

Interesting bird records from the Araguaia River Valley, central Brazil, with comments on conservation, distribution and taxonomy

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SUMMARY.—We present new records that augment, confirm or document our knowledge of the avifauna of the Araguaia Valley in central Brazil, including various first records for the states of Goiás (e.g. Mississippi Kite *Ictinia mississippiensis*, Sanderling *Calidris alba*, Fasciated Antshrike *Cymbilaimus lineatus*, Bobolink *Dolichonyx oryzivorus*), Mato Grosso (Dwarf Tinamou *Taoniscus nanus*, Scarlet-throated Tanager *Compsothraupis loricata*), Pará (*C. loricata*) and Tocantins (e.g., Yellow-billed Cuckoo *Coccyzus americanus*, Pale-rumped Swift *Chaetura egregia*). We also report the first records for the state of Amazonas of Rusty-collared Seedeater *Sporophila collaris* and White-browed Blackbird *Sturnella superciliaris*. Other records improve our knowledge of the distribution of principally Amazonian species in the Cerrado biome or that of comparatively widespread species whose ranges have been consistently under-estimated in the standard literature on Neotropical birds, e.g., Whistling Heron *Syrigma sibilatrix* and Saffron Finch *Sicalis flaveola*. Our field work has also improved knowledge of the distribution and current status of certain Near Threatened (e.g., Chestnut-bellied Guan *Penelope ochrogaster* and Rufous-rumped Seedeater *Sporophila hypochroma*) and globally threatened species (e.g. two *Sporophila* seedeaters, and Kaempfer's Woodpecker *Celeus obrieni*). Additionally, we comment on the natural history and taxonomy of some poorly known species, e.g. Riverside Tyrant *Knipolegus orenocensis xinguensis* and Cone-billed Tanager *Conothraupis mesoleuca*.

The source of the rio Araguaia lies at the junction of the states of Goiás, Mato Grosso and Mato Grosso do Sul, in south-central Brazil, and the river then flows north for c.1,600 km to its confluence with the rio Tocantins, before discharging their joint waters into the rio Pará, the southern branch of the Amazon, very close to its mouth in the Atlantic Ocean. The valley of the Araguaia traverses the states of Goiás, Mato Grosso, Tocantins and Pará, and effectively marks the transition zone between two of Brazil's six major biomes, Amazonia and the Cerrado. Despite its interesting location for students of biogeography and ornithology, the Araguaia Valley has received far less attention from ornithologists than many other parts of eastern Brazil. It is beyond our remit here to provide any more than the briefest of remarks concerning the ornithological history of the region in question, but we would be remiss if we did not acknowledge the first naturalists to collect birds therein, namely Francis de Castelanu (who explored the Araguaia downstream to its confluence with the Tocantins), Auguste de Saint-Hilaire and, thereafter, the indefatigable Johann Natterer, who collected the otherwise completely unknown Hooded Seedeater *Sporophila melanops* in the upper Araguaia Valley in October 1823. We should also mention the pioneering work of G. A. Baer, who spent a considerable period during 1905–06 in Goiás, in particular the months of June to August 1906 at Leopoldina (= Aruanã) on the right (east) bank of the Araguaia, where he discovered a marked, and previously unrealised, Amazonian component to the avifauna (cf. Hellmayr 1908: 13–14). The process of identifying Amazonian elements in

the avifauna of the Cerrado continues until the present day. Thereafter, the contributions of two German ornithologists integral to the development of Brazilian ornithology must be mentioned. Emilie Snethlage collected in Goiás and what is now Tocantins, including the Ilha do Bananal in 1927, and Helmut Sick (together with José Hidasi), who specifically collected birds in Aragarças, Goiás, in 1946, 1952 and 1954 (Silva 1989) but was also generally one of the greatest ornithological explorers of the Cerrado and adjacent regions. One of the most substantial recent contributions on the avifauna of this region, that of Silva (1989), is unfortunately not widely available, although many of the same author's more detailed results were disseminated more accessibly (see, e.g., Silva 1995, 1996a,b, Silva & Oren 1992, 1997). The same lack of widespread availability to some extent blights the important contributions of Hidasi (1983, 1998, 2007) who also provided brief resumes of previous ornithological work in the states of Goiás and Tocantins. Within the last decade, contributions on the avifauna of various parts of this region have increased notably, many of which are mentioned within the context of the species accounts. In particular, the recently created state of Tocantins (1988), formerly the northern part of Goiás, has been subject to notable attention from field workers. Of particular import, we highlight the recent publication by Dornas & Pinheiro (2011) which examined the limits of the Amazonian biome within the latter state, based in large part on important but unpublished collections made in the 1950s, 1960s and 1980s.

The recently published second volume of the Brazilian Important Bird Areas (IBA) programme (De Luca *et al.* 2009) has highlighted the conservation import of the region covered here. Goiás and Tocantins possess 14 IBAs, four of which are shared with either Bahia, Maranhão, Mato Grosso do Sul or Pará, while another area in Mato Grosso (IBA 077) is also relevant to our discussion. Our field work covered parts of five of these 15 IBAs. Furthermore, Stattersfield *et al.* (1998) identified a secondary Endemic Bird Area (EBA) in the region, namely the Rio Araguaia (s031), delimited for the Bananal Antbird *Cercomacra ferdinandi*, to which list can be added an apparently new species of *Certhiaxis* spinetail, to be described by D. R. C. Buzzetti and AW, recognition of which would establish the area as a 'full' EBA. The ranges of five globally threatened birds encompass to some extent (sometimes wholly) the environs of the Araguaia Valley, as follows: Chestnut-bellied Guan *Penelope ochrogaster* (Vulnerable), Kaempfer's Woodpecker *Celeus obrieni* (Critically Endangered), Cock-tailed Tyrant *Alectrurus tricolor* (Vulnerable), Cone-billed Tanager *Conothraupis mesoleuca* (Critically Endangered) and Hooded Seedeater (Critically Endangered). Furthermore, Blue-eyed Ground Dove *Columbina cyanopsis* (Critically Endangered) should certainly be looked for there. It seems probable, based on our observations and those of other recent observers, e.g. T. Dornas, J. F. Pacheco and F. Olmos, that significant numbers of two other globally threatened species, Marsh *Sporophila palustris* (Endangered) and Chestnut Seedeaters *S. cinnamomea* (Vulnerable), which breed in the south-east of the continent, spend the austral winter in the region (Dornas *et al.* 2013). Furthermore, the Araguaia Valley also harbours important populations of several Near Threatened birds, among them Orinoco Goose *Neochen jubata*, Blue-winged Macaw *Primolius maracana*, Yellow-faced Parrot *Alipiopsitta xanthops* and Coal-crested Finch *Charitospiza eucosma*. Important concentrations of waterbirds (and migrants, e.g. Purple Martin *Progne subis*: Olmos & Pacheco 2008) are also known from parts of the Araguaia Valley, especially within the region of the Ilha do Bananal in south-west Tocantins.

Our field work in the Araguaia Valley was principally conducted within the context of searches for the long-lost Hooded Seedeater (by GMK) or during bird tours and related scouting trips to the region (AW & KJZ). Consequently, many localities were visited relatively briefly and their avifaunas subject to comparatively cursory investigation. Full

details of our work in search of Hooded Seedeater will be reported separately elsewhere (Areta *et al.* submitted).

Other observers and museum acronyms

Other observers are generally indicated by their initials, as follows: David Beadle (DB), Simon Colenutt (SC), Arthur Grosset (AG), Jeremy Minns (JM), Chris Parrish (CP), Jonathan Price (JP), William Price (WP) and Hadoram Shirihai (HS). Relevant specimens were examined or are referenced in the following institutions: Louisiana State University Museum of Zoology (LSUMZ), Museu Nacional do Rio de Janeiro (MNRJ), Museu de Ornitologia de Goiânia (MOG), Museu Paraense Emílio Goeldi, Belém (MPEG), Museu de Zoologia da Universidade de São Paulo (MZUSP) and the Natural History Museum, Tring (NHM). Records archived online at Wikiaves (www.wikiaves.com.br) are indicated by WA and their database number.

Species accounts

BRAZILIAN TINAMOU *Crypturellus strigulosus*

The species' distinctive vocalisation was heard in tall forest c.5 km south of Senhor do Bonfim, Tocantins (08°67'S, 49°41'W), on 6 January 2009 (GMK, JP, WP). Pinto (1937) mentioned its occurrence as far east as Pará and south to northern Mato Grosso, e.g. at the rio Guaporé (11°54'S, 65°01'W). However, until recently, *C. strigulosus* does not appear to have been previously mentioned in the literature from the right bank of the Araguaia in Tocantins (see, e.g., Hidasi 1983, 1998, 2007, Sick 1997, Pinheiro & Dornas 2009a), despite the map in Davies (2002). Nonetheless, it was recorded in tall forest around Presidente Kennedy, in central Tocantins, by Raposo (2013), while E. Sneathlage collected a female at Furo de Pedra (c.10°28'S, 50°23'W), in the Ilha do Bananal, on 15 September 1927 (MNRJ 4486), and there is also a female specimen from Barra do Garças (15°53'S, 52°15'W), Mato Grosso, at the border with Goiás, taken on 25 June 1973 (MNRJ 33231) by O. Junqueira.

DWARF TINAMOU *Taoniscus nanus*

One singing in rather degraded *campo sujo* near Araguainha, in extreme eastern Mato Grosso (17°13'S, 53°19'W), on 25 December 2008 (GMK, JP, WP). This globally threatened Brazilian endemic, which is currently categorised as Vulnerable, is known from a relatively small number of localities in Minas Gerais, the Distrito Federal, Goiás, Mato Grosso do Sul, São Paulo and, at least formerly, Paraná (Collar *et al.* 1992, BirdLife International 2008). It was also found at two localities in the Jalapão region of eastern Tocantins recently (Pacheco & Olmos 2010). This is the first record from Mato Grosso, albeit from a locality only just inside the state.

CHESTNUT-BELLIED GUAN *Penelope ochrogaster*

Considered globally Vulnerable and endemic to Brazil (BirdLife International 2008). Recorded on all seven visits to Caseara, Tocantins (09°24'S, 49°96'W), in small numbers, where it is common in Parque Estadual do Cantão (Pinheiro & Dornas 2009a) and has been found at nearby Santana do Araguaia (Olmos 2003). The species is present in both recently declared Important Bird Areas in this region (De Luca *et al.* 2009). In addition, singles and pairs were seen in gallery forest along the rio das Mortes, near Novo Santo Antônio, Mato Grosso, on 5–6 May 2004 (AW), two were at the Reserva Ecológica da Serra Azul (15°05'S, 52°16'W), just west-northwest of Barra do Garças, in easternmost Mato Grosso, on the left

bank of the rio Araguaia, on 26 December 2008, and two were at the rio Caiapó (09°12'S, 49°74'W), between Caseara and Araguacema, Tocantins, on 3 January 2009 (GMK, JP, WP). Other sightings involved one at Montes Claros de Goiás, Goiás, on 2 July 2010, with six in seasonally flooded forest beside the rio Araguaia, in Mato Grosso, opposite Britânia, Goiás (14°97'S, 51°31'W), on 5 July 2010 (GMK, WP). The status of this Brazilian endemic cracid, which is currently considered Vulnerable, was reviewed by Olmos (2003), del Hoyo & Motis (2004) and BirdLife International (2008). Our Mato Grosso records are the first to be published from this part of the state (where it is otherwise known only from the northern Pantanal, in southern Mato Grosso) and we also confirmed that the species persists in west-central Goiás, from where there were no published records since 1933 (del Hoyo & Motis 2004). B. W. Davis has recorded this species at Pousada Kuryala (11°48'S, 50°42'W), 14 km north of São Félix do Araguaia, also just inside Mato Grosso but even further north, suggesting that the species' range is far more extensive and much less disjunct in the Araguaia Valley than previously suspected. Nonetheless, care is needed in identifying smaller cracids in this region, as Rusty-margined Guan *P. superciliaris jacupemba* is also present, e.g. four were seen and heard in dry forest just north of Registro do Araguaia, Goiás, on 3 July 2010 (GMK, WP). The January 2009 record is the northernmost to be published, following a specimen from Araguatins (05°38'S, 48°07'W) (Dornas & Pinheiro 2011), although the range extension from the Parque Estadual do Cantão, just south-west of Caseara, is only c.40 km, and a possible record was published by Lopes & Braz (2007) from the rio Sono (09°09'S, 47°59'W), near Pedro Afonso, in central Tocantins, at an almost identical latitude. Furthermore, there is a specimen in the Museu de História Natural Taubaté (no. 2836) also from the rio Caiapó, collected by H. Alvarenga in 1989, and considered by Sick (1997) and its collector to represent *P. pileata*, although its coloration is apparently more typical of the present species (M. A. Crozariol *in litt.* 2014). There are also probable records from Wanderlândia and Santa Fé do Araguaia (SEPLAN 2005 *in* Pinheiro & Dornas 2009a; T. Dornas *in litt.* 2015). Additional records exist from elsewhere in central (Pinheiro & Dornas 2009a) and in eastern Tocantins (Pacheco & Olmos 2006, 2010); the species is locally common in the valley of the rio Paranã, in the south-east of the state, and overlaps with White-browed Guan *P. jacucaca* in the Jalapão region. As noted by all other modern commentators, there are no records from the Pirapora region of north-central Minas Gerais since 1913, when collected by E. Garbe (Pinto 1937), and given the degree of recent ornithological work in this region (*cf.*, for instance, Raposo *et al.* 2002, Kirwan *et al.* 2004, Vasconcelos *et al.* 2006) it appears that the species has genuinely disappeared from there.

WHITE-CRESTED GUAN *Penelope pileata*

Range generally stated to encompass a relatively small area of eastern Amazonia south of the Amazon, from the lower rio Madeira, in Amazonas state, as far as the lower rio Tapajós, i.e. principally within the state of Pará (del Hoyo & Motis 2004). The species was not listed for Tocantins by Hidasi (1998). However, Buzzetti (2004) registered it in Parque Estadual do Cantão, prior to the park's delimitation, from where we have records on 20 August 2004 (one; AW) and 9 January 2013 (three; GMK, HS), and the species is considered uncommon within the nearby gallery forests of the rio do Coco and its tributaries (De Luca *et al.* 2009, Pinheiro & Dornas 2009a); see also the previous species. White-crested Guan has also recently been recorded at fewer than a handful of localities in Maranhão (F. Olmos & J. F. Pacheco *in* BirdLife International 2008). A group of four was observed and photographed at Rancho Isadora (10°49'S, 49°71'W), just east of Lagoa da Confusão, Tocantins, on 13 July 2010 (GMK, WP; Fig. 1), extending the range of the Near Threatened *P. pileata* fractionally further south.

WHISTLING HERON *Syrigma sibilatrix*

Hidasi (1998) did not list this open-country heron for the state of Tocantins. Subsequently, however, Pacheco & Olmos (2010) amply demonstrated how this species' range through central Brazil has been expanding in recent years, and how some authors have consistently under-estimated its distribution in this region (the map in Kushlan & Hancock 2005: 211 is a classic example). Furthermore, Pereira *et al.* (2008) presented the first record for Pernambuco and J. F. Pacheco (*in litt.* 2014) & F. Olmos observed the species in southern Maranhão in September 2006. We can add that the species is reasonably common, in the large amount of suitable habitat available, throughout all areas of the Araguaia Valley that we have surveyed, from Emas National Park (18°45'S, 52°45'W) in the south, to Barreira do Campos, Pará, in the north, and including all four states, namely, Goiás, Mato Grosso, Pará and Tocantins.

