

## The status of Mississippi Kite *Ictinia mississippiensis* in Brazil, including further documented records for the country

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Resumimos inéditas observações de campo recentes de *Ictinia mississippiensis* no Brasil para os estados de Mato Grosso, Mato Grosso do Sul, Pará e Rondônia. Esses registros acrescentam relevante informação ao conhecimento insuficiente da migração e hábitos de invernagem da espécie na América do Sul. Fotografias obtidas em Mato Grosso do Sul representam a segunda evidência da presença de *I. mississippiensis* no Brasil. As observações de bandos de *I. mississippiensis* em outubro e novembro no sudoeste do Brasil sugerem que essa região talvez seja um possível importante corredor de migração, e também uma importante área de alimentação dessa espécie durante a migração de outono; posteriormente, eles rumam para o sul onde passam o inverno em áreas pouco conhecidas. Indivíduos de *I. mississippiensis* também foram notados numa ativa muda de penas (faltando primárias e secundárias) em outono durante esta migração no sudoeste do Brasil. Nós também incluímos dados da segunda, terceira e quarta ocorrências de *I. mississippiensis* durante o inverno no Brasil (dois em Mato Grosso e uma em Pará). Essas observações de janeiro sugerem que alguns *I. mississippiensis* passam o inverno também no Brasil. Concluímos que *I. mississippiensis* tem sido previamente despercebidos no Brasil, provavelmente devido a sua similaridade morfológica com o comum e bem espalhado *Ictinia plumbea*. Com esta divulgação nós gostaríamos de chamar a atenção para a possibilidade de encontrar *I. mississippiensis* no Brasil e ajudar a expandir o ainda pouco conhecimento sobre a migração deste gavião e outros migrantes Neotropicais.

Mississippi Kite *Ictinia mississippiensis* breeds in the central and southern USA<sup>16</sup>, and is a long-distance Neotropical migrant to South America, where its migration routes and the extent of its winter range are poorly understood<sup>3,6,9</sup>. Recently, however, eastern Bolivia has been confirmed to be the major flyway within South America, with multiple autumn counts of several thousand individuals<sup>5,6,13,14</sup>. The autumn 2001 census at Concepción, Bolivia, recorded a staggering total of 118,153<sup>14</sup>, of an estimated minimum global population of 274,000<sup>3</sup>, thereby supporting the claim by Zalles & Bildstein<sup>23</sup> that Bolivia forms part of the major migratory route of the species within South America. Published records from most South American countries are few, and are summarised below.

**Argentina.** At Fuerto Esperanza, 135 km north-west of Castelli (extreme north-western prov. Chaco), on 20 February 2002 at 14h00, a massive and densely packed flock of at least 10,000 kites was observed<sup>2</sup>. The flock was low, just 80–100 m overhead and was estimated to be 70 m wide by 400 m long, i.e. c.40 kites 'wide' and 250 'long'. Birds were without doubt on northbound migration. Records from Jujuy, Misiones, Formosa, Chaco, Córdoba and Santa Fé provinces are also available<sup>12</sup>. A. Bodrati (pers. comm.) reports large flocks, observed by F. Moschione and H. Povedano, in dry *chaco* in the north-west of the country, whereas the

species is judged uncommon in humid *chaco*. The most southerly record is from prov. Chaco, in Parque Nacional Chaco, where a pair was observed in the same area each year in 1997–99, between November and 4 March. Overall, the species is considered accidental in prov. Chaco, with one specimen from Mocoví, in January 1904<sup>4</sup>.

**Colombia.** Hilty & Brown<sup>10</sup> listed the following records: a flock of c.30 (one of which was collected), on 17 October 1972, 30 km north-west of Bogotá; and a flock of c.200 in November near Barranquilla.

**Ecuador.** Considered a casual transient<sup>17</sup> with only one April record of three birds from western Napo. Subsequently, four were observed by D. Becker (*Cotinga* 26: 95); at Loma Alta, Guayas, on the unusual date of 31 December 2005.

