

Acknowledgements

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Address: Peter G. Ryan, Percy FitzPatrick Institute of African Ornithology, University of Cape Town, Rondebosch 7700, South Africa.

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Migration of the Mississippi Kite *Ictinia mississippiensis* in Bolivia, with comments on *I. plumbea*

by Susan E. Davis

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The Mississippi Kite *Ictinia mississippiensis* breeds in the central and southern United States (Palmer 1988) and, from the few data available, appears to migrate through Middle America and winter in central South America. However, detailed observations of this species during the non-breeding season until now have been nonexistent. Specimens of *I.*

mississippiensis have been taken in October in Guatemala (Parker 1977), Costa Rica (Slud 1964) and Colombia (Torres *in* Hilty & Brown); and migrants have been observed rarely in Mexico (April, May—Sutton & Burleigh 1940, Loetscher 1955), Costa Rica (September—Slud 1964), Panama (March, April, October—Ridgely 1976), Colombia (November—Hilty & Brown 1986), and Peru (October—Terborgh *et al.* 1984). On 11 November 1986, a Mississippi Kite banded in Texas was recovered at San Miguel de Velasco, Dpto. Santa Cruz, Bolivia (specimen not available) (Shaw & Maxwell 1988). The presence of *I. mississippiensis* in central South America during the boreal winter is documented by only a few specimens collected in December and February in Paraguay (Blake 1949) and in January in northern Argentina (Eisenmann 1963, Olrog 1979).

I made the following observations of *I. mississippiensis* during 2½ years (May 1985–November 1987) of ornithological fieldwork in eastern lowland Bolivia (vicinity of Concepción, Dpto. Santa Cruz, 16°08'S, 62°02'W), an area that is a mosaic of semi-deciduous forest, wooded savanna (*cerrado*) and savanna wetland on the western edge of the Brazilian Shield (altitude 400–600 m).

I. mississippiensis arrives in Concepción at about the same time as the Plumbeous Kite *Ictinia plumbea*. Although breeding pairs of *I. plumbea* were observed in the area from September to January, it appears that migrating *I. plumbea* were also present. *I. plumbea* breeding in Middle America (March–May) also migrate south in September/October, and presumably winter in South America (Eisenmann 1963, Binford 1989). Dates of first arrival of one or the other of these *Ictinia* spp. were 7 September 1985 and 25 August 1986; but because of their close resemblance and because both spend most of the day soaring high above land, identification was difficult. In the field, adult *I. mississippiensis* were distinguished from *I. plumbea* by a pale grey patch on the upper surface of the wing, the lack of a rufous patch on the primaries, and the lack of banding on the underside of the tail (Meyer de Schauensee 1970). Juveniles could not be distinguished in the field because either species may lack the rufous wing patch.

I. mississippiensis probably arrived after *I. plumbea*. The earliest positive identification of *I. mississippiensis* in 1985 was on 18 September and in 1986 on 31 September; on these dates flocks of 3–15 kites were seen circling over savanna. Within 2–4 weeks of the first arrival of *Ictinia* spp., the number of birds per flock increased to 300–500, whereas at what appeared to be the peak of *Ictinia* migration (early October 1985 and early November 1986), flock size averaged 1000–1500, and numerous kettles containing both species of kites were observed flying south over Concepción. *I. mississippiensis* was present from 18 September to mid-November 1985 and from 31 September to 25 November 1986.

Data for 1987 are incomplete because I was absent periodically from the study area. Arrival of *Ictinia* spp. in 1987 was later than in the previous years; by early October 1987, no *Ictinia* spp. had been observed. In mid-October 1987, flocks of 10–30 *I. plumbea* were seen foraging over savanna near San Ignacio and San Jose de Chiquitos, 150 km east and 200 km southeast respectively of Concepción. *I. mississippiensis* was seen in the

Concepción area 25–31 October 1987, at which time kettles of 300–500 kites of both species were observed migrating south over the town. No observations were made after 31 October 1987, when I left the study area.