LITTLE BLUE HERON *Egretta caerulea*

With the exception of the Pantanal population and very small numbers (both adults and young birds) along the Amazon and its main tributaries (AW pers. obs.), *E. caerulea* is of almost exclusively coastal distribution in Brazil (Sick 1997, Kushlan & Hancock 2005). There is perhaps just one previous record in Tocantins (Hidasi 1998 did not mention the species for the state): Pinheiro & Dornas (2009a) reported an adult (dark morph) in January 2006 within the Parque Estadual do Cantão, at the confluence of the rios do Coco and Araguaia (T. Dornas *in litt.* 2015). A dark-morph adult was observed for several minutes at c.200 m range through a telescope in a pool beside the rio Formoso, west of Lagoa da Confusão, Tocantins, on 13 July 2010 (GMK, WP).

ZIGZAG HERON *Zebrilus undulatus*

Recorded at three localities in the northern Araguaia Valley, namely between Caseara and the rio Araguaia, Tocantins, on 22 and 25 August 2002 (AW, KJZ; tape-recorded) and 19 August 2004 (AW); just east of Santa Maria das Barreiras, Pará (08°81'S, 49°61'W), on 5 January 2009 (GMK, JP, WP); and at Rancho Isadora, west of Lagoa da Confusão, Tocantins, on 13 July 2010 (GMK, WP). All three sites are in reasonably close proximity to the Parque Estadual do Cantão and Área de Proteção Ambiental Ilha do Bananal, and *Zebrilus* was photographed in the former area in October 2011 (A. F. Barbosa; WA462977). The only previous records for Tocantins appear to be two specimens from Araguatins and one from Couto de Magalhães (Dornas & Pinheiro 2011), with the result that the species has frequently been omitted from the avifauna of the state (Sick 1997, Hidasi 1998, Kushlan & Hancock 2005).

LONG-WINGED HARRIER *Circus buffoni*

Pale-morph adult males were observed over *cerrado* at Barreira do Campo, south-east Pará (09°22'S, 49°99'W), on 12 September 2004 (GMK *et al.*) and 8 January 2013 (GMK, HS), and another similarly plumaged bird was seen in heavily modified *cerrado* between Lagoa da Confusão and Barreira da Cruz, Tocantins, on 19 November 2011 (GMK *et al.*), from where there is also an earlier record of one, on 4 July 2003 (J. F. Pacheco *in litt.* 2014). The latter two dates seem unusual for this austral migrant (*cf.*, also, Kirwan & Shirihai 2008). Although far from the northernmost available Brazilian records (in Amapá, and at Santarém and on the Ilha do Marajó, Pará: Hellmayr & Conover 1949, Sick 1997), there are relatively few reports of this austral migrant further north than Goiás (for which state it is not even listed by Hidasi 2007), despite that it perhaps breeds in Emas National Park (AW pers obs.). Pinheiro & Dornas (2009a) considered it an extremely rare visitor to the Parque Estadual do Cantão,

Tocantins, where a single was seen on 21 August 2004 (AW), but we have been unable to locate other records in the state and Hidasi (1998) did not mention *C. buffoni* for Tocantins.

MISSISSIPPI KITE *Ictinia mississippiensis*

The first record for Goiás involved three (two adults and an immature) apparently on migration, moving south low over Emas National Park (18°45'S, 52°45'W) on 7 November 2007 (AW). Whittaker *et al.* (2008) reviewed status in Brazil, demonstrating that the species is much commoner on migration through the country than previously thought, principally via the Pantanal region (see, also, Vasconcelos *et al.* 2008), and listed several winter records, all of them recent.

RED-THROATED CARACARA *Ibycter americanus*

Not listed for Goiás by Hidasi (2007), despite that Hellmayr (1908: 89) and Pinto (1936, 1937: 87) already mentioned a total of four specimens from the west-centre of the state, two males from the rio Thesouras (= Tesouras; 14°36'S, 50°51'W) and a male and female from the rio das Almas (14°35'S, 49°02'W), respectively, with four photographic records from northern Goiás (www.wikiaves.com.br). Authors of more general works also map *I. americanus* for the state (e.g. Bierregaard 1994, Ferguson-Lees & Christie 2001). Given the general lack of specific dated records that have been published we mention the observation of three individuals just north of Aragarças, Goiás (15°55'S, 52°15'W), on 4 July 2010 (GMK, WP).

GREY-BREASTED CRAKE *Laterallus exilis*

One observed feeding in wet grassland at Caseara, Tocantins, on 20 August 2004 (CP, AW). Species easily overlooked. Listed for the Parque Estadual do Cantão, Tocantins, by Buzzetti (2004), but not recorded in this region by others (Pinheiro & Dornas 2009a) and not mapped for Tocantins by general works (e.g., Taylor & van Perlo 1998, Gwynne *et al.* 2010).

SANDERLING *Calidris alba*

We report the first record for Goiás, a juvenile at Chapadão do Céu, just east of Emas National Park, on 6 November 2007 (AW), foraging on a small man-made pit at the edge of the town. The previous night a large storm had apparently disoriented several hundreds of *Dendrocygna* whistling ducks, which had been flying around calling for hours, and which were also present at isolated ponds around the town next morning. This remarkable occurrence has few precedents in South America: Ridgely & Greenfield (2001) mentioned two inland records from the río Napo drainage in Ecuador, while Hilty & Brown (1986) noted rare inland occurrences in Colombia (e.g. in the Cauca Valley) and one was also recently recorded in southern Mato Grosso, in September 2013: G. Homel *et al.* in Kirwan *et al.* 2014a). Sick (1997) mentioned only coastal records in Brazil.

GOLDEN-COLLARED MACAW *Primolius auricollis*

Range in Brazil grossly under-represented by most handbooks and field guides (e.g. Collar 1997, Sick 1997, Juniper & Parr 1998), wherein the species is usually considered to be restricted to the environs of the Pantanal of Mato Grosso. In fact, Golden-collared Macaw is reasonably widespread through the Araguaia Valley at least as far north as south-east Pará and central-west Tocantins, although there are very few published records from this region, other than from Parque Estadual do Cantão, Tocantins (where it is reasonably common: Buzzetti 2004, Pinheiro & Dornas 2009a; AW, KJZ pers. obs.). However, it should be remarked that Hidasi (1998) mapped the species for south-west Tocantins, and it has been recorded at Presidente Kennedy in the centre of the state (Raposo 2013), although the

provenance of these birds requires confirmation. We have observations (some documented with photographs) of *P. auricollis* from the following localities: Araguiana, Mato Grosso (<10 on 29 December 2008: GMK, JP, WP), between São Miguel do Araguaia and Luís Alves, Goiás (40 on 9 July 2010: GMK, WP), Rancho Isadora, west of Lagoa da Confusão, Tocantins (10°49'S, 49°71'W: max. 11 on 12 July 2010: GMK, WP), and Barreira do Campo, Pará (max. 19 on 12 September 2004: GMK *et al.*). Elsewhere, in the same general region, *auricollis* was fairly common (small flocks seen daily) along the rio das Mortes, near Novo Santo Antônio, Mato Grosso, on 4–7 May 2004 (AW).

HELLMAYR'S (SANTARÉM) PARAKEET *Pyrrhura amazonum microtera*

Globally threatened (Endangered) species considered endemic to east Amazonian Brazil (*vide* Joseph 2002) but the taxonomy of Amazonian *Pyrrhura* almost certainly requires additional elucidation (*pers. obs.*). Three perched at the edge of a large anthropogenic clearing within tall forest c.5 km south of Senhor do Bonfim, Tocantins (08°67'S, 49°41'W), on 6 January 2009 (photographed; GMK, JP, WP). This is the second specific published locality for the state: *P. picta* was mapped for the northernmost part of Tocantins by Hidasi (1998) based on 14 specimens collected in Araguatins (Dornas & Pinheiro 2011) and there are records from five other localities in the north of the state available at www.wikiaves.com.br. *P. amazonum* was not listed for the Parque Estadual do Cantão (Buzzetti 2004, Pinheiro & Dornas 2009a) and no specimens of this recently recognised species were listed from the right bank of the Araguaia, or from any nearer than São João do Araguaia, Pará (05°23'S, 48°46'W) by Joseph (2002). West of the rio Xingu, this taxon was reported to reach as far south as the rio Teles Pires in northern Mato Grosso, although considerable confusion exists as to how many or which taxa within the *P. picta* group are present in the latter region, given that birds apparently corresponding to Madeira Parakeet *P. snethlageae* have also been photographed there (see *Cotinga* 20: 62). The latter were described as a new subspecies, *P. snethlageae lucida* by Arndt (2008).

SCARLET-SHOULDERED PARROTLET *Touit huetii*

A group of four flew high (c.30 m) overhead vocalising just north of Caseara, Tocantins, in the early morning of 1 January 2009 (GMK); they had presumably recently left a roost, and they appeared to continue across the rio Araguaia into Pará. The closest records appear to be from Marabá, Pará (Sick 1997), the Serra dos Carajás in the same state (Pacheco *et al.* 2007), and Araguatins, Tocantins, from where a total of seven specimens (taken in the 1960s) are available (Dornas & Pinheiro 2011). Their existence was not widely known previously, thus *T. huetii* was not mentioned for Tocantins by Collar (1997), Hidasi (1998), Juniper & Parr (1998) or Sick (1997), but there is a somewhat 'aberrant' record for northern Goiás mentioned in Juniper & Parr (1998). The latter (source unknown) is presumably indicative of the species' propensity to wander in the non-breeding season (Collar 1997, Juniper & Parr 1998) or might suggest that *T. huetii* is more generally nomadic across its range, rather than solely in upper Amazonia (Parker *et al.* 1991). In contrast, Hidasi (1983, 2007) does not mention this parrotlet for Goiás. More recently, T. Dornas (*in litt.* 2015) & S. M. Dantas observed the species in forest bordering the rio Araguaia near Pau Darco, north of Conceição do Araguaia, in November 2013. As noted by Whittaker & Oren (1999) and Whittaker (2009), this and other species of *Touit* parrotlets are easily overlooked or must remain unidentified by field workers unfamiliar with their generally distinctive vocalisations. Observing the diagnostic plumage characters of each species is often impossible given the views obtained during most encounters with members of this genus. In consequence, this species was scarcely known in Brazil until c.50 years ago (Sick 1957a).

YELLOW-FACED PARROT *Alipiopsitta xanthops*

We follow Caparroz & Pacheco (2006) in employing the genus *Alipiopsitta* for this species. Considered Near Threatened (BirdLife International 2008), the range of this Cerrado endemic encompasses the interior of Maranhão and Piauí south to Minas Gerais, western São Paulo (along the rio Paraná) and Mato Grosso do Sul, with two records from north-central Bolivia (Sick 1997, BirdLife International 2008). Over most parts of the Araguaia Valley surveyed by us it seems genuinely rare, especially away from Emas National Park, in south-west Goiás, where Yellow-faced Parrot remains relatively numerous (De Luca *et al.* 2009; GMK, AW, KJZ pers. obs.). In contrast, Pinheiro & Dornas (2009a) listed it as rare in the Área de Proteção Ambiental Ilha do Bananal, Tocantins, and in the same state the species is obviously not common in the Jalapão (Pacheco & Olmos 2010). In south-east Tocantins, Pacheco & Olmos (2006) found it to be most numerous only in the *cerrados* of the rio Palmeiras Valley, while in central Tocantins *A. xanthops* was recorded at two localities in the environs of Pedro Afonso (Lopes & Braz 2007) and at Presidente Kennedy (Raposo 2013). We have other records from the following localities: 18 at the rio Babilônia, 2 km west of Santa Rita do Araguaia, Goiás (17°34'S, 53°19'W), on 25 December 2008; 35, 10 km west of Aragarças, Goiás (15°91'S, 51°95'W), on 27 December 2008; two between Bom Jardim do Goiás and Baliza, Goiás (16°14'S, 52°32'W), on 28 December 2008; seven south of Registro do Araguaia, Goiás (15°88, 51°78'W), on 3 July 2010; one near Cangas, north of Aruanã, Goiás (14°55'S, 50°93'W), on 7 July 2010 (GMK, JP, WP); and small flocks, totalling *c.*30, in the Parque Estadual do Cantão, Tocantins, on 21 August 2004 (AW). No previous records from the last-named locality (Buzzetti 2004). Elsewhere, this parrot was fairly common in *cerrado* and *varjão* 8 km south of Novo Santo Antônio, Mato Grosso, on 4–7 May 2004, with max. 7 on 6 May, and pairs were very silent, perhaps suggesting they were breeding at the time (AW). It is worth mentioning that during rapid surveys, such as ours, smaller numbers of this species could easily be missed among the much commoner Turquoise-fronted *Amazona aestiva* and Orange-winged Amazons *A. amazonica*.

YELLOW-BILLED CUCKOO *Coccyzus americanus*

Not previously listed for the state of Tocantins (Hidasi 1998, Dornas 2009), although a photographic record was recently published from December 2010 (D. Rodello; WA 255397). One was well observed in bushy *cerrado* on the right bank of the Araguaia, just north of the town of Couto de Magalhães, on 4 November 2011, by four observers familiar with the species (GMK *et al.*). Extensive rufous in the primaries was clearly seen when the bird flew, eliminating the possibility of the similar Pearly-breasted Cuckoo *C. euleri*, a species familiar to the observers, and which is already recorded from the state. Subsequently, Raposo (2013) documented *C. americanus* around Presidente Kennedy, taking photos and a specimen.

WHITE-WINGED NIGHTJAR *Eleothreptus candicans*

A globally threatened species currently known from just four localities, with Emas National Park one of its strongholds. Unusual among Neotropical nightjars in being generally silent, its voice was first described by Cleere (1998) and Clay *et al.* (2000). In flight displays, males emit an unusual, mechanical *grrrrt*, apparently using the wings. To our knowledge, there are no breeding records or tape-recordings from Brazil. On 24 November 2011, at dusk on a windless night, a displaying adult male in *campo sujo* adjacent to the old airstrip at Emas uttered a strange, easily overlooked insect-like trill at close range, extremely reminiscent of Sickle-winged Nightjar *E. anomalus*, albeit on an even lower pitch (AW). The bird called just twice and could not be recorded. This suggests nesting during November–December in Brazil. In April 2001, GMK *et al.* observed *c.*10–20 individuals (both sexes) in the park, but

saw no evidence of display or other evidence of breeding. Relatively little is known of the species' reproductive behaviour, with the first nest discovered only in November 1997; the clutch of two is laid directly on the ground, adjoining a small 'clearing', within grassland (Clay *et al.* 2014). In Paraguay, it nests in September–December (Clay *et al.* 2000), conforming well to our experience in Emas.