**Paraguay.** Considered an uncommon migrant<sup>8</sup> and rare winter visitor, with specimen records from Colonia Nueva Italia, dpto. Central, and Lichtenau, dpto. Presidente Hayes, between 14 December and 26 February. The following sight records are also available: five at Choré, dpto. San Pedro, on 1 October 1987; one with three Plumbeous Kites *Ictinia plumbea* along the Ruta Trans Chaco, at Río Negro, dpto. Presidente Hayes, on 16 October 1987; five at Cerro Acahay, dpto. Paraguari, on 24 March

1988; three at Puerto María Auxiliadora, dpto. Alto Paraguay, on 27 October 1988; three at Bahía Negra, on 28 October 1988; and 14 at Ayolas, dpto. Misiones, on 11 March 1989. Furthermore, E. Barnes (*in litt.* 2007) reported two flocks: one of c.75, mostly immatures, with 20–25 adults, on 13 November 2003, 45 km east of Santa Elena near Mbaracayú Forest Reserve; and another flock of 125+ adults and immatures along the highway between Lima and Guayabi, on 15 November 2003. Both flocks had several accompanying Plumbeous Kites. These areas largely comprise arable and pastoral land that was previously covered by Atlantic Forest. A. Bodrati (pers. comm.) has regularly encountered pairs or small flocks (max. eight) of Mississippi Kites in January to mid March in the *chaco* of central Paraguay.

**Venezuela.** There are no confirmed records for the country<sup>9</sup>. The only published report is of a lone adult observed, on 12 September 1999, in a migrating flock of c.50 *Ictinia plumbea* and c.80 Swallow-tailed Kites *Elanoides forficatus*, 20 km north of El Vigía, south-west Mérida<sup>18</sup>.

**Brazil.** Numerous references include Brazil within the range of Mississippi Kite<sup>1,7,5,19, 20</sup> without explanation or supporting data. However, the Comitê Brasileiro de Registros Ornitológicos (CBRO) has recently added the species to the primary list of Brazilian birds, based on a photograph of birds taken in the northern Pantanal, Mato Grosso, in October 2001. However, even the most recent edition of the checklist (2006) lists the species as a 'seasonal visitor from the northern hemisphere' whose status is 'presumed but not confirmed.'

Increased field work in Brazil has resulted in a spate of recent records since the first, of an adult, observed by J. Smith c.100 km north of Manaus, on the rio Negro, Anavilhanas archipelago, Amazonas, on 21 November 1985<sup>21</sup>. Recent published autumn records include: 200 at Poconé, Mato Grosso, on 17 October 1997 (H. Buck; *Cotinga* 13: 75); c.20 between Poconé and the rio Pixaim, Mato Grosso, on 12 October 1999, and 63 at Chapada dos Guimarães, on 14 October 1999, (P. O'Neill; *Cotinga* 14: 106). Three soaring adults at Várzea da Palma, Minas Gerais, on 10 January 2003 were apparently wintering<sup>11</sup>.

### Previously unpublished records from Brazil

We report here a number of previously unpublished records of Mississippi Kite for Brazil, from the states of Mato Grosso, Mato Grosso do Sul, Rondônia and Pará.

**Mato Grosso:** At 15h00 on 14 November 1996, AW noted a feeding congregation of Mississippi Kites over the town of Chapada dos Guimarães, Mato Grosso (15°26'S 55°46'W; 750 m). A warm, clear afternoon with little cloud cover and a light breeze permitted excellent studies for ten minutes through 10×40 binoculars in perfect light as the birds circled 50–250 m overhead. AW counted five separate groups of 40+, 12, 27, 2 and a lone bird, totalling 82+. They were identified as Mississippi Kites (as opposed to the expected Plumbeous Kite) on the basis of the following adult morphological characters: they lacked the distinct rufous primaries of *I. plumbea*, and instead had a pale, greyish upperwing panel; the undertail was solidly black, without any white barring; the birds had distinctly paler grey heads than Plumbeous Kite; they were proportionately longer tailed than *I. plumbea*, and often displayed a slight notch to the tail, which was frequently partially fanned in flight. Each of the groups drifted south-west over the town in the thermals and out of sight. AW estimated that 60–70% were adults and the rest immatures. Several adults were noted to be in primary and secondary moult, displaying large gaps in their flight-feathers. The same afternoon AW observed several small flocks of Plumbeous Kites soaring over nearby gallery forest. Subsequently, AW alerted BC and other observers in the region to more closely scrutinise all *Ictinia* flocks. This resulted in the following records from Mato Grosso.