Migrating *I. mississippiensis* roosted in semi-deciduous forest islands and gallery forest associated with small rivers running through savanna. In the early morning (06.00–08.00 hrs), they foraged from tree tops in wooded savanna near their roost sites; they swooped and darted amongst the trees to catch insects, then returned to a tree top perch to eat. *I. mississippiensis* emitted a 2-note call while perched or flying; the second note was tremulous, and lower and louder than the first. By 08.30 hrs, when air temperatures had increased sufficiently to sustain soaring flight, all kites had abandoned their perches and usually did not return to the trees until late afternoon. Exceptionally, on 2 November 1986, a mixed flock of several thousand *Ictinia* spp. was observed in trees in a savanna at 13.30 hrs. This flock was extremely restless, and the birds repeatedly took flight, only to return to the trees; by 14.00 hrs they had formed a kettle and moved south at a high altitude.

Both *Ictinia* species frequently foraged in the same flock. Feeding activity was observed throughout the day but was most intense in the morning. The kites foraged while circling in loose flocks, chasing large insects with acrobatic manoeuvres on the wing. From a soaring position high up, a kite would suddenly stoop at a flying insect, sometimes with a quarter barrel-roll as it plummeted; then the bird would turn its body sideways, thrust its legs out to catch the prey with its talons, and swoop upwards with flapping wings until it reached a height suitable for soaring. The birds fed on the captured insects while soaring by repeatedly bringing forward the foot holding the catch. I observed both *Ictinia* species catch cicadas; 4 stomach contents of *I. mississippiensis* consisted mainly of parts of leaf-cutter ants (*Atta* sp.) in the alate reproductive stage. The arrival of the kites in Concepción coincided with the emergences of these insects, which are triggered by the onset of the rainy season.

I. mississippiensis did not appear to stop in the area of Concepción during the return northerly migration. On one occasion (18 March 1986) a kettle of c.200 kites was seen moving northward at an extremely high altitude, but species identification was not possible.

In recent years, flocks of *Ictinia* spp. also have been observed from January–March and from July–September over Parque Nacional Amboro at the foothills of the Andes, 200 km southwest of Concepción (R. Clarke). These kites were identified as *I. plumbea* but *I. mississippiensis* also may have been present.

I collected 4 specimens of *I. mississippiensis* in Concepción (the first for Bolivia); these are housed at the Field Museum of Natural History, Chicago: FMNH 334914, 22 October 1986–♀, ovary 12.0 × 6.0 mm, largest ovum 0.5 mm, oviduct 55 mm and convoluted, wt 285 g, skull 40% ossified, light fat; FMNH 334915, 25 October 1986–♂, left testis 5.0 × 2.5 mm, right testis 6.0 × 3.0 mm, wt. 295 g, skull 100% ossified, moderate fat; FMNH 334916, 25 October 1986–♂, testes 5.0 × 2.5 mm, wt. 240 g, skull 100% ossified, light fat; skeletal specimen FMNH 334917, 25 October 1987–♂, left testis 7.0 × 2.0 mm, right testis 7.0 × 3.0 mm, wt. 240 g, skull 90% ossified, light fat. All specimens were

in adult plumage, with moderate body moult and moulting primaries; all 4 stomachs contained insect parts (see back).

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Address: Susan E. Davis, Dept of Animal Ecology, Iowa State University, Ames, IA 50011, USA.

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Notes on some birds of northeastern Brazil (4)

by Dante Martins Teixeira, Jorge B. Nacinovic &
Giovannini Luigi

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This report follows Teixeira *et al.* 1986–88, and 1988, and records some of the results obtained by the Ornithological Section of Museu Nacional during the expeditions to northeastern Brazil of the last few years. Specimens in the Museu Nacional ornithological collection are referred to by the initials MN plus the respective catalogue number. English names and



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