SAND-COLOURED NIGHTHAWK *Chordeiles rupestris*

Small groups of <10 individuals were seen pre-dawn on 20 August 2004 (AW), towards dusk on 11–12 September 2004 (GMK *et al.*) and again on 10 January 2013 (GMK, HS), over the rio do Coco, near Caseara, Tocantins. Buzzetti (2004) and Pinheiro & Dornas (2009a) also had several records of this species from the Parque Estadual do Cantão, just south of Caseara. Hidasi (1998) had already mapped the species as being present in the northernmost part of the state. These appear to be the first published records with specific dates and numbers from Tocantins, and a range extension of at least 225 km. Although Cleere (1998) mapped *C. rupestris* as occurring over most of Amazonian and eastern Brazil, this is erroneous; as noted by Sick (1997) and Holyoak (2001), the range of this species extends from upper Amazonia as far as the rio Xingu south of the Amazon.

PALE-RUMPED SWIFT *Chaetura egregia*

At least two individuals were closely observed within a flock of *Chaetura* spp., of which most were Sick's Swifts *C. meridionalis*, over *cerrado* at Emas National Park, Goiás, on 22 December 2008 (GMK, JP, WP). There were also many Fork-tailed Palm Swifts *Panyptila cayennensis* in the vicinity, nesting in *Mauritia* palms within a nearby gallery forest. Prevailing weather conditions were cloudy, with sunny spells and almost no wind. GMK has extensive experience of this species from the Serra dos Carajás (see below), eastern Peru and south-east Ecuador in the Cordillera del Cóndor, as well as of all the potential confusion species from various localities across Amazonia. The very extensive pale rump and uppertail-coverts are almost whitish in this species, and very contrasting compared to any other 'grey-rumped' *Chaetura*, although in bright sunlight Grey-rumped Swift *C. cinereiventris* can appear almost as strikingly pale-rumped (pers. obs.). The underparts of the two *C. egregia*, other than the throat and upper breast, appeared on average darker than those of Grey-rumped Swift based on previous experience. Band-rumped Swift *C. spinicaudus* also has an obviously white rump patch, but this is restricted to a much narrower band, whilst the overall plumage, at least in central Brazilian *C. s. aethalea*, is rather darker and blacker than in *C. egregia*. Wing length of the two birds at Emas was estimated to be similar to that of the nearby *C. meridionalis*, whereas *C. cinereiventris* would have been obviously shorter winged in such comparative views. Additionally, a Pale-rumped Swift was well observed under good light conditions with three Short-tailed Swifts *C. brachyura* (see below) at Rancho Isadora, just east of Lagoa da Confusão, Tocantins (10°49'S, 49°71'W), on 10 July 2010 (GMK, WP). *C. egregia* was, until very recently, considered to be largely restricted to western Amazonia, from eastern Ecuador and Peru south to northern Bolivia and east only as far as Acre, in western Brazil (Chantler & Driessens 2000, Marín 2000), with apparently anomalous records from central Brazil, at the Serra do Roncador, in Mato Grosso, August and September (Fry 1970, Sick 1997), and uncertain sightings from the region of the Chapada dos Guimarães, in the south-west of the same state (Willis & Oniki 1990). In respect of the latter, Lopes *et al.* (2009) failed to find this species in the region. However, since then *C. egregia* has been discovered in Brazil much further north and east, e.g. in the Alta Floresta region, Mato Grosso (Zimmer *et al.* 1997, Lees *et al.* 2008), as well as 27 km south of Cachoeiras do Curuá, in the Serra do Cachimbo (Pacheco & Olmos 2005),

and in the Serra dos Carajás, in Pará (Pacheco *et al.* 2007; many observers), as well as at two localities in Rondônia (Stotz *et al.* 1997). These appear to be the first published records for the states of Goiás and Tocantins (Hidasi 1983, 1998, 2007), although we are aware of another recent, unpublished, sighting of Pale-rumped Swift from the same area of Tocantins (G. Bernardon *in litt.* 2010).

SHORT-TAILED SWIFT *Chaetura brachyura*

Three seen well in good light conditions, in company with a single Pale-rumped Swift *C. egregia*, at Rancho Isadora, just east of Lagoa da Confusão, Tocantins (10°49'S, 49°71'W), on 10 July 2010 (GMK, WP), and eight observed for at least one hour on the outskirts of Divinópolis do Tocantins, Tocantins, on 12 January 2013 (GMK). Both observers are highly familiar with this species from Amazonia, and it is, in any case, one of the most easily identified *Chaetura*, given its distinctive wing shape (bulging mid-wing with pinched-in innermost secondaries), which afford the species' impression of being almost tail-less. General references (e.g., Sick 1997, Hidasi 1998, Chantler & Driessens 2000) do not mention this species for Tocantins, but its occurrence is unsurprising given that GMK has many records of *C. brachyura* from the left bank of the Araguaia, in Pará, opposite Caseara.

HORNED SUNGEM *Heliactin bilophus*

AW observed a female in roadside *cerrado* c.25 km east of Caseara, Tocantins, on 18 August 2004. This appears to be a slight north-westwards range extension, compared to the map in Gwynne *et al.* (2010), although Hellmayr (1929) reported a male specimen from Tranqueira, Maranhão, taken in September 1925.

SPOTTED PUFFBIRD *Nystactes tamatia*

KJZ & AW saw and/or heard (KJZ tape recording) 6+ individuals in or bordering riverine forest on the west bank of the rio Araguaia directly opposite Caseara, Pará, on 25 August 2002, and KJZ recorded another from a river island in the Araguaia south of Caseara on 26 August 2002. Singles seen or heard in seasonally flooded forest abutting the rio do Coco, near Caseara, Tocantins, on 25 January 2002 (GMK, DB, AG, JM) and 1 January 2009 (GMK, JP, WP), come from the same general area as the Parque Estadual do Cantão, where the species was found at several localities by Buzzetti (2004) and Pinheiro & Dornas (2009a). It has also been found even further east, around Palmas (Pinheiro 2004) and Presidente Kennedy (Raposo 2013). Despite its apparent relative abundance in this general area, these records seem to be the southernmost for Tocantins, where it was known from specimens taken at Araguatins (Silveira *et al.* 2001) and Couto de Magalhães (Dornas & Pinheiro 2011); we also have a sight record from the latter on 4 November 2011 (GMK *et al.*). Virtually all other records south of the Amazon are from west of the upper rio Xingu (Sick 1997, Rasmussen & Collar 2002), with the exception of those in the Serra dos Carajás, Pará (Pacheco *et al.* 2007). The species was not mentioned for Tocantins by Hidasi (1998). We follow Rasmussen & Collar (2002) and Penhallurick (2008) in removing this species from *Bucco*.

CHECKERED WOODPECKER *Picoides (Veniliornis) mixtus*

A male of this uncommon and easily overlooked woodpecker was tape-recorded in tall *cerrado* 8 km north of Novo Santo Antonio, Mato Grosso, on 5 May 2004 (AW). AW & KJZ observed and tape-recorded a female in mature *cerrado* on the west bank of the Araguaia close to Barreira do Campo, Pará, on 25 August 2002, which record is from the same area as that reported by Beadle *et al.* (2004a) as the first for the state. The record from Mato Grosso reported here represents a considerable northwards range extension within the state from

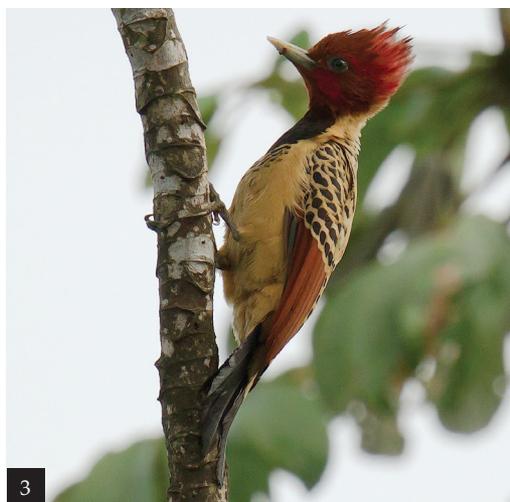
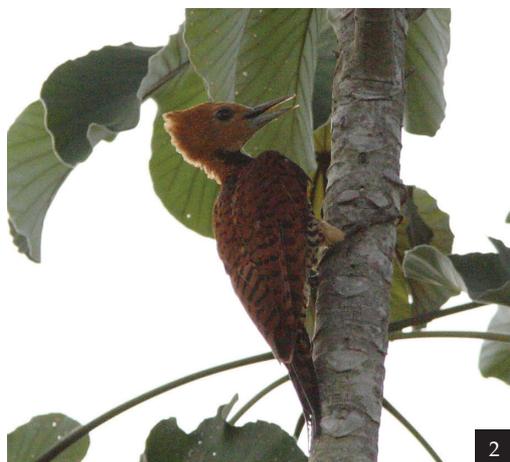
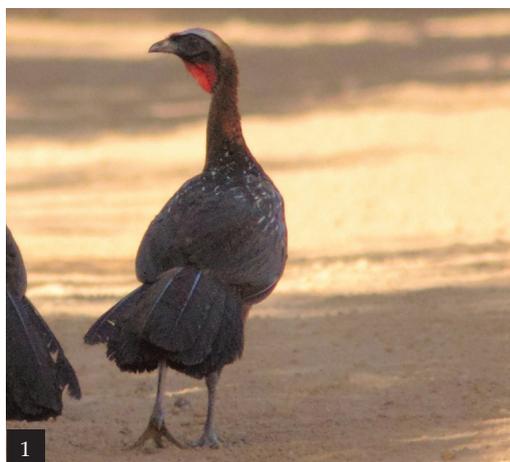


Figure 1. White-crested Guan *Penelope pileata*, Rancho Isadora, just east of Lagoa da Confusão, Tocantins, July 2010 (© W. Price)

Figure 2. Ringed Woodpecker *Celeus torquatus*, Caseara, Tocantins, January 2009 (© W. Price)

Figures 3–4. Male and female Kaempfer's Woodpecker *Celeus obrieni*, between Caseara and Araguacema, Tocantins, January 2011 (© H. Shirihai / *Photographic handbook of the birds of the world*)

Figure 5. Amazonian Inezia *Inezia subflava*, Caseara, Tocantins, January 2009 (© W. Price)

Figure 6. Spotted Tody-Flycatcher *Todiostrostrum maculatum*, Araguacema, Tocantins, January 2009 (© W. Price)

the only previous records we can locate, at Itiquira, in the extreme south-east, on 3 February 2011 (E. Legal, WA 296066), and 24 August 2013 (WA 1248792).

RINGED WOODPECKER *Celeus torquatus*

A pair of the subspecies *C. t. occidentalis* was observed several times responding to playback, and photographed by WP, on 1–2 January 2009 at Caseara, Tocantins, in seasonally inundated gallery woodland beside the rio Araguaia (GMK, JP, WP; Fig. 2), with a male observed in response to playback in the same area on 19 August 2004 (AW). Winkler & Christie (2002) mapped its range east as far as the state of Pará. Pacheco & Olmos (2006) reported a sight record, which they considered to be the first from the state (the species being not listed by Hidasi 1998), in a gallery forest in south-east Tocantins, on 12 October 2004. With hindsight, their brief observation could perhaps have involved the subsequently rediscovered Kaempfer's Woodpecker *C. obrieni* (Prado 2006). However, the species had already been found at several sites within the Parque Estadual do Cantão, just south-west of Caseara, by Buzzetti (2004). In contrast, Pinheiro & Dornas (2009a) had just a single record (involving a lone individual) from the region, beside the rio do Coco. Our observations probably represent the first documented state records, although several photographs have since become available from Araguatins and Caseara (www.wikiaves.com.br).

KAEMPFER'S WOODPECKER *Celeus obrieni*

This recently rediscovered taxon is now known to be both meritorious of species rank (as first speculated by Whittaker & Oren 1999) and to be a reasonably widespread (if low-density) resident of *tabocais* in the state of Tocantins (De Luca *et al.* 2009, Dornas *et al.* 2014), with additional records from southern and central Maranhão (Dornas *et al.* 2014), south-west Piauí (Santos & Vasconcelos 2007) and Goiás. In the latter state, there are now records from the following localities, all in the north: Guapó (specimens), Niquelândia (specimen) (Hidasi *et al.* 2008, Dornas *et al.* 2009) and the rio do Ouro, Porangatu municipality (photograph: Pacheco & Maciel 2009). It has been suggested that the species should also be searched for in parts of south-easternmost Pará (Dornas *et al.* 2014). A male was seen briefly and heard in dry forest with extensive flowering bamboo surrounded by *cerrado* (habitat similar to many known localities in Tocantins) 5 km south of Registro do Araguaia, Goiás (15°44'S, 51°50'W), on 3 July 2010 (GMK, WP). The moderately distinctive *ochraceus* subspecies of Blond-crested Woodpecker *C. flavescens* was present at the same locality (treated specifically by del Hoyo & Collar 2014, under the English name Ochre-backed Woodpecker). This apparently marks the south-west limit of the published range of *C. obrieni* to date, although the locality at Guapó (c.16°49'S, 49°31'W) is marginally further south. Finally, a pair was photographed in a relatively small patch of bamboo-dominated forest between Caseara and Araguacema (09°12.914'S, 49°49.422'W) on 10 January 2013 (GMK, HS; Figs. 3–4). Our searches elsewhere in the Araguaia Valley in Goiás and neighbouring Mato Grosso for this species, using playback, including of the distinctive female voice (*cf.* A. D. Prado recording, XC28191), have to date proved fruitless, despite the presence of unquestionably suitable habitat. However, the species has been found at one locality in eastern Mato Grosso in recent years (Dornas *et al.* 2011).

ARAGUAIA SPINETAIL *Synallaxis simoni*

Observed and tape-recorded in second growth at Rancho Jatobá, on the rio das Mortes, 8 km north of Novo Santo Antônio, Mato Grosso, on 4 May 2004 (AW), while an adult was photographed a few km south of Novo Santo Antônio on 15 March 2012 (R. E. F. Santos; WA 628504). Often considered a subspecies of White-lored Spinetail *S. albilora* (e.g.,

by Remsen 2003), the range of *S. simoni* is virtually confined to the Ilha do Bananal, in Tocantins, although it also occurs on islands in the Araguaia close to Barreira de Campos and on the Pará side of the Araguaia (all authors pers. obs.), which state was not mentioned for this taxon by Remsen (2003); it has now been found east to Fazenda Fartura (09°40'S, 50°23'W) (Somenzari *et al.* 2011). The extent of its distribution in north-eastern Mato Grosso remains to be precisely determined.

GREATER THORNBIRD *Phacellodomus ruber*

Fairly common (tape-recorded) along the rio das Mortes, in riverine scrub at Novo Santo Antônio, Mato Grosso, on 4 May 2004 (AW). There seems to be few records from eastern Mato Grosso, in which state the species is mainly known from the south (www.wikiaves.com.br). Also, 6–10 observed/heard and tape-recorded by KJZ & AW along the east bank of the Araguaia and on a river island south of Caseara, Tocantins, on 23 August 2002, with 10+ on river islands south of Caseara on 24 August 2002 and one there on 26 August 2002.