**Chapada dos Guimarães:** BC observed 63 adults at 14h25 on 14 October 1999; 20+ adults at 13h40 on 17 October 2000; and 20+ adults on three consecutive days, on 14–16 October 2003. The only record of a mixed-species flock of *Ictinia* kites in Brazil was observed here on 15 September 2001, when E. Barnes (pers. comm.) reported a flock of 14 Plumbeous Kites with one adult and three immature Mississippi Kites.

**Poconé (16°19'S 56°38'W):** BC observed a flock of 20 adults at 11h20 on 12 October 1999; AW observed three soaring adults feeding at Pousada Pouso Alegre, km 33 of the Transpantaneira, on 15 January 2005, and F. F. de Oliveira (pers. comm.) reported five feeding adults in the same area on 23 January 2005, which were presumably overwintering. All records were on clear, sunny days with light winds.

**Serra das Araras (15°10'S 56°51'W; 275 m):** BC noted 20+ adults on 13 October 2000, and 20–30 between 09h25 and 11h55 on each of three consecutive days, on 8–10 October 2002. A flock of 80 adults was seen by C. Bushell (pers. comm.) at 06h00 on 2 October 2002. The kites were perched in the crowns of several trees and

vacated their roosting site in groups of 5–12 over a half-hour period.

Nossa Senhora de Livramento (15°45'S 56°20'W; 215 m): BC observed 80+ adults and immatures at 11h50 on 2 November 2000; 60+ at 14h00 on 18 November 2000; 50+ adults at 08h25 on 12 October 2001, with 40+ in the same area at 13h15 on 16 October 2001; and 40+ soaring adults at 07h45 on 10 October 2003.

Serra de Vincente: BC noted 25+ adults at 09h10 on 23 October 2003.

Rondonópolis: BC saw ten adults at 17h15 on 27 October 2003.

Cuiabá–Pedra Preta: on 24 October 2005, AW, KJZ and BC encountered multiple flocks of Mississippi Kites along the BR-163 and BR-364 between Cuiabá and Pedra Preta. The first, and largest concentration was encountered at 10h00, 166 km east of Cuiabá (16°07'S 54°51'W), where we found c.120 kites feeding on cicadas. The flock comprised mostly adults, with at least one juvenile and two or more subadults that were essentially adult in plumage, but with remnant tail-bands. KJZ obtained identifiable videotape of a couple of adults. Although the kites were feeding, they did not remain in the area long and all but a few stragglers had moved on within ten minutes of the time we stopped. Later that morning, just beyond Rondonópolis (228 km east of Cuiabá), we encountered another 40–50 kites, with four more 10 km later, and another 15–20 near Pedra Preta.

*Mato Grosso do Sul*: AW and KJZ observed a flock of Mississippi Kites on 17 October 2003, just north of Aquidauana (20°25'S 55°48'W). Several birds were spotted at 07h20 as they settled into the crowns of a few isolated trees in an open pasture, joining others that were already perched. The sun was behind us, offering perfect viewing conditions. They were observed through a 20–60× spotting scope and allowed approach to within 60 m before taking flight and landing in another grove of trees in an adjacent pasture. The flock contained 67 birds, just three of which were immatures. KJZ documented both adults and immatures on videotape, which represents the second physical evidence of the species for Brazil. Single-frame captures from that video illustrate both adult and immature Mississippi Kites, and will be archived at the Visual Resources for Ornithology, Philadelphia.

