

**Sympatry of Turquoise-fronted *Amazona aestiva*, Orange-winged *A. amazonica* and Yellow-faced Amazons *Alipiopsitta xanthops* extends to the Paraguayan cerrado**

Turquoise-fronted *Amazona aestiva*, Orange-winged *A. amazonica* and Yellow-faced Amazons *Alipiopsitta xanthops* are widely sympatric throughout the Cerrado biome of central Brazil and eastern Bolivia, and at least part of the Pantanal<sup>13,17</sup>. Within this zone of overlap, *Alipiopsitta* prefers open cerrado with scattered forest islands while the two *Amazona* prefer forest formations, with *amazonica* especially associated with gallery forest<sup>7</sup>. Until recently, of these three species, only *A. aestiva* had been documented in the Paraguayan cerrado<sup>5,9</sup>.

*Alipiopsitta xanthops* is a Near Threatened, Cerrado endemic<sup>2,15</sup>. It was 'not evaluated' by Guyra Paraguay<sup>5</sup>, being treated as a species that has previously appeared in lists of Paraguayan

avifauna<sup>3</sup>, but for which 'no details ... are available'. In a review of psittacids in dpto. Concepción<sup>8</sup>, captive specimens seen in the city of Concepción were considered to have been imported from Brazil, but the species was subsequently documented for Paraguay<sup>1</sup>, at several localities in northern dpto. Concepción, where it is well known to local people and it appears to be a localised but perhaps not uncommon resident.

On 8–10 June 2013 we visited northern dpto. Concepción to document additional localities for *A. xanthops* in Paraguay. Nine were observed arriving at a known roost at Estancia Nu Pyahu (22°25'10"S 56°49'30"W), near Colonia Sargento José Félix López (or Puentesíño) at dusk on 8 June 2013 and at dawn on 9 June 2013 three more were seen flying west along the río Apa at Colonia 6 de Enero Apa (22°15'54"S 56°54'06"W). The latter is a new locality for the species in Paraguay (a full list of known Paraguayan localities is presented in Fig. 1,

with coordinates for published localities<sup>1</sup> being corrected or provided for the first time). At the same location, numerous pairs and small flocks of *Amazona aestiva*, and at least five pairs of *A. amazonica* were observed, and one photographed (RD) along the río Apa. These observations represent the first documentation of the species in Paraguay.

In south-central Brazil *A. amazonica* is widespread throughout Mato Grosso do Sul (www.wikiaves.com.br/mapaRegistros\_papagaio-galego) including the Serra da Bodoquena, which area shares considerable avifaunal affinity with dpto. Concepción<sup>11</sup>. The species is also considered to probably occur in Paraná<sup>14</sup>. Thus, given extensive overlap of these three species elsewhere, that the same is true in Paraguay is unsurprising<sup>15</sup>.

*A. amazonica* is frequently abundant over its vast South American range and may even have increased locally as a result of forest fragmentation. However, hunting for food and capture for the pet trade are potential threats<sup>7</sup>. As in many South American countries, an illegal trade in wild psittacids is well established in Paraguay and is particularly prevalent in species-rich dpto. Concepción, where environmental law enforcement is almost non-existent. The area is within the range of several psittacids of high value on the black market (notably *Anodorhynchus*, *Ara* and *Primolius* macaws)<sup>6,9,16</sup>, but most are rare, and the common *A. aestiva* is thus the main target for trappers<sup>4,12,14</sup>. Though not known to all parrot traders we spoke to, one stated that the species is known locally as 'loro arai' ('cloud parrot') and that it is occasionally traded.

Traders are also familiar with *Alipiopsitta xanthops* but do not consider it a desirable species and thus of limited value, a fact supported by its rarity in the cagebird market<sup>10,16</sup>. The preference of *A. xanthops* for more open habitats, plus its tendency towards semi-nomadism<sup>16</sup> means that it may even be expanding its



Figure 1. Localities where *Alipiopsitta xanthops* has been recorded in Paraguay, based on Álvarez et al.<sup>1</sup> with names of observers provided. Dpto. Amambay: (1) Bella Vista Norte (22°07'30"S 56°30'50"W) *vide* D. Aguilera. Dpto. Concepción: (2) Colonia 6 de Enero Apa (22°15'54"S 56°54'06"W) *this work*; (3) Colonia Jorge Sebastián Miranda (Hugua Nandú) (22°23'S 56°55'W) *vide* F. Díaz; (4) Estancia Nu Pyahu, near Colonia Sargento José Félix López (Puentesíño) (22°25'10"S 56°49'30"W) *vide* A. Diana; (5) San Carlos del Apa (22°15'S 57°17'W) *vide* A. Díaz; (6) Paso Barreto (23°03'S 57°07'W) *vide* R. López; (7) Colonia San Alfredo (22°53'S 57°25'W) *vide* B. Garcete; (8) Paso Horqueta (23°04'S 57°23'W) *vide* J. Benitez.

range in south-central Brazil (F. C. Straube *in litt.* 2012) and perhaps also in Paraguay.

Despite its location on the border with Brazil and at the interface of the humid Chaco and Cerrado eco-regions, difficulties of access and political instability have resulted in dpto. Concepción being one of the ornithologically least-known regions in Paraguay. Testament to this is that large, conspicuous species such as the two parrot species reported here, have escaped previous detection by ornithologists. It can be assumed that more intensive field work in the area will reveal additional, more elusive bird species, and that current knowledge underestimates the region's true biodiversity.

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