FASCIATED ANTSHRIKE *Cymbilaimus lineatus*

A female was closely observed for *c.*5 minutes, foraging in seasonally inundated gallery woodland dominated by many small *Mauritia* palms and dense bamboo, beside the rio Formoso in Emas National Park, Goiás, on 22 December 2008 (GMK, JP, WP). In response to playback of a pre-recorded vocalisation of the species, the female several times approached us more closely but never sang in response. Because of the dense vegetation it proved impossible to acquire photographs, but all three observers are familiar with the species. The less likely Bamboo Antshrike *C. sanctaemariae* was excluded on the basis of the short crest and the extensively barred dull buff underparts. This sight record is apparently the first for Goiás and further emphasises the Amazonian element in the avifauna of the state's western boundary. Fasciated Antshrike was not mentioned for Goiás by Hidasi (1983, 2007) nor was it mapped for the state by Zimmer & Isler (2003), and the nearest record known to M. L. Isler (*in litt.* 2009) is that by Fry (1970) from the base camp at the Serra do Roncador, Mato Grosso (12°54'S, 51°52'W).

GLOSSY ANTSHRIKE *Sakesphorus luctuosus*

Precise southern range limits in the Araguaia Valley not entirely clear. *S. l. araguayae* (Hellmayr, 1908) was described from five adult males and five adult females, as well as a juvenile male from the rio Araguaia, which were said to differ on the basis of having much less white on the tail tips but broader white fringes to the scapulars. The type was collected at Aruanã, Goiás (14°54'S, 51°05'W; see LeCroy & Sloss 2000: 37, wherein the coordinates are incorrectly stated to be 05°21'S, 48°41'W). Our southernmost record of this taxon, which Zimmer & Isler (2003) stated might represent the end point in a cline, is from flooded forest on the left bank of the Araguaia, opposite Tacaiu, Goiás, on 5 July 2010 (GMK, WP), *c.*30 km south-west of Aruanã. Further south, e.g. around Barra do Garças, Mato Grosso / Aragarças, Goiás, we have yet to record this species, despite considerable field time. Ridgely & Tudor (2009) erroneously failed to map this species from the right bank of the Araguaia, i.e. from the states of Tocantins and Goiás, at all.

BLACK-BELLIED ANTWREN *Formicivora melanogaster*

Three species of *Formicivora* are present in the study region, *F. melanogaster* and the more numerous and widespread Rusty-backed *F. rufa* and White-fringed Antwrens *F. grisea*. Nonetheless, the range of the near-endemic *F. melanogaster* in the region of the Araguaia Valley has been under-estimated in much of the standard literature on Neotropical birds

(e.g. Ridgely & Tudor 1994, 2009, Zimmer & Isler 2003). Pacheco & Olmos (2006, 2010) already pointed to the presence of Black-bellied Antwren in the dry forests of eastern and south-east Tocantins (despite that Hidasi 1998 did not mention *F. melanogaster* for the state), and the species is also reasonably common in some dry forests of western Goiás, e.g. north of Registro do Araguaia (15°44'S, 51°50'W), which it shares with *F. grisea*. Our northernmost record on the east bank of the Araguaia is from dry forest between Caseara and Araguacema, Tocantins, on 11 September 2004 (GMK *et al.*), although to date without documentation. Black-bellied Antwren must be extremely local in this region, however, as Pinheiro & Dornas (2009a) failed to record it here, as did Lopes & Braz (2007) in central Tocantins.

BANANAL ANTBIRD *Cercomacra ferdinandi*

Several pairs tape-recorded in bamboo in flooded black-water lake edge and three-year old second growth, at Rancho Jatobá, on the west bank of rio das Mortes, 8 km north of Novo Santo Antônio, Mato Grosso, on 4 May 2004 (AW), while an adult male was photographed at Novo Santo Antônio on 15 March 2012 (R. E. F. Santos; WA 629525). These are perhaps the first published records for the state (Zimmer & Isler 2003), although there are two specimens at MZUSP (82694–695) from São Felix do Araguaia. Despite much playback in ideal habitat, we have never found this species on the west bank of Araguaia in Pará, although the species was recently found in the latter state, at Fazenda Fartura (Somenzari *et al.* 2011).

MANU ANTBIRD *Cercomacra manu*

A male was observed singing in response to playback of a pre-recorded vocalisation from Bolivia (Isler & Whitney 2002), in a woodlot dominated by tall bamboo within a matrix of partially degraded *cerrado*, agricultural fields and wooded areas at Fazenda São João II, 10 km north of Guaraí, Tocantins, on 7 January 2009 (GMK, JP, WP). It gave the same stereotyped song, more simple than that in Bolivia or, for instance at Cristalino Jungle Lodge, Alta Floresta, Mato Grosso (pers. obs.), as recorded by Beadle *et al.* (2004b). This is the same general area where the species was first found in Tocantins, by Beadle *et al.* (2004b), in February 2002. Subsequently, *C. manu* has also been found at a locality near Araguacema, on the right bank of the rio Araguaia, by J. F. Pacheco (pers. comm.), one was sound-recorded and collected at Araguaína (07°28'49.48"S, 48°27'27.46"W) in January 2010, a pair (of which the male was sound-recorded) in the municipality of Tupirama (08°52'9.17"S, 48°9'42.06"W) in April 2011 (Dornas *et al.* 2012) and a male was photographed at Dois Irmãos do Tocantins in October 2014 (A. Corrêa; WA1526965). It clearly should be searched elsewhere in the state with suitable patches of bamboo habitat. Even more remarkably, the species has recently been sound-recorded (the same 'simpler' song) in Maranhão, at Marajá do Sena, in February 2014 (E. Legal; WA1257858)

SPIX'S WARBLING ANTBIRD *Hypocnemis striata*

Not mapped east of the Araguaia by either Isler *et al.* (2007) or Ridgely & Tudor (2009), but mentioned for Tocantins by Hidasi (1998) and two specimens are available from Araguatins (Dornas & Pinheiro 2011). Seen and heard in tall, humid forest c.5 km south of Senhor do Bonfim, Tocantins (08°67'S, 49°41'W), on 5 January 2009 (GMK, JP, WP). All of the observers are extremely familiar with the species from elsewhere in eastern Amazonia, although no documentation was obtained. This is probably the second published record of *H. striata* for the state. Further south, neither Pinheiro & Dornas (2009a) nor we have recorded the species in the vicinity of the Parque Estadual do Cantão.

BLACK-THROATED ANTBIRD *Myrmophylax (Myrmeciza) atrothorax*

Pair tape-recorded and observed in gallery forest edge along the west bank of rio das Mortes, 8 km north of Novo Santo Antônio, Mato Grosso, on 5 May 2004 (AW). This record is the closest to the Tocantins border in eastern Mato Grosso, from where there are records at Canarana (April 2014: L. Nunes; WA 1301128) and Querência (May 2011: M. Moss; WA 359358).

RUFOUS-CAPPED ANTTHRUSH *Formicarius colma*

No records for Tocantins mentioned by Sick (1997) or mapped by Ridgely & Tudor (1994, 2009), but *F. colma* was mapped for the north-west of the state by Hidasi (1998) and a total of 13 specimens are available from two localities, Araguatins and Couto de Magalhães, in northern and western Tocantins (Dornas & Pinheiro 2011), while the species was also found at Presidente Kennedy by Raposo (2013). Not listed for areas further south, e.g. the Cantão region (Pinheiro & Dornas 2009a). One was observed in tall forest c.5 km south of Senhor do Bonfim, Tocantins (08°67'S, 49°41'W), on 5 January 2009 (photographed; GMK, JP, WP). The latter perhaps represents only the third specific published locality for the state.

COLLARED CRESCENTCHEST *Melanopareia torquata*

Reasonably common by voice in *cerrado* on the left bank of the rio Araguaia in the vicinity of Barreira do Campo, south-east Pará, on 25 and 27 January 2002, 2 January 2009 and 10 January 2013 (GMK *et al.*). Stated to occur from southern Pará southwards by Krabbe & Schulenberg (2003), but Aleixo & Poletto (2007) were aware of just two previously published localities in the state, in the Serra do Cachimbo (Pacheco & Olmos 2005, De Luca *et al.* 2009, Santos *et al.* 2011; AW pers. obs.) and at Gorotire. Given that *M. torquata* appears to be relatively widespread and common in *cerrados* across the state of Tocantins (Hidasi 1998, Pacheco & Olmos 2006, 2010, Pinheiro & Dornas 2009a; pers. obs.), its presence in immediately adjacent parts of Pará is undoubtedly unsurprising.

AMAZONIAN INEZIA *Inezia subflava*

Observed on river islands in the rio Araguaia, and in low scrubby vegetation that is seasonally inundated on the right bank of the same river, immediately north of Caseara, Tocantins, where the species is common and was photographed by WP, on 26 January 2002, 11 September 2004, 1–2 January 2009, 16 November 2011, and 9 and 11 January 2013 (GMK *et al.*; Fig. 5). KJZ & AW recorded single pairs at Caseara on 22 and 24 August 2002, two pairs along the rio do Coco on 24 August 2002 (KJZ tape recordings; video), five on a river island upstream of Caseara, and 3+ along the rio do Coco near Caseara on 26 August 2002. The species had already been mentioned for the Parque Estadual do Cantão, Tocantins, by Buzzetti (2004) and Pinheiro & Dornas (2009a). In their partial revision of the genus *Inezia*, Zimmer & Whittaker (2000) knew of documented records, involving either specimens or tape-recordings from as far east as the rio Tocantins, only above its confluence with the rio Araguaia, although Dornas & Pinheiro (2011) mentioned four specimens from Araguatins (again, Hidasi 1998 included the species in the state's avifauna). To date, the species' occurrence on river islands in the rio Teles Pires, near Alta Floresta (Zimmer *et al.* 1997; pers. obs.), is the southernmost published from Brazil.

CHAPADA FLYCATCHER *Suiriri affinis* / **CAMPO SUIRIRI** *S. suiriri burmeisteri*

Both *Suiriri* were fairly common in *cerrado* (locally known as *varjão*) along the rio das Mortes, 8 km north of Novo Santo Antônio, Mato Grosso, in early May 2004 (AW). There is a subsequent record from this region, at São Félix do Araguaia, in December 2008 (B. W.

Davis; WA 11217). A displaying pair of Campo Suiriri was tape-recorded in *cerrado* on the left bank of the rio Araguaia near Barreira do Campo, Pará, on 25 August 2002 (KJZ & AW; KJZ videotape). Single displaying pairs of Chapada Flycatcher were observed and tape-recorded in roadside *cerrado* c.25–30 km east of Caseara, and 65 km east of Caseara, where the two *Suiriri* were sympatric, on 18 August 2004 (AW), as well as at Fazenda São João II, 10 km north of Guaraí, Tocantins, on 7 January 2009 (GMK, JP, WP). The nomenclature of this genus has recently been revised (Kirwan *et al.* 2014b).

SPOTTED TODY-FLYCATCHER *Todirostrum maculatum*

Observed daily, and photographed by WP, in a wooded garden at Araguacema, Tocantins (08°80'S, 49°55'W), on the right bank of the rio Araguaia, on 4–6 January 2009 (GMK, JP, WP; Fig. 6). Also observed on a river island in the rio Araguaia, just north of Caseara, Tocantins, on 26 January 2002 (GMK *et al.*) and on a river island in the rio Araguaia just south of Caseara, as well as along the rio do Coco (10+ in seasonally flooded scrub and forest borders), near Caseara (KJZ tape-recording; video), on 22–26 August 2002 (AW, KJZ). Not listed or mapped for Tocantins by Sick (1997) or Walther (2004a), although Ridgely & Tudor (1994) mentioned occurrence in northern Goiás (which can be taken to refer to Tocantins, as these authors did not recognise the latter state, which was formed only in 1988, as a separate unit). *T. maculatum* is mentioned for Tocantins by Hidasí (1998), albeit without details or even a map of its range there, and seven specimens are available from Araguatins (Dornas & Pinheiro 2011). The photograph published here (Fig. 5) represents additional documentation for its occurrence in Tocantins, but the species was found at many localities within the Parque Estadual do Cantão by Buzzetti (2004) and Pinheiro & Dornas (2009a), and it is presumably reasonably common in suitable forests in north-west Tocantins.

SMOKY-FRONTED TODY-FLYCATCHER *Poecilatriccus fumifrons*

Of curiously disjunct distribution in Brazil, with populations in the far north-east littoral; from Belém at the mouth of the Amazon south as far as the upper rio Xingu in north-east Mato Grosso (Fry 1970, Ridgely & Tudor 1994, Sick 1997, Walther 2004b); and north of the Amazon as far west as Manaus (Cohn-Haft *et al.* 1997, Ridgely & Tudor 2009). It does not appear to have been previously mentioned for Goiás (Hidasí 2007), where one was carefully identified at Chapéu da Palha, north-west of São Miguel do Araguaia, on the right bank of the rio Araguaia, on 9 July 2010 (GMK, WP). It was separated from the fundamentally similar Rusty-fronted Tody-Flycatcher *P. latirostris*, which was found at various localities further south in the Araguaia Valley, by virtue of its much paler lores, yellower wingbars, lack of any rusty-buff coloration on the forehead and pale yellowish posterior underparts (see, for instance, Ridgely & Tudor 2009). Further north, however, both *P. fumifrons* and *P. latirostris* occur in sympatry in the region of the Ilha do Bananal at least (Pinheiro & Dornas 2009a; GMK pers. obs.).

SHORT-TAILED PYGMY TYRANT *Myornis ecaudatus*

Pair tape-recorded and observed in tall gallery forest at the edge of a lake along the west bank of the rio das Mortes, 8 km north of Novo Santo Antônio, Mato Grosso, on 6 May 2004 (AW). In northern Mato Grosso, previously known from the upper rio Xingu (Sick 1997) and regarded as extremely rare in Parque Estadual do Cantão, Tocantins (Buzzetti 2004), thus our record fills a gap between these two localities.

ZIMMER'S TODY-TYRANT *Hemitriccus minimus*

Scattered singles observed and tape-recorded beside the right bank of the rio Araguaia and along the rio do Coco, just upstream from Caseara, on 23–26 August 2002 (KJZ & AW), with one in the same general area on 5 January 2009 (GMK *et al.*). At the time, the 2002 observations represented a significant range extension, although the species has since proven to be comparatively widespread in southern Amazonia (*cf.* Whittaker 2004) and it has been found even further east in Tocantins, at Pium, by C. Albano (WA 412173) and M. A. Crozariol (WA 165180). Nevertheless, the species was not mapped for Tocantins by Gwynne *et al.* (2010), despite that its presence in Parque Estadual do Cantão had already been reported (Pinheiro & Dornas 2009b).

