First nesting records of Lyre-tailed Nightjar *Uropsalis lyra* in Argentina with notes on its breeding biology

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El Atajacaminos Lira *Uropsalis lyra* es un caprimúlgido andino poco conocido. En Argentina se desconocen aspectos básicos de su biología reproductiva. Presentamos notas sobre su reproducción en base a cuatro nidos ubicados en abruptos barrancos en la selva de yungas de la provincia de Jujuy. Solo la hembra cuidó y alimentó a un pichón durante todo su desarrollo. La hembra alimentó al pichón durante la noche y durante el día permanecieron juntos en reposo.

Lyre-tailed Nightjar *Uropsalis lyra* is patchily distributed in the Andes, with three subspecies: *U. l. lyra* in Venezuela, Colombia and Ecuador, *U. l. peruviana*[2] from Peru to Santa Cruz, Bolivia (larger and redder than *lyra*), and *U. l. argentina*[14] in southern Bolivia and north-west Argentina. The last subspecies was described on the basis of its larger size, but its validity requires further investigation. Although *U. lyra* is poorly known in Argentina, it was considered to be threatened in the country[13], but was recently reclassified as Data Deficient[12]. Throughout its range, the species inhabits humid cloud forest at 800–3,500 m, often near steep cliffs[11]. Despite its large distribution, the species' breeding biology is poorly known. The only reported nest was in a human construction at El Monte Biological Station in Ecuador[7].

In Argentina, *U. lyra* occurs in scrub at the edges of alder (*Alnus*) forest. It has been observed feeding above the canopy of *Alnus acuminata*, *Podocarpus parlatorei*, *Juglans australis* and *Phoebe porphyria*[11]. The species was first reported

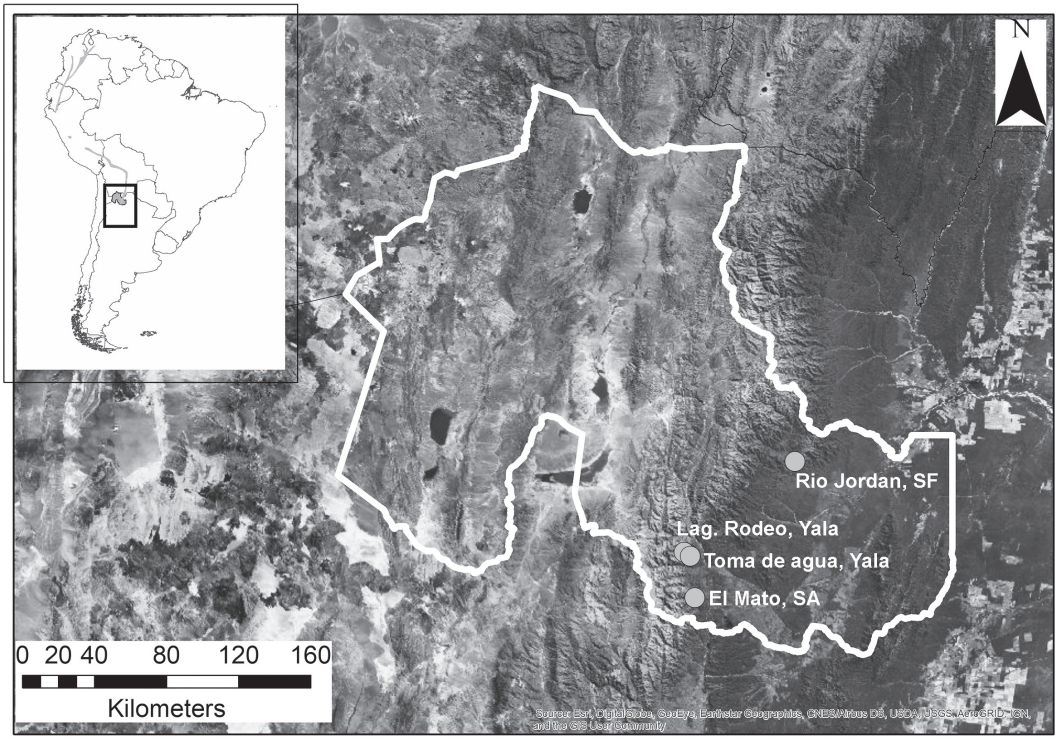

Figure 1. Nesting localities of Lyre-tailed Nightjar *Uropsalis lyra* in Jujuy province (white polygon), Argentina; SF: San Francisco; SA: San Antonio. Inset: global distribution according to Ridgely *et al.*[15] (Main map © Google Earth, 2019.).

