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Mississippi Kites fledge three.—For 12 years Mississippi Kites have been coming to an area along the Rio Grande just west of El Paso, Texas. This is the most western extension of their range thus far reported. We have found a few nests, one of which in 1967 housed a brood of three, a rare occurrence. I can find no published report of another such nesting in Texas. Bent (U. S. Natl. Mus., Bull. 167, 1937) states that G. W. Stevens found but three sets of three eggs in 500 nests in Oklahoma, and that George M. Sutton found no set of three in 40 nests examined.

The El Paso nest was built in a cottonwood, one of a row standing at the edge of a cottonfield near Canutillo, Texas. Gertrude Rose and Ruby Allen watched an adult feeding a fledgling 26 and 30 July on a bough 30 feet above the road. Two fledglings were being fed there 5 and 6 August when Mrs. Rose, Mary Belle Keefer, and others visited the spot. A third young was heard calling within the tree somewhere, but it remained invisible. Glimpses of it and of a part of the nest were obtained 7 and 8 August when Miss Keefer, Lena McBee, and others took turns watching from a vantage point out in the field. The whitish downy-headed nestling rose on wobbly legs to be fed, then disappeared behind concealing mistletoe. Allen and McBee watched from the field 9 August and obtained a full view of the bird, which had left the nest and was settled upon a bough just above it. At intervals a parent kite appeared, circling high. Gradually the circle of flight was narrowed and its plane tilted until contact was made with the crying young. Throughout these observations watchers from the road kept the older two fledglings in view. Until 9 April they were found in the nest tree, usually near each other, but on this last day of our visits they were in a neighboring tree, still above the road. They received food from both parents, who usually approached them through the row of trees. They were fed mostly large and small insects, but once the older one received a tiny frog, which it dropped after trying unsuccessfully to tear the skin. The desiccated front half of a large frog was lying at the edge of the road.—LENA G. MCBEE, 2002 Westridge Road, Carlsbad, New Mexico 88220.

Dual calling by birds of paradise.—A recent article by Diamond and Terborgh (Auk, 85: 62-82, 1968) reports a number of cases of dual singing by New Guinea birds, but mentions no instance of its occurrence in the family Paradisaeidae. Therefore my observations of it in the Greater Bird of Paradise (*Paradisaea apoda*) may be of interest.

In 1909 W. Ingram (Avicult. Mag., 3: 142, 1911) introduced 48 *Paradisaea apoda apoda* to Little Tobago, a 280-acre island in the southern West Indies. This subspecies, native to the Aru Islands off the coast of New Guinea, has survived on Little Tobago in small numbers to the present day. While studying this population from September 1965 to July 1966, I noted dual calling between male birds on 36 occasions. As I know of no records of dual calling by New Guinea populations of this species, it could be an artifact of the Little Tobago population's isolation. I have no tape

recordings of the calls, and all descriptions are based on field notes. Gilliard's mention of "synchronized calls" by birds in this population (Nat. Geogr. Mag., 114: 433, 1958) apparently refers to the rapid series of calls that males give while displaying rather than the dual calling I heard.

The basic call note of *apoda* is a deep, loud "wauk" or "wonk." One common calling pattern consists of five "wauk" notes: one low note, three higher and louder notes, and a final note "flatted off" from the preceding three. Diagrammatically $\text{---} \text{---} \text{---} \text{---} \text{---}$, it has been called the "up-3-down" call. The first and fifth notes are held longer than the other three and there is a slight pause before the final note. One male often gave two terminal notes. The whole call lasts about 5 seconds. This series is often preceded by a preliminary series of low, slowly given "wauk" notes with a slight pause before the up-3-down call.

Duetting by *apoda* is of the third type described by Diamond and Terborgh (op. cit.: 62). In this case two males give the up-3-down call in unison. Normally one male gives the low preliminary "wauk" notes, pauses slightly, and then the second bird joins in for part or all of the up-3-down call. I heard numerous variations, but no one duetting pattern more consistently than any other. Thus one bird might give the preliminary "wauk" notes, then stop and the second bird would give the up-3-down call in perfect phase as in the delivery by a single bird. Other times one bird gives the preliminaries and both give the up-3-down call together, sometimes in phase and other times just out of phase so that one bird's notes sound like echoes of the other's. Sometimes one bird starts the up-3-down call, a second joins him midway in the call and finishes the call in perfect tempo with the first, or the first bird stops and the second finishes the call. The preliminary notes are often given without a second bird joining in.

The preliminary notes seem to synchronize the birds' calls, for they are always given by one bird and then, after a short but consistent interval, followed by the up-3-down call. Thus supposedly a second bird could time this interval and join in exactly at the appropriate moment.

Although it occurred intermittently throughout the day, duetting was heard most often from 06:00 to 08:00 and again from 15:00 to 17:00, and seemed to be correlated with considerable movement by the birds. Duets were heard most often from late December through March, the period during which *apoda* was most active at its display areas, but they did not seem to be a part of the bird's courtship display, although displays followed duets on a few occasions.

Most if not all of the duets that I heard involved two recognizable males. The well established and regularly used calling perches and display courts of these two birds were 46 m apart. Although the vegetation was thick, from other observations I think that the two could often see each other when each was at his perch, but visual contact may have been cut off occasionally. These display areas had been occupied for several years, perhaps by the same two males. Thus it seems likely that in this species, in which the males have an extended period of displaying but form no permanent pair bonds with females, dual calling may have developed as a means of individual recognition between males on adjacent display areas. This has added importance because the males do display communally, especially when females are present.

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