RIVERSIDE TYRANT *Knipolegus orenocensis*

Riverside Tyrant, as currently treated, is a polytypic species consisting of three disjunctly distributed subspecies, each restricted to different river basins: nominate *orenocensis* (rio Orinoco and rio Apure in Colombia and Venezuela); *sclateri* (rio Napo and Amazon, from Ecuador east to the lower rio Tapajós in Brazil); and *xinguensis* (lower rio Xingu and the rio Araguaia in eastern Brazil). Previous authors (Ridgely & Tudor 1994, Farnsworth & Langham 2004) have speculated that *K. orenocensis*, *sensu lato*, may comprise more than one species, with such speculation focused primarily on Amazonian *sclateri*, which exhibits more pronounced sexual dimorphism in plumage than is found in the other two subspecies. Ridgely & Tudor (1994) stated: 'We would favor treating *K. sclateri* and *K. orenocensis* as separate species...but for the problem of the *xinguensis* taxon. It seems more to resemble *orenocensis*, though its range is highly disjunct from that form. Until more is known of the complex, we consider it prudent to retain the usual single-species treatment.' A decade later, Farnsworth & Langham (2004) assessed the situation thus: 'Race *sclateri* possibly a separate species, exhibits marked sexual plumage dimorphism whereas nominate and *xinguensis* do not; insufficient information currently available to enable full assessment of taxonomy.' After yet another ten years, we still lack data to fully assess species limits within *K. orenocensis*. In light of this, we take this opportunity to present our observations, made along the rio Araguaia, of the subspecies *xinguensis*.

Morphological variation within the genus *Knipolegus* has been evolutionarily conservative, particularly with respect to plumage pattern in males, which, for all but one of the 12 currently recognised species in the genus, is almost uniformly black or some shade of dark grey, with or without concealed or semi-concealed patches of white in the wings. Most *Knipolegus* exhibit greater interspecific variation in the female plumage than in that of males. Ridgely & Tudor (1994) offered little in the way of plumage distinctions between nominate *K. orenocensis* and *K. o. xinguensis*, and compared the latter to the former stating: 'Both sexes ... are uniform slaty gray, the female slightly paler and more olive.' Farnsworth & Langham (2004) offered that males of nominate *orenocensis* are 'uniform slate-gray or blackish-gray' with 'iris dark; bill thickish, pale blue-gray, black tip; legs black.' They described the nominate female as 'slightly paler than male, slate gray with olive tinge'; whereas they described subspecies *xinguensis* as 'very like nominate, but slightly larger, female somewhat paler.' In contrast, KJZ & AW found *xinguensis* to exhibit a greater degree of sexual dimorphism in plumage than indicated in the literature. The following is transcribed from field notes dictated by KJZ on microcassette on 23 August 2002, when we recorded 10+ individuals of *K. o. xinguensis* during surveys of four different river islands in the rio Araguaia, upstream of Caseara: 'Male is dark, smoky grey all over, darker about the head and face, and slightly paler on the belly; at very close range, fine, dusky (darker) streaking is visible on the throat; bill is pale blue-grey with a dusky tip; irides are dark

brown; legs and feet are black. Female is paler, ashier gray all over, with broad, buffy throat streaking similar to that found in female Velvety Black-Tyrant *K. nigerrimus*, but with throat streaks buffy, not rufous; has some buffy wash to the undertail-coverts and lower flanks as well.'

Stereotypical male display behaviours have been described for six of the 12 currently recognised species of *Knipolegus* (Ridgely & Tudor 1994, Hilty 2002, Farnsworth & Langham 2004). Many of these displays involve a well-spaced series of short sallies or jumps from a perch, with accompanying soft vocalisations and mechanical noises produced by the wings, but the species differ not only in the sounds they produce, but in various aspects of the physical display, including distance and direction of the display sallies, perch orientation prior to and after each display, between-display intervals and whether the bird returns to the same perch or a different one at the end of each display (cf. Farnsworth & Langham 2004). The only detailed published description of the display of Riverside Tyrant (Ridgely & Tudor 1994) pertains to those performed by the Amazonian subspecies *K. o. sclateri*: 'Male *sclateri* have a display in which every 10–15 seconds they quickly mount a few meters into the air, then drop back down, accompanied by a (mechanical?) snap.' In the early morning of 7 November 2012, opposite Sani community, on a young river island in the río Napo, prov. Napo, Ecuador, GMK periodically observed a male *sclateri* performing such a display within a dense patch of c.3 m-tall *Gymnerium* cane with a handful of marginally taller young *Cecropia* trees. Unfortunately, the extremely dense nature of the habitat meant that not all of the displays could be observed, but each upward sally was made at intervals of no more than one minute, from a horizontal perch c.75 cm above the ground and to a height of no more than 4 m above the ground (but usually less than that of the *Gynerium* cane). Nothing detailed is available for nominate *orenocensis*, other than a note that 'display in Venezuela comprises sheer vertical flight after vocalising, usually from scrub and returns to same perch', while calls are described as being a 'very soft *tsik-tsik*, followed by an explosive *tschue-up!* while displaying in air' (D. Ascanio in Restall *et al.* 2006).

Given the low level of interspecific plumage diversification within the genus, it appears probable that differences in these stereotypical displays (and in the accompanying vocalisations and mechanical sounds produced therein) would reflect underlying genetic differences, in addition to acting as primary isolating mechanisms in the event of contact between taxa. As such, differences in the display behaviours and sounds between the three subspecies of Riverside Tyrant (*orenocensis*, *sclateri* and *xinguensis*) could prove informative in assessing species limits within the complex. With this in mind, we present what we believe to be the first published observations on the display behaviour of *K. o. xinguensis*, made along the rio Araguaia, just upstream of Caseara, Tocantins. On 23 August 2002, KJZ & AW spent considerable time observing and videotaping the display of a male *K. o. xinguensis*. The following description is transcribed from KJZ's microcassette notes, which were dictated both during and immediately after the period of observation.

'Male displays from a perch below the canopy (c.10–12 m tall) in the shaded understorey. Seems to prefer horizontal or thick diagonal, open limbs from which to display. Most common display involves a sudden jump-and-flip, in which the bird changes his orientation on the same perch by 180°, while vocalising with soft *pip pip* notes. While delivering the *pip* notes, the bird makes a shallow dip of the tail, but between notes, he flicks the tail up very abruptly over a c.60° arc, and that movement is usually accompanied by another flip and 180° change of orientation on the perch. Occasionally gives more abrupt, excited-sounding *pip* notes, followed by a hiccupping, buzzy *burrzzlip*, during which there is a distinct upward spasm of the head (caught on video). Periodically, the male performs an aerial display. The first to be observed was initiated from a fairly open, sunlit perch c.2

m below the canopy, and he shot very quickly up through the canopy to a height of c.5–6 m, and at the apex of the flight, snapped the wings high above the back in a dihedral, making a distinct snapping sound, and then folded the wings and came zooming right back down to the same perch. KJZ saw similar displays performed three times from below the canopy: the first was a diagonal sally of c.3 m from the perch, giving the song in flight, but without the wing-snap at the apex, and just returning to the perch. Another time the male went only c.1 m above his perch, and again, gave the hiccupped song in flight, but without the wing-snap, before returning to the perch. The final display flight that KJZ witnessed was barely 30–50 cm above the perch, but the bird snapped his wings in a high dihedral, so that they met above his back, and then returned to the same perch.'

DORADITO SP. *Pseudocolypteryx* sp.

On 24 August 2002, on a river island in the rio Araguaia just upstream from Caseara, Tocantins, AW & KJZ made observations of a doradito that could not be certainly identified to species. The bird foraged in a densely vegetated marshy depression, occasionally appearing on top of the vegetation for a few seconds before disappearing from view into the rank growth. They watched it on and off for c.15–20 minutes before losing it entirely. The bird most closely resembled Subtropical Doradito *P. acutipennis* in that it was entirely olive above and bright yellow below, with olive cheeks, dusker lores, faint wingbars, a pinkish-based mandible and blackish legs and feet. In plumage (but not in build or posture) it was suggestive of female Masked Yellowthroat *Geothlypis aequinoctialis*, except for the presence of faint wingbars and the lack of any suggestion of a pale supercilium or eye-crescents. Another was photographed by AW on 21 August 2004; this bird lacked a dark mask, had a pink lower mandible and apparently a buff area above and below the eye. If confirmed as *P. acutipennis*, these would be marginally the northernmost in Brazil of the species, which has previously been recorded in coastal Paraná, in southern Rondônia in June 2003 and July 2002 (Whittaker 2004), at two localities in Mato Grosso do Sul, in September 2005, May 2006 and probably September 2007 (Vasconcelos *et al.* 2008), and most remarkably a bird trapped and photographed in Parque Estadual do Cantão, Tocantins, on 21 September 1999, by D. Buzzetti (Minns *et al.* 2009), which bird closely recalls that photographed by AW in August 2004.

WHITE-NAPED XENOPSARIS *Xenopsaris albinucha*

A presumed female, based on the brownish tone to the cap and some remiges, was observed foraging c.1 m above ground in low bushy vegetation directly abutting the shore of a river island in the rio Araguaia just north of Caseara, Tocantins, on 11 September 2004 (GMK *et al.*). Other observations in successional growth on river islands just south of Caseara include two birds thought to be juveniles (crown black, mottled or scaled rufous, base of mandible pinkish, remiges broadly pale-edged and wing coverts neatly buff-edged) on 26 August 2002 (AW, KJZ; videotaped by KJZ) and a female on 20 August 2004 (AW). KJZ & AW also observed one (thought to be an adult male) on the left bank of the rio Araguaia in Pará, opposite Caseara, on 25 August 2002. Buzzetti (2004) had three records in the nearby Parque Estadual do Cantão, two in August and one in January, but it was not recorded by Pinheiro & Dornas (2009a). Slightly further south, a presumed male was observed in a dry-forest remnant with extensive bamboo at Rancho Isadora, just west of Lagoa da Confusão, Tocantins, on 10 July 2010 (GMK, WP). Mobley (2004) mentioned that the species is frequently found close to water, although it is also a typical inhabitant of the dry *caatingas* and *cerrados* of the Brazilian north-east (Sick 1997, Pereira *et al.* 2008; pers. obs.), where AW & KJZ have found several nests in spiny caatinga trees, but river islands do not seem to

have been noted as habitat of the species in previous literature. *Xenopsaris* is not mentioned for Tocantins by the standard works (Ridgely & Tudor 1994, Sick 1997, Mobley 2004), but was included in the state's avifauna by Hidasí (1998). Subsequently, Raposo (2013) and, especially, Pacheco & Olmos (2010) enumerated several other recent records in the state, as well as from Maranhão, and it has recently been found in the Alta Floresta region of northern Mato Grosso (Zimmer *et al.* 1997). Elsewhere in south-east Amazonia, listed for the Serra dos Carajás, Pará (Pacheco *et al.* 2007), based on a single record, of a male in a *canga* formation, on 3 September 2005 (GMK *et al.* pers. obs.). Zeppilli *et al.* (2006) briefly discussed the possibility that *Xenopsaris* might undertake seasonal movements, and Chesser (1997) considered the species an austral migrant in Bolivia and probably in adjacent Mato Grosso, Brazil; it remains to be seen whether birds in Maranhão, Pará and Tocantins are resident or not.

VÁRZEA SCHIFFORNIS *Schiffornis major*

The characteristic voice of this Amazonian species was heard in mature riverine gallery forest near Caseara, Tocantins, on 20 August 2004 (AW). The first record for Tocantins, this species' precise range in eastern Amazonia is still poorly known, though definitive records in the Tapajós–Xingu interfluvium appear to be lacking (Kirwan & Green 2011).

VEERY *Catharus fuscescens*

A single was observed feeding on small melastome fruits, in gallery woodland beside a stream through pristine *cerrado* in Emas National Park, Goiás, on 22 December 2008 (GMK, JP, WP). Several other bird species, including various tanagers (Thraupidae), were also attracted to the same fruiting tree (18°27'S, 52°81'W). The Veery tended to visit the tree only in the absence of other birds, and during the intervening periods it perched quietly and often motionless at low levels in nearby trees and bushes. It never vocalised, but WP obtained photographs of the bird (Fig. 7). Remsen (2001), in discussing the winter range of the Veery, knew of no true winter records (i.e. between 2 December and 20 February) for Goiás, although he mentioned an unpublished record of two that were trapped at an unstated locality just outside this period. In contrast, Hidasí (2007) did not mention the species' presence in the state at all. Given the relative paucity of documented records of this species in South America, and the chronic confusion that has surrounded knowledge of its temporal status and distribution on the continent (Remsen 2001), it is pertinent to mention two other records here. J. C. Minns (pers. comm.) observed one in primary *terra firme* at c.700 m in the Serra dos Carajás, Pará, on 29 January 2002, thereby providing additional evidence of its presence in winter at this locality. GMK observed another Veery in seasonally inundated gallery forest alongside the rio Cuiabá, at the Reserva Particular do Patrimônio Natural do SESC Pantanal (16°39'S, 56°16'W), near Porto Cercado, south-west Mato Grosso, on 2 November 2006, providing the first record for the Pantanal wetland (Tubelis & Tomas 2003). Whether this bird was already on its wintering grounds, or was still en route to areas further south is, of course, unknown, but for the nearby Chapada dos Guiramães Lopes *et al.* (2009) assembled considerable evidence for its winter presence. Alteff *et al.* (2009) recently trapped the species in mid November in the nearby Serra das Araras, Mato Grosso. Tobias & Seddon (2007) speculated that the species might be confirmed to winter in northern Bolivia in significant numbers.

CLIFF SWALLOW *Petrochelidon pyrrhonota*

In early November 2007, AW observed up to 10,000+ Cliff Swallows in Emas National Park, south-west Goiás, with daily maxima ranging from 50 to 2,000+ on 24–31 October

2005 (AW, KJZ), and 2,000 on 1–5 November 2009 (AW). Some of these birds were perhaps still on migration. However, on 23 December 2008, starting *c.*90 minutes before dusk, in excess of 3,000 Cliff Swallows were estimated moving over *cerrado* in the national park and surrounding agricultural fields, apparently towards an unknown roost site somewhere south-east of the national park (GMK, JP, WP). Much smaller numbers (<10 per day) were recorded over the following three days, at this site, as well as at the rio Babilônia east of Alto Araguaia, Goiás, and at Perolândia, Goiás (GMK, JP, WP). Large numbers of Cliff Swallows have recently been recorded on migration in south-west Minas Gerais and at Emas National Park (*cf.* Vasconcelos *et al.* 2006), but the species was not previously suspected to winter in this region of Brazil (e.g. Paynter 1995, Sick 1997) except by general reference works without apparent evidence (Turner 2004). Hidasi (2007) did not list Cliff Swallow for Goiás.

GREY-CHESTED GREENLET *Hylophilus semicinereus*

One observed and tape-recorded in mature riverine gallery forest near Caseara, Tocantins, on 20 August 2004 (AW). Recently found nearby in the Parque Estadual do Cantão (Buzzetti 2004), Dornas & Pinheiro (2011) mentioned a specimen (MZUSP 52918) from Araguatins; the species' southernmost limit in the Tocantins–Araguaia interfluvium is presumably in the northern Bananal.

