABIRU NEST, NEST BUILDING, AND QUINTUPLETS

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The Jabiru (*Jabiru mycteria*) is found from Belize in Central America to Argentina (Blake 1977) and breeds throughout this range (Kahl 1971a). It is said (J. C. Ogdén, pers. comm.) also to breed regularly in western Campeche, Mexico. Although these storks are widespread and conspicuous (over 1 m tall), I know of no published observations of them over a sustained period of time in the same locality. I believe that the following notes on their nesting may therefore be of interest.

From 1972 through 1979 I made some observations of Jabirus incidental to another study. My study site was a cattle ranch in the Venezuelan llanos, which are low-altitude savannas; for a fuller description see Thomas (1979). The Jabiru is a permanent resident in this area and a few pairs regularly breed there every year. Nesting starts after the area is flooded by seasonal rains, usually about the middle of August, and continues into the beginning of the dry season at the end of the calendar year. Pairs nest alone, not colonially, but nests are sometimes within 100 m of nesting colonies of other ciconiiform species. In 1978 I found five active Jabiru nests within a triangle of about 250 ha. Pairs fly aggressively at conspecifics who approach their nest area.

Jabirus build their huge nests in large trees in Guyana (Chubb 1916), in western Venezuela (Bent 1926) and in Surinam (Spaans 1975). Kahl (1971b) found

nests in Argentina in both palms and other trees. In the Venezuelan llanos I have found nests only in the tops of the palm tree (*Copernicia tectorum*). Mature palms on the study site are reported to be from 3-9 m high (Troth 1979), and the 11 nests I have found were generally in the tallest solitary palms. Pairs of Jabirus always select a living palm and, one at a time, each bird stands in the top and stomps down the central growing fronds. Often its mate watches from a nearby palm, which becomes the perch for the off-duty parent as brooding and incubation proceed. In 1972, in one small area, six palms were stomped down before one was chosen for the nest.

Once the nest is started, the pair work together on it for part of the day, usually in the morning, bringing sticks as long as 1.5 m and as thick as 5 cm. Kahl (1971b) reported sticks of similar diameter and 2 m long being used in Argentine nests. When the incomplete nest is unguarded, other breeding birds such as the Great Egret (*Casmerodius albus*) and the Maguari Stork (*Ciconia* [= *Euxenura*] *maguari*) steal suitable sticks. I have also seen Jabirus steal nest material from the unoccupied nests of other waders. The center of the relatively flat Jabiru nest is lined with dry grass. One nest started on 8 August 1976 appeared to be completed by 5 October. Two out of the 11 nests I observed were reused successfully the following year. Reuse of the same nest was reported by Schomburgk (*in* Chubb 1916) and probably is more common when Jabirus nest in large trees. In the Venezuelan llanos, however, a new nest is made in the next breeding season because the palm usually dies after the first year.

Jabirus copulate on the nest and undoubtedly the concentration of their weight helps to compact and strengthen the nest material. The nest is large enough



FIGURE 1. Five Jabiru nestlings about two months old.

for the male, after copulation, to step off forward onto it over the female's head. One nest that blew down, almost intact, in April 1977, after the two young raised in it had departed three months earlier, was about 2 m wide by 1 m thick. Kahl (1971b) found nests in northern Argentina that were 1–1.5 m in diameter and 0.5–1 m thick.

Jabiru clutches of 2 to 3 eggs have been reported (Hagmann *in* Bent 1926) as have four eggs in two Argentine nests (Kahl 1971b). I was unable to see any clutches of eggs, but between 1972 and 1978 I found 10 nests with young. Two of these had single chicks, five nests had two chicks, two nests had three chicks and one nest contained four. On 21 October 1979 I found a nest with five nestlings about a month old (Fig. 1). Lloyd (*in* Bent 1926) reported "the usual number [of eggs] being four, but occasionally five are deposited." My observation confirms this report. This nest was in a palm not used by Jabirus in a previous year.

It is possible that more than one female laid some of the eggs. However, both before and after egg-laying, one mate or other, often both, stand on the nest all the time and a strange female would have difficulty gain-

ing access to it; thus I believe that a dump egg is unlikely. Furthermore, the five chicks appeared to be very similar in size. Only with careful observation from the canopy of a nearby tree could I differentiate, by the length of their bills, the youngest from the oldest. At the time of the photograph, the nest was still large enough to accommodate the five young and both parents at the same time.

At this nest the male, judged from its larger size and longer, deeper bill, brought food while the female remained on the nest. The nestlings, whose weight I estimated to be 1.5–2 kg each when first found, could stand but they spent most of the day lying down sleeping or sitting on their tarsi with their bills toward the center of the nest. Several chicks stretched or exercised their wings from the tarsal position with a minimum of disturbance to their nestmates.

These five young Jabirus remained together on their nest until 23 November when one flew off prematurely and could not be found during subsequent searches. The remaining four fledged by 4 December (*vide* Bob Brooks).

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