Characteristic field marks visible on perched adults included the distinctly paler grey (almost whitish) head, the pale whitish-grey secondaries and tertials, which appear as a pale band above the

folded primaries, and the proportionately longer tail (wingtips barely projecting beyond the tail tip). Adult Plumbeous Kites are more uniformly dark grey, lack the pale secondary band, and are shorter tailed (wingtips project further beyond the tail). Several adults were in wing moult, with missing primaries and secondaries. In flight, the contrasting whitish panel formed by the secondaries was particularly conspicuous, as was the all-black tail and the lack of bright rufous in the primaries. Immatures had a bold white supercilium, flaring at the rear and contrasting with the dark, streaked crown, and their underparts were boldly streaked brownish to chestnut-brown. Both adults and immatures had yellow legs.

When we returned to the same field at 11h45 only one adult kite remained, soaring c.50 m above the trees where the flock had been resting. Three small groups of Plumbeous Kites (totalling seven birds) were recorded during an 80-km drive along the road that morning.

*Rondonia*: There are only three reports from Amazonian Brazil, the first from Guajará-Mirim, along the rio Mamoré at Pakaas Palafitas Lodge, on 28 September 2003, when a flock of 100+ adults was seen 'kettling' at 07h30 by J. Davis and L. Comrack (pers. comm.).

*Pará*: The second Amazonian record was of 19 on active southbound migration over tall, partially logged forest, at Alter do Chão on 4 December 2005 (G. M. Kirwan & C. F. Collins pers. obs.). The birds were broadly following the line of the rio Tapajós. The third record was, interestingly from winter; a single, on 12 January 2006, at Tailândia<sup>15</sup>.

### Prey and feeding behaviour

In the breeding season, Mississippi Kites prey mostly on insects taken on the wing, with insects constituting an estimated 90% of their food. The remaining 10% comprise vertebrates, primarily amphibians, reptiles and small rodents or bats<sup>3</sup>. Insect prey include: cicadas (Homoptera), katydids and grasshoppers (Orthoptera), dragonflies (Odonata) and beetles (Coleoptera)<sup>3</sup>. At Chapada dos Guimarães, on 14 November 1996, AW observed kites stooping to catch flying insects by thrusting their legs forwards to catch them in their talons. Prey items were identified as dragonflies (Odonata) and large flying ants, which were consumed on the wing by the kites, either whole or by using their bills to remove the wings first. We observed kites using the same feeding behaviour, catching cicadas, between Cuiabá and Pedra Preta on 24 October 2005.

## Discussion

The great similarity of the Mississippi Kite to the more widespread and common (in South America) Plumbeous Kite has undoubtedly led to the former being overlooked in Brazil for so long. Summarising the available records, a clear peak is visible in autumn, between 28 September and 21 November, strongly suggesting that the species is primarily an autumn passage migrant. Most records are from the Pantanal and the Planalto Central region of south-west Brazil. However, the records of flocks from the Brazilian Amazon must not be overlooked, the flock of 100+ from Rondônia in late September, and 19 in early December and a single in mid January in Pará. We suspect that the lack of coverage, by experienced ornithologists, of the immense Amazonian basin has resulted in the under-recording of Mississippi Kites, particularly from the south-west of the basin during autumn passage. To better understand the migration routes of the species through Brazil, future field work should focus principally on Mato Grosso and Mato Grosso do Sul, but also Rondônia.

The three January records, involving small feeding flocks in Mato Grosso and Minas Gerais, and the single in Pará, confirm that Mississippi Kites do winter in Brazil, if perhaps only in small numbers. The record of three adults at Várzea de Palma, northern Minas Gerais, constitutes the easternmost record in Brazil and suggests that field ornithologists should be alert to the possible presence of Mississippi Kites in Goiás, Minas Gerais and even Bahia during the boreal winter. More field work is required to understand the temporal distribution of Mississippi Kite in Brazil, particularly the extent of overwintering, the nature and location of staging areas, and the identification of potential 'bottlenecks' important for a significant percentage of the species' global population. By documenting the long-overlooked phenomenon of Mississippi Kite migration within Brazil, we seek to alert others to the potential for expanding our knowledge of this species in particular, and other Neotropical migrants in general.

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