CONE-BILLED TANAGER *Conothraupis mesoleuca*

This recently rediscovered and Critically Endangered species was observed in wet gallery forest along the rio Formoso, in Emas National Park, Goiás, on 25–28 October 2005 (an apparently mated pair plus a second male on 25 and 28 August, and what was believed to be an immature male at a second site on 27 August; AW, KJZ), 3–7 November (three males and an apparent pair; AW) and 22–23 December 2008 (pair; GMK, JP, WP). Following its initial discovery in August 1938 at Juruena, 'north-east' of Cuiabá, Mato Grosso, by J. A. Vellard, who collected the male holotype (Berlioz 1939), *C. mesoleuca* disappeared from the ornithological 'radar' until 2003, when it was found in Emas, although confirmation did not come until October 2004 (Buzzetti & Carlos 2005). Subsequently, in September 2006, an apparently substantial population of the species was discovered along the upper rio Juruena, in the Chapada dos Parecis, western Mato Grosso (P. Develey *in* BirdLife International 2008, Candia-Gallardo *et al.* 2010), remarkably close to where J. F. Pacheco (*in* Sick 1997) had considered the whereabouts of Vellard's 'Juruena' to be, which he had speculated to be the headwaters of the rio Juruena, in the Chapada dos Parecis, *c.*400 km north-west of Cuiabá. Recently, the detective work of Candia-Gallardo *et al.* (2010) has confirmed that Vellard really was in this region at the time the type specimen was collected. Other than the latter contribution, remarkably little has been published on the habits and ecology of Cone-billed Tanager since its rediscovery, prompting the remarks here.

GMK *et al.* found a pair of *C. mesoleuca* in the same, relatively small, patch of dense gallery forest with a canopy height of *c.*10 m, and some emergents (mainly *Mauritia* palms) reaching 15+ m, on the north bank of the rio Formoso, on both days of field work in December 2008. The forest at this season was by now extensively inundated, with much standing water >5 cm deep in places. Candia-Gallardo *et al.* (2010) already noted a strong preference for such habitats during their surveys of the upper rio Juruena. We have searched apparently similar habitats in parts of the Araguaia Valley using playback, to date without success. Dense seeding bamboo, up to 3–4 m tall, was present virtually throughout the forest patch. The pair was initially located using playback, whereupon the previously unseen male of the pair appeared virtually instantaneously, within *c.*60 seconds of initiating the broadcast. But only after *c.*5 minutes of the song being first broadcast did the male (Fig.



Figure 7. Veery *Catharus fuscescens*, Emas National Park, Goiás, December 2008 (© W. Price)

Figure 8. Male Cone-billed Tanager *Conothraupis mesoleuca*, Emas National Park, Goiás, December 2008 (© W. Price)

Figure 9. Female Cone-billed Tanager *Conothraupis mesoleuca*, Emas National Park, Goiás, December 2008 (© W. Price)

Figure 10. Type specimen (FMNH 75034) of Blue-necked Tanager *Tangara cyanicollis albotibialis*, Veadeiros (= Alto Paraíso de Goiás), northern Goiás, collected on 9 December 1929 by J. Blaser (Mary Hennen / © Field Museum of Natural History, Chicago)

8) sing in response and then only relatively briefly and weakly. In contrast, the female (Fig. 9), which was only seen some time later, never approached the recording during our observations, unlike the male, which consistently responded to playback, albeit much more weakly after the initial response on both mornings in the area. AW & KJZ have observed female-plumaged birds (possibly including young males) exhibiting weaker response to playback, only responding after 2–3 minutes, always with a single, harsh, loud *chip* note (most reminiscent of Ultramarine Grosbeak *Cyanocopsa brissonii*), given at intervals of just *c.*1 minute. In response to playback, they observed one male making exaggerated tail side-to-side switching, and wiping its bill on a branch. Candia-Gallardo *et al.* (2010) reported similar sexual differences in response to playback. Although these latter authors also provided a description and photograph of the female, we consider it worthwhile to present another image of this plumage because the individual encountered by GMK *et al.* was clearly more rufescent, especially on the upperparts, than the bird collected by Candia-Gallardo *et al.* (2010).

Each song phrase lasts *c.*3.5 seconds and consists of an abrupt burst of notes, commencing with a handful of more scratchy and less resonant ones, before becoming more rhythmical, strident and culminating in several more melodic notes, the last one generally the loudest and most powerful of the entire phrase. Occasionally several phrases are given in rapid sequence. In the morning of 3 November 2007, in response to playback, AW observed a male approach and land in the uppermost branches of an Annonaceae, from where it performed a long display flight (lasting 30–45 seconds and covering *c.*100 m) while singing, initially with exaggerated wing flapping to gain height at a *c.*35° angle. Following the course of the gallery forest, while flying away from AW, until it was 7–10 m above the canopy, it gradually descended into a tree crown, from where it sporadically sang. What was judged to be an immature male (female-plumaged, but with a distinctly paler bill) was observed by KJZ & AW on 27 November 2005 to make repeated display flights, in full song, high above the canopy of the *brejo* within Emas National Park. In the morning of 6 November 2007, while AW was observing a pair in gallery forest scrub, another adult male appeared and the two males chased each other in flight over the bushes and into the taller forest, where they were lost to view. Both members of the apparent pair in December 2008, which were frequently seen in close proximity and maintained contact using single, simple notes similar to those given by the male in song, were faithful to the same area of forest, of *c.*100 m × 30 m, and although they occasionally appeared to depart the area they soon returned. Sonograms were already presented by Candia-Gallardo *et al.* (2010).

In December 2008, the birds mostly foraged in the midstorey, apparently solely on bamboo seeds in the manner of one of the specialist forest-based *Sporophilla* seedeaters, such as Buffy-fronted Seedeater *S. frontalis*, or a Plushcap *Catamblyrhynchus diadema*, by perching close to the top of bamboo stalk, grasping the seed head in the bill and consuming it while still on the stalk. They would occasionally remain feeding on the same stalk of bamboo for some minutes. Candia-Gallardo *et al.* (2010) also reported *C. mesoleuca* feeding on bamboo seeds in the manner of a *Sporophilla*, but also noted the species feeding on exotic grasses and catching insects in flight, while AW & KJZ have noted individuals with mud on their bills, suggesting that they had been feeding on the ground, as well as seeing birds foraging within 15 cm of the forest floor. Further observations are required to determine their ecological significance, specifically to establish whether *C. mesoleuca* is either seasonally or more strongly dependent on bamboo.

The only other member of the genus *Conothraupis*, the similarly plumaged Black-and-white Tanager *C. speculigera*, is known as a breeder only from south-west Ecuador and north-west Peru, with numbers apparently greater after good rains, and perhaps solely as

a very local non-breeding visitor to the west Amazonian basin in south-east Ecuador and eastern Peru (Isler & Isler 1999, Ridgely & Greenfield 2001, Schulenberg *et al.* 2007), with two specimen records from Acre, Brazil (Stotz 1990, Whittaker & Oren 1999), and a sight record from La Paz, Bolivia (Parker *et al.* 1991). All dated records east of the Andes are from the period April–September, except a recent (and extraordinary) photo-documented record from French Guiana in March (Claessens *et al.* 2012), and none from Amazonian Ecuador or Peru is earlier than June. There is also an October 1969 specimen from dpto. Putumayo in south-east Colombia, which has only recently come to light (Lobo-y-Henriques *et al.* 2012). Specific nesting records are dated March–April, but the season almost certainly extends into May (Isler & Isler 1999, Greeney *et al.* 2006, Ingels 2007). BirdLife International (2008), who classify the species as Near Threatened, repeated Isler & Isler's (1999) speculation as whether there might not be separate trans-Andean populations. It is plain that *C. speculigera* too is a highly aberrant member of the Thraupidae; the species' apparently strongly migratory habits, 'strange' song (frequently reported as being icterid-like; *cf.* Coopmans *et al.* 2004), unusually large clutch size, and some behavioural characters (forming single-species flocks, foraging in the understorey or in weeds, flushing en masse into higher strata) are all suggestive of the bird having been misclassified, and the same might prove true of *C. mesoleuca*.

In January 2001, KJZ observed and tape-recorded multiple male Black-and-white Tanagers north of Olmos, dpto. Lambayeque, Peru. These tanagers appeared to be stimulated by recent rains and were persistently vocal throughout the morning. The only vocalisation heard or tape-recorded was a series of short, hollow whistles, with an odd, ringing quality, which was both far-carrying and yet ventriloquial and somewhat difficult to pinpoint to location. These were typically delivered as paired notes, separated by c.0.5 seconds, usually with the first note louder and higher pitched, the second note sounding softer and further away (*kowng keowng*). Gaps between couplets were perhaps two seconds, or, at least twice the gap between the two notes comprising the couplet. Birds delivered these songs / calls from atop low shrubs, and the vocalisation seemed to be in advertisement. As noted above, some observers have described the songs of *C. speculigera* as 'icterid-like', but KJZ thought the quality of the individual notes reminiscent of some calls of Golden-browed Chlorophonia *Chlorophonia callophrys* of Central America. KJZ observed and videotaped one male Black-and-white Tanager that sang from a shrub for several minutes. It partially drooped its wings, while flaring the white coverts at the wing-bend. More noteworthy, this individual appeared to have a semi-concealed, white coronal patch, which the bird exposed as it erected and briefly flared its crown feathers with each song couplet. Nothing in the rather sparse literature on the species mentions any such coronal patch. Neither the vocalisations nor the behaviours associated with them are even remotely reminiscent of those of Cone-billed Tanager (KJZ pers. obs.)

Most recently, Ridgely & Tudor (2009) returned *C. mesoleuca* to *Rhynchothraupis*, the genus in which it was originally described (Berlioz 1939), while noting the possibility that it is most closely related to the monotypic White-naped Seedeater *Dolospingus fringilloides*. Robbins *et al.* (2005) had already considered the relationships of the latter species, using molecular and other techniques, but despite finding strong support for its close relationship to both *Sporophila* and *Oryzoborus* had been unable to resolve whether to recognise one genus or three. These authors did not consider the possibility of a relationship between *Dolospingus* and either species usually included within *Conothraupis*. Storer (1960) long ago postulated the possibility that *C. mesoleuca* is an emberizid, rather than a Thraupidae. We concur with the assertion by Candia-Gallardo *et al.* (2010) that Cone-billed Tanager and *Dolospingus* share several similarities and might yet prove to be closely related, perhaps

even congeneric, and would also add voice to the list of those characters that appear to suggest a close relationship between them. In comparison to *C. speculigera*, the song of *mesoleuca* is obviously more complex and 'rambling' but both species possess some strident, icterid-like notes and are somewhat stereotypical. Furthermore, AW has observed a similar display flight as described above by a male *Dolospingus*, at Presidente Figueiredo, also while singing and landing in an emergent tree 50 m distant from the bird's starting point.

Despite the important clarifications proffered by Candia-Gallardo *et al.* (2010), it bears repetition that the type specimen of *C. mesoleuca* was supposedly obtained in dry forest, which suggests a habitat quite unlike that at Emas and those areas where it has been found in the upper rio Juruena drainage, perhaps indicating that it too makes seasonal movements? In a similar vein, Candia-Gallardo *et al.* (2010: 157) considered that *C. mesoleuca* might possess 'nomadic tendencies'.

BLUE-NECKED TANAGER *Tangara cyanicollis*

Principally distributed through the Andean foothills, from north-west Venezuela to western Bolivia, but distinctly uncommon in Brazil, where *T. cyanicollis* ranges across south-east Amazonian Brazil (Ridgely & Tudor 2009). Of the seven subspecies, the Brazilian endemic *T. c. albotibialis* is extremely poorly known. It was described from Veadeiros (= Alto Paraíso de Goiás), northern Goiás (14°07'S, 47°31'W: Traylor 1950), based on a female specimen, collected on 9 December 1929 by J. Blaser, and held in the Field Museum of Natural History, Chicago (FMNH 75034; Fig. 10). There are recent reports, unidentified to subspecies, from two localities in the region of Pedro Afonso, north-central Tocantins (at 08°25'S, 48°06'W and 08°24'S, 48°04'W: Lopes & Braz 2007) and the Serra do Lajeado (10°09'S, 48°14'W), slightly further south (Bagno & Abreu 2001), which might pertain to this taxon. Unfortunately, the subspecific identity of a specimen from Araguaetins (Dornas & Pinheiro 2011) is apparently unknown, and it was not found during a recent visit to the collection concerned (the Museu de Ornitologia de Goiânia). A second subspecies is relevant to our discussion here, namely *T. c. melanogaster*, which ranges as far east as the left bank of the Araguaia, e.g. at Conceição do Araguaia, Pará (08°15'S, 49°17'W), and from southern Pará south to north-eastern Bolivia (Marantz & Remsen 1994, Dickinson 2003). Despite this comparatively wide range published localities are rather few: these include Utiariti, near Salto Bello (type locality), on the rio Papagaio (13°02'S, 58°17'W), the rio Doze do Outubro, a tributary of the upper rio Juruena (12°22'S, 59°08'W: Cherrie & Reichenberger 1923), Tapirapuã on the rio Sepotuba (14°51'S, 57°45'W: Pinto 1944), Fazenda Tanguro, Querência (12°54'S, 52°22'W: Poletto *et al.* 2009), Rio Cristalino Jungle Lodge, Alta Floresta (Zimmer *et al.* 1997; pers. obs.), all in Mato Grosso, the Serra do Cachimbo (Sick 1957b, Pacheco & Olmos 2005; J. Hidasi specimens in MNRJ), Fazenda Fartura (Somenzari *et al.* 2011) and Serra dos Carajás (c.06°00'S, 50°30'W: Pacheco *et al.* 2007), all in Pará (the latter probably the northernmost locality), and from five localities in the Serranía de Huanchaca, dpto. Santo Cruz, Bolivia (Marantz & Remsen 1994). In addition, H. Sick (specimens in MNRJ) collected this species in Mato Grosso within the upper Xingu drainage, at Jacaré (12°00'S, 53°24'W) and Diauarum (11°12'S, 53°14'W), and at Pindaiba (14°58'S, 52°19'W) and Chavantina (14°40'S, 52°21'W), both on the upper rio das Mortes. AW (unpubl.) has found *T. cyanicollis* in the Parque Indígena do Xingu, also in northern Mato Grosso. The two races are not easily separated in brief views in the forest shade, but *T. c. albotibialis* has the belly blue (black in *T. c. melanogaster*), as well as the white thighs which give rise to its subspecific name. Other than the latter character, it most closely resembles the race *T. c. granadensis* of Colombia. We have records, also unattributed to subspecies, from four new localities in the northern Araguaia Valley, as follows. A pair was in tall gallery forest along the rio Coco, south of Marianópolis do Tocantins, Tocantins,

on 2 August 2009 (AW), at least two were in tall forest c.5 km south of Senhor do Bonfim, Tocantins, on 5 January 2009, and another was seen in a small patch of taller, more humid forest surrounded by degraded *cerrado* 10 km north of Guaraí, Tocantins, on 7 January 2009 (GMK, JP, WP). We also found the species just south of Conceição do Araguaia on 10 September 2004 (GMK *et al.*).

SCARLET-THROATED TANAGER *Compsothraupis loricata*

Small numbers in riverine forest on both banks of the rio das Mortes, around Novo Santo Antônio, Mato Grosso, where it was typically one of the first birds to sing pre-dawn in willows close to the river, with the largest flock of eight birds including several males, in early May 2004 (AW). Two adult males photographed (Fig. 11) at Barreira do Campo, Pará, on 7 January 2013 (GMK, HS). These are the first state records for this ‘odd’ ‘tanager’, which appears to be rather nomadic in north-east Brazil. There is a subsequent record from Mato Grosso, also from Novo Santo Antônio, in March 2012 (R. E. F. Santos; WA 11551). Although classified within the Thraupidae, it is probably better placed elsewhere, possibly within the Icteridae (Jaramillo & Burke 1999). Its highly unusual displays, with males revealing the white bases to the back feathers, combined with its breeding behaviour—utilising old woodpecker holes or hollow palms, and sometimes taking over the nests of Caatinga Cachalotes *Pseudoseisura cristata* (Sick 1997, although see Mazar Barnett *et al.* 2014)—heightens the impression that *C. loricata* belongs outside the Thraupidae.

YELLOW-BELLIED DACNIS *Dacnis flaviventer*

A pair was observed and photographed in tall gallery forest beside the Araguaia just north of Barreira do Campo, Pará, on 16 November 2011 (GMK, SC *et al.*). A specimen (MOG 619) from Araguatins, on the Tocantins side of the river has recently come to light (Dornas & Pinheiro 2011), which appears to be the easternmost record available to date. The previous eastern limit of its range south of the Amazon is the Serra do Cachimbo, in the Tapajós–Xingu interfluvium (Santos *et al.* 2011), some c.800 km to the west of Araguatins and c.700 km from Barreira do Campo, although the recent discovery of *D. flaviventer* north of the Amazon in Amapá (Schunck *et al.* 2011) hints at the possibility of further range extensions.

SAFFRON FINCH *Sicalis flaveola*

This relatively common and widespread South American bird’s range in central Brazil is substantially and consistently under-estimated on maps within standard reference works such as Ridgely & Tudor (1989, 2009) and field guides (e.g. Sigrist 2008). In contrast, Hidasi (1998) mapped Saffron Finch as occurring virtually throughout Tocantins, with the exception of the extreme north of the state, yet simultaneously omitted Orange-fronted Yellow Finch *S. columbiana* from his list. In the Araguaia Valley it is reasonably numerous more or less throughout despite the widespread presence of *S. columbiana*, which occupies similar habitats to the present species. We have found *S. flaveola* from Emas National Park, in extreme south-west Goiás (GMK, AW), in the south, to Araguacema, Tocantins, in the north, including various localities in Mato Grosso (e.g. Vale do Sonho, Serra do Roncador, and Araguaiana) and south-east Pará. Although Buzzetti (2004) and Pinheiro & Dornas (2009a) found only *S. columbiana* in the Parque Estadual do Cantão, Tocantins, *S. flaveola* was already listed for one locality in the Jalapão region (Pacheco & Olmos 2010), also well beyond the range mapped in Ridgely & Tudor (1989, 2009). Furthermore, Saffron Finch is known from even further north in the latter state, e.g. in the Serra dos Carajás (Pacheco *et al.* 2007), although to the west only Stripe-tailed Yellow Finch *S. citrina* has been found, on the Serra do Cachimbo (Pinto & Camargo 1957).

RUSTY-COLLARED SEEDEATER *Sporophila collaris*

Nominate *S. c. collaris* is generally considered to range west as far as Goiás and Mato Grosso from south-east Brazil, in Rio de Janeiro and Espírito Santo (Ridgely & Tudor 1989, Dickinson 2003, Kirwan 2007). There is now ample evidence for its presence further north, in the state of Tocantins, although to date it seems to be confined to the immediate environs of the Ilha do Bananal and the Araguaia Valley, where already mapped by Ridgely & Tudor (2009). Pacheco & Olmos (2006, 2010) failed to find it in south-east Tocantins or the Jalapão region, respectively, and Lopes & Braz (2007) in central Tocantins. A male was observed beside the rio do Coco, just north of Caseara, Tocantins, on 26 January 2002 (GMK, DB, AG, JM) and it was found in small numbers on river islands opposite Caseara on 22–26 August 2002 (AW, KJZ; KJZ videotape) and August 2009 (AW). Buzzetti (2004) found the species at many localities within the Parque Estadual do Cantão, just south of Caseara, and Pinheiro & Dornas (2009a), who considered the species rare in this region, also found *S. collaris* in the Área de Proteção Ambiental Ilha do Bananal. In July 2010 probably several hundreds were present in the region of Rancho Isadora, west of Lagoa da Confusão, Tocantins (GMK, WP). In late December 2008 and July 2010, *S. collaris* was found in relatively small numbers at eight localities in the Araguaia Valley between the rio Babilônia, east of Alto Araguaia, Goiás, and Chapéu de Plano, Goiás, as well as at two localities in immediately adjacent Mato Grosso (GMK, JP, WP). The species has also been found recently in south-easternmost Para (Somenzari *et al.* 2011) and an adult male in moult was observed in a small flock of *c.*50 mixed *Sporophila* at Pingo de Ouro, Floresta de Maués, Amazonas, on 5 June 2010 (AW). The flock also contained Lined Seedeater *S. lineola*, Chestnut-bellied Seedeater *S. castaneiventris*, Wing-barred Seedeater *S. americana* and Blue-black Grassquit *Volatinia jacarina*. Virtually all of the males observed, including those in Tocantins, clearly conformed to *S. c. collaris*. However, the majority of those examined in Goiás (and a minority of those in Tocantins) showed some buff elements in the white parts of the plumage, especially the posterior underparts (see discussion in Kirwan 2007). The only exception was the observation of one or two males clearly attributable to one of the rufous-plumaged subspecies (*S. c. melanocephala* or *S. c. ochrascens*) in rough pasture between Lagoa da Confusão and Barreira da Cruz, Tocantins, on 19 November 2011 (GMK *et al.*).

COPPER SEEDEATER *Sporophila bouvreuil* / **PEARLY-BELLIED SEEDEATER** *S. pileata*

A recent taxonomic revision of the Capped Seedeater *S. bouvreuil sensu lato* recommended to recognise two species, which are partially sympatric, one with reddish-brown male plumage and the other with greyish to white male plumage, namely *S. bouvreuil* and *S. pileata*, respectively, while treating *S. b. saturata* Hellmayr, 1904, and *S. b. crypta* Sick, 1968, as synonyms of *S. bouvreuil* (Machado & Silveira 2011). Machado & Silveira (2010, 2011) pointed to a zone of contact between the two species in the states of São Paulo and western Minas Gerais (the latter around Indianópolis). North of this in the Araguaia Valley, Machado & Silveira (2011) located records (specimens, literature references, etc.) only of *S. bouvreuil*, even during the austral winter. Our surveys of this region, during various months, reveal that *S. pileata* regularly reaches north of the distribution circumscribed by Machado & Silveira (2010, 2011), especially in the austral winter but also during those months (September–March) considered as the breeding season by these authors.

Records of *S. pileata* are as follows. At Emas National Park in October 2005, KJZ & AW recorded two on 24 October, singles on 28–29 October, and 20+ with mixed-species *Sporophila* flocks on 30 October (KJZ photos). Several small flocks were found within mixed groups of *Sporophila* (mostly *S. plumbea*) in Emas National Park, Goiás, on 3–7 November 2007 (AW). In 2008 / 09, small flocks (all of <10) were recorded at Emas National Park, on 22



11



12



13

Figure 11. Scarlet-throated Tanager *Compsothraupis loricata*, Barreira do Campo, Pará, January 2013 (© H. Shirihai / *Photographic handbook of the birds of the world*)

Figure 12. Pearly-bellied Seedeater *Sporophila pileata*, Emas National Park, Goiás, December 2008 (© W. Price)

Figure 13. Orange-backed Troupial *Icterus croconotus*, Barreira do Campo, Pará, January 2009 (© W. Price)

December (Fig. 12), south of Perolândia, Goiás, on 26 December, between Barra do Garças and Araguaiana, Mato Grosso, on 27 December, at Registro do Araguaia, Goiás, on 29 December, and at Aruaña, Goiás, on 30 December (GMK, JP, WP). In 2010, small numbers were present at Água Santa, Goiás, on 3 July and at Aruaña, Goiás, on 5 July (GMK, WP). Photographs posted on www.wikiaves.com.br also indicate that *S. pileata* ranges north to Goiás and eastern Mato Grosso.

S. bouvreuil was a fairly common breeding bird (multiple territorial males singing) in *varjão* (seasonally flooded *cerrado*) by the rio das Mortes, 8 km north of Novo Santo Antônio, Mato Grosso, in early May 2004 (AW). There was a single male at Aruaña, Goiás, on 30 December 2008, with small numbers at Barreiro do Campos, Pará, on 2 January 2009 and between the rio Caiapó and Araguacema, Tocantins, on 4 January 2009 (GMK, JP, WP), as well as one at Registro do Araguaia, Goiás, on 3 July 2010, a single male and five males at Rancho Isadora, west of Lagoa da Confusão, Tocantins, on 12 and 13 July 2010, respectively (GMK, WP), a single male at Conceição do Araguaia, Tocantins, on 4 November 2011 (GMK et al.) and small numbers again at Barreira do Campos, Pará, on 10 January 2013 (GMK, HS).

Additionally, we report a second record of sympatry between *S. pileata* and *S. bouvreuil* from western Minas Gerais, namely at least three male *bouvreuil* among many *S. pileata* and

other seedeaters midway between Piumhi and São Roque de Minas, on 28 October 2011 (GMK *et al.*).

MARSH SEEDEATER *Sporophila palustris*

Currently treated as Endangered by BirdLife International (2008). Breeds in north-east Argentina (in Corrientes, Entre Ríos and possibly Buenos Aires), southernmost Brazil (Rio Grande do Sul), parts of Uruguay (Ridgely & Tudor 2009) and perhaps in Paraguay (BirdLife International 2008), moving north post-breeding, to south-central Brazil. In addition to records from Bahia, Minas Gerais, Goiás, Mato Grosso, Mato Grosso do Sul, São Paulo and Paraná, it probably also occurs in Santa Catarina, and the species perhaps winters in north-east Paraguay too, but there are very few records (BirdLife International 2008, De Luca *et al.* 2009, Ridgely & Tudor 2009, Lopes *et al.* 2010). At least one recent record from extreme south-east Para, at Fazenda Fartura (09°40'S, 50°23'W), but no details of the numbers involved have been published (Somenzari *et al.* 2011, Cavarzere *et al.* in press). Recent evidence for the species' presence during the austral winter in Tocantins has been published. F. Olmos (*in* De Luca *et al.* 2009) reported significant flocks of *S. palustris* in the north-east of the state at the border with Maranhão, in the Monumento Natural das Árvores Fossilizadas (07°25'05"S, 47°45'58"W), but subsequently Olmos & Pacheco (2011) mentioned just a single male on 5 July 2005, while Dornas *et al.* (2013) mentioned observing four males at the confluence of the rios Formoso and Xavante, in the municipality of Dueré, on 6–7 October 2011. The following records therefore appear to be the second for the state of Tocantins: minima of ten males on 11 July 2010 and five males on 12 July 2010 at Rancho Isadora, west of Lagoa da Confusão (10°49'S, 49°71'W: GMK, WP). The species is easily identified given the white throat, upper breast and cheeks, contrasting strongly with the grey cap and rufous posterior underparts, in particular. GMK has experience with this species from north-east Argentina in the breeding season. Other seedeaters present in the same area for comparison included the following four species, as well as *S. collaris*, Plumbeous Seedeater *S. plumbea*, Yellow-bellied Seedeater *S. nigricollis*, Double-collared Seedeater *S. caerulescens*, White-bellied Seedeater *S. leucoptera* and *S. bouvreuil*, which formed mixed flocks (at least one of which contained all 11 species) of up to 200 individuals. The birds frequented tall grass alongside dirt roads, but they also frequented well-vegetated wet ditches between rice cultivation and fed in soya crops. Given the large numbers of birds present and the practical impossibility of separating the females and or non-adult males of many species in the field, the true numbers of all species of conservation concern listed here can be expected to be significantly greater than recorded. Follow-up surveys for these species during future austral winters should be attempted to more accurately estimate the numbers of *S. palustris* and *S. cinnamomea*, in particular, wintering in this region of Tocantins. In addition, 6+, including several adult males, observed at Emas National Park on 30 October 2005, associated with a large mixed-species *Sporophila* flock (AW, KJZ).

CHESTNUT SEEDEATER *Sporophila cinnamomea*

The globally Vulnerable *S. cinnamomea* breeds in north-east Argentina, western and extreme south-east Uruguay, extreme south-east Paraguay and southernmost Brazil (in western and south-central Rio Grande do Sul). It is presumed to winter principally in Brazil (where there are records in Pará, Goiás, Minas Gerais, São Paulo, Mato Grosso do Sul and Paraná) but perhaps also in north-east Paraguay (Ridgely & Tudor 1989, BirdLife International 2008, De Luca *et al.* 2009, Ridgely & Tudor 2009, Lopes *et al.* 2010). The following records appear to be the first modern records for the state of Tocantins (the species was listed without details by Hidas 1998, apparently on the basis of specimens from Tocantínia, collected May 1964:

MZUSP 70000): two males on 11 July 2010 and a single male on 12 July 2010 at Rancho Isadora, west of Lagoa da Confusão (GMK, WP). Near-direct comparison was possible with the similar males of Rufous-rumped Seedeater *S. hypochroma*, which has a grey mantle, and with Capped Seedeater, which has a black cap and has the reddish feathering a much more tawny-pink colour. See also comments under *S. palustris* concerning habitat utilised by these birds. Subsequent records are available from the confluence of the rios Formoso and Xavante, municipality of Dueré, October 2011 (WA 1032454), and Pedro Afonso, October 2012 (Dornas *et al.* 2013). Additional records for Goiás are as follows: in Emas National Park, within a large mixed-species flock of 200+ *Sporophila*, AW & KJZ saw at least 20 (many of them apparently subadult males in varying transitional plumage stages; KJZ photos) on 30 October 2005, while two adult males were observed with *S. plumbea* on 4 November 2009 (AW) and an adult male was seen at a large *brejo* c.10 km from Chapadão de Céu on 25 November 2011, with *S. caerulescens* and *S. plumbea* (AW).

DARK-THROATED SEEDEATER *Sporophila ruficollis*

Treated as Near Threatened (BirdLife International 2008), *S. ruficollis* occurs in Bolivia (dptos. Beni, Santa Cruz, La Paz and Tarija), southern Brazil (where recorded in southern Mato Grosso, Mato Grosso do Sul, southern Goiás, western and central Minas Gerais, western São Paulo and Rio Grande do Sul), Paraguay (south-east and Chaco), northern Uruguay and northern Argentina south to Tucumán, northern Córdoba, Santa Fe and rarely Buenos Aires (Ridgely & Tudor 1989, 2009, Vasconcelos *et al.* 2006, De Luca *et al.* 2009). In Brazil, there are also recent records for Rondônia state, an adult male in June 2003 (Whittaker 2004), and southern Amazonas state, an adult male at Fazenda Açuã (Canutama municipality) on 26 July 2010 (F. Olmos, S. & E. Rumsey *in litt.* 2010) and, further north, one feeding in roadside vegetation at Tupana Lodge on 22 July 2010 (AW), and the species has also been reported from Fazenda Fartura, in extreme south-east Pará, but without precise details of numbers or dates (Somenzari *et al.* 2011, Cavarzere *et al.* *in press*). Dornas *et al.* (2013) reported the first records for Tocantins and the northernmost ever: Brejinho de Nazaré (10°42'S, 48°28'W) in August 2001, and Lagoa da Confusão, (10°33'S, 49°55'W) in July 2003. In addition, there were three males on 12 July 2010 and a single male on 13 July 2010 at Rancho Isadora, west of Lagoa da Confusão (GMK, WP). Both observers are familiar with this species from southern Brazil and northern Argentina, and males are, in any case, relatively easy to identify given reasonable views, based on the dark throat, grey crown and dark brick-red underparts. See also comments under *S. palustris* concerning habitat utilised by these birds.

RUFIOUS-RUMPED SEEDEATER *Sporophila hypochroma*

Treated as Near Threatened (BirdLife International 2008), this seedeater is known to breed in north-east Argentina, northern and eastern Bolivia (Ridgely & Tudor 1989, Roda & López-Lanús 2008) and eastern Paraguay (BirdLife International 2008). For Brazil, Sick (1997) mentioned only the record of a large mixed-species flock involving both this species and *S. palustris*, and other congeners, at Emas National Park, Goiás, in October 1984 (where a male of the present species was observed by AW & KJZ on 30 October 2005), but it was also found during October 1979 in the Pantanal east of Corumbá, Mato Grosso do Sul (Ridgely & Tudor 1989). Other records from southern Brazil include those at Fazenda Rio Negro, Aquidauana municipality, Mato Grosso do Sul (Cestari 2006, De Luca *et al.* 2009) and small numbers seen between Pontes e Lacerda and Vila Bela da Santíssima Trindade, in south-west Mato Grosso, in August 2007 and June 2008 (Kirwan & Areta 2009), while Whittaker (2004) reported the first record from Amazonian Brazil, in Rondônia, in June

2003. Other records involve two males at Serra da Canastra National Park, south-west Minas Gerais, in October 1996 (Silveira 1998) and single males there on 22 October 2005 (R. Raby *et al.* in Mazar Barnett *et al.* 2006: 92) and 7 November 2009 (GMK, HS), with three males and a female at a marsh just south of Campinópolis, just south-east of the national park, on 28 October 2011 (GMK *et al.*). These are apparently the sole reports for Minas Gerais. The species was recently recorded in significant numbers in north-east Tocantins at the border with Maranhão, in the Monumento Natural das Árvores Fossilizadas (see Marsh Seedeater), by far the northernmost published locality, while Dornas *et al.* (2013) reported another sight record from the municipality of Dueré in October 2011. We report apparently the second record for Tocantins and further evidence that the species winters much further north than previously considered: four males on 12 July 2010 and a single male on 13 July 2010 at Rancho Isadora, west of Lagoa da Confusão (GMK, WP). Both observers are familiar with this species from southern Brazil and northern Argentina, and males are, in any case, relatively easy to identify given reasonable views, based on the largely grey upperparts, which separate this species from male Chestnut Seedeater *S. cinnamomea*. See also comments under *S. palustris* concerning habitat utilised by these birds.

TAWNY-BELLIED SEEDEATER *Sporophila hypoxantha*

S. hypoxantha breeds across the Southern Cone, from northern and eastern Bolivia south through Paraguay to northern Argentina, and including parts of southern Brazil (Ridgely & Tudor 1989, Sick 1997, BirdLife International 2008). Considered rare in Minas Gerais (Lopes *et al.* 2010). Records further north in Brazil, e.g. in Goiás, are sometimes assumed to pertain to migrants (Sick 1997) although the species' presence in late December and early April in Emas National Park (GMK pers. obs.) suggests that *S. hypoxantha* breeds in at least the extreme south-west of the state. We report what is apparently the third record for Tocantins, following up to 15 males on 5 July 2005 at the Monumento Natural das Árvores Fossilizadas (Olmos & Pacheco 2011) and a specimen taken in the municipality of Peixe (Dornas *et al.* 2013): two males on 12 July 2010 and the same number on 13 July 2010 at Rancho Isadora, west of Lagoa da Confusão (GMK, WP). Subsequently, Dornas *et al.* (2013) reported a male at the confluence of the rios Formoso and Xavante, municipality of Dueré, October 2011. For now we assume that these birds were austral migrants, given that they were mixed with many other obvious migrants and there has been no previous suggestion that *S. hypoxantha* occurs this far north. Care was taken to separate this species from the previous: in comparison to those Rufous-rumped Seedeaters positively identified, males of the present species had noticeably paler rufous rump patches and generally paler, less deep-coloured underparts, and perhaps marginally browner (less grey) upperparts. In addition to Emas, we are familiar with this species from various localities in southern Brazil, e.g. in south-west Mato Grosso. See also comments under *S. palustris* concerning habitat utilised by these birds.

BLACK-BELLIED SEEDEATER *Sporophila melanogaster*

AW encountered an adult male of this unmistakable bird feeding with 15 *S. plumbea* on a dirt road at the edge of Emas National Park, Goiás, on 3 November 2009. Recorded from the Distrito Federal in February and May (Sick 1997), with additional records there in October–November 2011 (www.wikiaves.com.br).

GREAT-BILLED SEED FINCH *Sporophila (Oryzoborus) maximiliani*

Treated as Near Threatened by BirdLife International (2008), the species is now extremely rare throughout its Brazilian range due to demand from cagebird enthusiasts. At least

formerly, in Brazil, Great-billed Seed Finch occurred from Alagoas south to São Paulo and locally west to central Mato Grosso, as well as in Amapá and around Belém (Pará), with other records from south-east Pará and Rondônia (Ridgely & Tudor 1989, Sick 1997). We have records, all of single males or females, from two areas: Emas National Park, south-west Goiás—a territorial adult male and female in gallery forest on 25 October 2005 (AW, KJZ; tape-recorded and photographed), a female-plumaged bird on 6 November 2007, responding to a Ferruginous Pygmy Owl *Glaucidium brasilianum* imitation (AW), a female on 22 December 2008 (GMK, JP, WP) and another female on 4 November 2009 (AW)—and just north of Caseara, Tocantins (female on 3 January 2009: GMK). The species was not reported for the latter region by Buzzetti (2004) or Pinheiro & Dornas (2009a), or for the state of Tocantins by Hidasi (1998). The latter author did, however, already list the species for Goiás (Hidasi 2007). Park guards in Emas reported to AW that they have not seen males there for a number of years, and the species might be close to extinction even in this protected area. Numbers of the considerably more widespread Chestnut-bellied (Lesser) Seed Finch *S. angolensis* in the Araguaia Valley remain reasonably healthy, in contrast to many areas of Brazil, where its populations too have been decimated for the cagebird trade. Further field work in this region of central Brazil might yet reveal some reasonable populations of *S. maximiliani*.

COAL-CRESTED FINCH *Charitospiza eucosma*

Listed for south-east Pará by Novaes (1960), despite the species' comparatively wide range it is currently considered Near Threatened (BirdLife International 2008) as many suitable *cerrados* have already fallen 'under the plough'. Large numbers (probably several tens) of this beautiful finch were present at Barreira do Campo, also in south-east Pará, on 25 and 27 January 2002 (DB, AG, GMK, JM).

ORANGE-BACKED TROUPIAL *Icterus croconotus*

The widespread Troupial *I. jamacaii sensu lato* is now generally considered to comprise three species (e.g. by Gill & Wright 2006, Ridgely & Tudor 2009). Campo Troupial *I. jamacaii* is restricted to north-east Brazil, with *I. croconotus* across much of Amazonia, south to northern Argentina and east to the rio Tapajós and southern Goiás, and Venezuelan Troupial *I. icterus* in northern South America, from northern Colombia through Venezuela and on the islands of the former Netherlands Antilles (Jaramillo & Burke 1999). Both *I. croconotus* and *I. jamacaii* occur at Belém, Pará, the latter taxon in part naturally, the former species solely through escapees (Silva & Oren 1990). *I. croconotus* was observed in tall riverine forest at Barreira do Campo, Pará, on 12 September 2004 and 2–3 January 2009, being photographed there by WP on the last-named date (Fig. 13), and the species had also been found at many localities within the Parque Estadual do Cantão, just south of Caseara, Tocantins, by Buzzetti (2004). In contrast, Pinheiro & Dornas (2009a) listed *I. jamacaii* for the latter protected area. In addition, a pair and a single *I. croconotus* were observed at Luís Alves, on the rio Araguaia west of São Miguel do Araguaia, Goiás, on 8 and 9 July 2010, respectively (GMK, WP), two vocalising birds were recorded at Caseara on 22 August 2002 (KJZ) and at least two were seen at Caseara on 16 November 2011 (GMK *et al.*). Pacheco & Olmos (2006) found *I. croconotus* at one locality in south-east Tocantins, where it is at least locally sympatric with the more widespread *I. jamacaii* in this part of the state. In the Jalapão, Pacheco & Olmos (2010) recorded only the latter species. Ridgely & Tudor (1989, 2009) mapped *I. jamacaii* as extending just west of the Araguaia, and *I. croconotus* as not penetrating the Araguaia Valley from south-west Brazil. As long ago noted by Hellmayr (1908: 39), and confirmed by the recent observations above, *I. croconotus* plainly extends well north in the Araguaia–

Tocantins interfluvium, although he subsequently recommended (Hellmayr 1937: 140) that the rio Araguaia specimen, a female, be re-examined. To date, there is no specific evidence that *I. jamacaii* reaches, let alone crosses, the Araguaia, though it should be looked for in the extensive *cerrados* of western Tocantins.

SCREAMING COWBIRD *Molothrus rufoaxillaris*

Approximately ten adults together with one of the distinctive juveniles, at Caseara, Tocantins, on 1 January 2009 (GMK, JP, WP). Identified on the basis of the juvenile, which might only be confused with any age of Pale Baywing *Agelaioides (badius) fringillarius*, but is considerably darker over the head and body. Screaming Cowbird is generally considered to be restricted to southern and central parts of continental South America (e.g. Ridgely & Tudor 1989, Jaramillo & Burke 1999), with the northernmost record being generally stated to be from Guanacos, Santa Cruz, Bolivia (Remsen *et al.* 1987), although most authors of recent general works have noted evidence of an expanding range in eastern Brazil. This was subsequently confirmed by a steady advance through central and northern Minas Gerais (D'Angelo Neto 2000, Kirwan *et al.* 2001). Thereafter Pacheco & Olmos (2006) mentioned the species for three localities in south-east Tocantins, and subsequently for Jalapão (Pacheco & Olmos 2010), and there are also several records on WA. Hidasi (1998) did not mention the species for Tocantins. The January 2009 sight record becomes marginally the northernmost published to date.

WHITE-BROWED BLACKBIRD *Sturnella superciliaris* /

RED-BREASTED BLACKBIRD *S. militaris*

A male *S. superciliaris* was in rough pasture and heavily modified *cerrado* south of the town of Registro do Araguaia, west-central Goiás, on 29 December 2008, with <5 in the same area on 3 July 2010, and two males and a female in *campo sujo* just south of the rio Piranhas between Araguacema and Senhor do Bonfim, western Tocantins, on the right bank of the Araguaia, on 4 January 2009 (GMK, JP, WP). On the opposite bank of the latter river, GMK *et al.* found at least one male *S. militaris* in *cerrado* at Barreira do Campo, south-east Pará, on 12 September 2004 (*cf.* Dornas *et al.* 2007). Other records of *S. superciliaris* from the Araguaia Valley are as follows: <5 in wet grassland south of Itacaiú, Mato Grosso, on 5 July 2010, and up to 30 in small groups or pairs between Lagoa da Confusão and Barreira da Cruz, Tocantins, on 10–13 July 2010 (GMK, WP). A handful of singing males of *S. militaris* were found (and photographed by HS) in cleared areas near Pakaas Palafitas lodge, south of Guajará-Mirim, on the right bank of the rio Mamoré, Rondônia, on 13 November 2006 (GMK) and two male *superciliaris* were present among a group of *militaris* on a beach at the confluence of the rios Purus and Ituxi, south of Lábrea, southern Amazonas, on 17 August 2006 (AW, KJZ). The latter is apparently the first record for the state of Amazonas. Parker & Remsen (1987) already drew attention to the apparent range extension of *S. militaris* in south-west Amazonia, and Sick (1997) to the expanding range of *S. superciliaris* in south-east Brazil. With the exception of the recently reported records of *S. superciliaris* in Tocantins and Maranhão (Dornas *et al.* 2007, Pacheco & Olmos 2010, Sousa Ferreira 2014), these records are more or less beyond the known ranges of these species, and also indicate that they might well come into contact in this region of Brazil, as indeed they do in north-west Bolivia (in dptos. Beni and La Paz), south-east Peru (in dpto. Madre de Dios) and easternmost Amazonian Brazil (in Pará and Maranhão) (Jaramillo & Burke 1999, Fraga 2011). There seem to be few specific mentions of Red-breasted Blackbird for the state of Rondônia, although the species was collected at Maroins, on the rio Machados (= Calama, on the Jiparaná; 08°03'S, 62°53'W), then in Mato Grosso, by Hoffmanns in the late 1890s (Hellmayr 1910, Naumburg 1930). The

range of White-browed Blackbird in the interior of Brazil is generally listed as extending as far north as central Mato Grosso and southern Goiás (Ridgely & Tudor 1989, Jaramillo & Burke 1999). This species is considered to be migratory in south-east Peru (Jaramillo & Burke 1999), whilst *S. militaris* is reputedly at least partially so in Costa Rica (Kiff 1975). It remains to be seen whether that is true of those *S. superciliaris* or *S. militaris* in central Brazil, though Dornas *et al.* (2007) speculated that it appears to be the case for the first-named.

BOBOLINK *Dolichonyx oryzivorus*

Early morning on 4 November 2009, AW heard the distinctive metallic call of this species and observed a lone female in a large *brejo* c.10 km west of Chapadão de Céu; the bird called several more times before flying off high to the south. This appears to be the first state record for Goiás (Hidasi 2007), although a female was subsequently photographed at relatively nearby Araguaiana, Mato Grosso, on 29 May 2011 (R. Giroto; WA 385578).

GOLDEN-RUMPED EUPHONIA *Euphonia cyanocephala*

We detected the presence of a small population of this species (presumably pertaining to the Atlantic Forest subspecies *E. c. aureata*) in Emas National Park, extreme south-west Goiás, although it remains to be demonstrated whether *E. cyanocephala* is resident there or not: a male on 6 November 2007 (AW) and at least two males and two females on 23 December 2008 (GMK, JP, WP). In southern Brazil, *E. cyanocephala* is present from southern Bahia south to Rio Grande do Sul and inland to Minas Gerais and São Paulo (Ridgely & Tudor 1989), but further south in the Atlantic Forest region Areta & Bodrati (2010) recently demonstrated that Golden-rumped Euphonia is merely an autumn / winter visitor to eastern Paraguay and north-east Argentina (Misiones). *E. cyanocephala* was listed for Goiás by Hidasi (2007) and Hilty (2011), but without details as to its distribution. Other, apparently highly disjunct, populations of *E. cyanocephala* occur in parts of the Guianan Shield and southern Mato Grosso (Brazil) / eastern Bolivia (Ridgely & Tudor 1989, 2009). Still others, e.g. in the Serra dos Carajás, Pará (Pacheco *et al.* 2007), are not mapped by standard references such as Ridgely & Tudor (2009). For now, we tentatively assume that the Emas population is another such isolate, rather than the records there being indicative of migration.

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