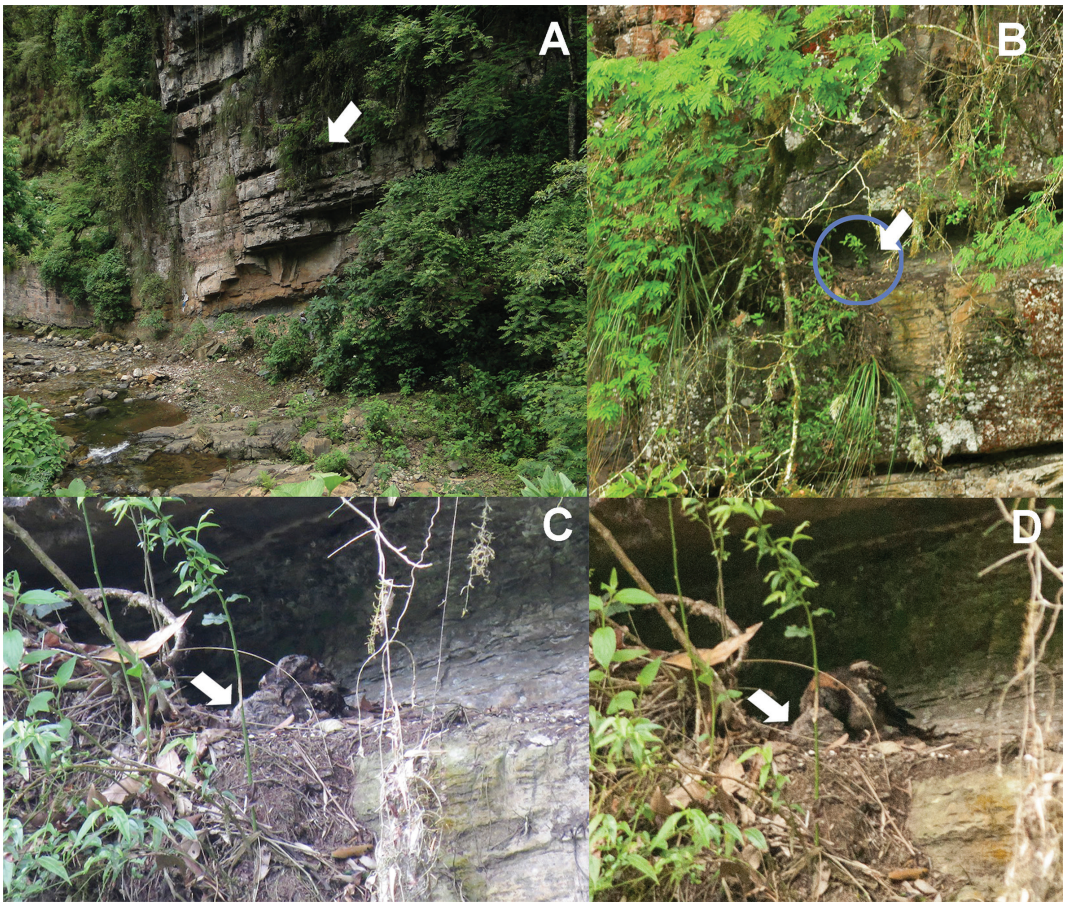

Figure 2. Nest of Lyre-tailed Nightjar *Uropsalis lyra*, San Francisco, Jujuy, Argentina, 13 November 2018: (A) steep cliff above the río Jordan; the white arrow indicates nest site (Carlos Otávio Araujo Gussoni); (B) the nest obscured by vegetation (Giselle Mangini); (C) female and nestling indicated by white arrow (Alex Mesquita); (D) female preening the nestling, indicated by the white arrow (Giselle Mangini)

by Olrog[14] and rediscovered 23 years later in Jujuy[11]. More recently, courtship displays have been reported between mid October and early November[6]. There are currently no published nesting records from the south of its range. Here, we present the first observations of breeding from Argentina. We also report eggs collected earlier and provide brief notes on the species' breeding behaviour and chick development.

Nest sites and description

Nest records are from three different localities in Jujuy province: San Francisco, Yala and San Antonio. The nests described below were all located on steep cliffs adjacent to rivers (Fig. 1).

Río Jordan, San Francisco

In Valle Grande, a few km outside the town of San Francisco, provincial road RP 83 crosses the río Jordan at a point where it is c.8 m wide (23°38'54"S 64°56'16"W; 1,500 m). The river is bordered by a c.50 m-tall, steep, rocky cliff that faces south-east; the cliff is flanked by humid cloud forest typical of the austral Yungas with clumps of a grass known as seringuilla (*Lamprothysus hieronymi*) and small trees growing on the cliff (Fig. 2A–B). On 12 November 2018, GM, FG, COAG & AM observed a nightjar on the cliff, identified as a female *U. lyra* by its rufous nuchal collar, barred breast, pale grey supercilium and scapulars. It remained in the same place for c.1 hour. Despite using playback, we failed to observe any other individuals, although L. Dodyk & P. Grilli reported a male in the same location on 4 November 2018. On 13 November 2018, we observed presumably the same female at the same spot. It raised its breast and head feathers, and began to move sideways awkwardly. At this point, a small chick was visible despite being almost completely concealed (Fig. 2C–D). The chick had

Figure 3. Female and fledgling Lyre-tailed Nightjar *Uropsalis lyra*, San Francisco, Jujuy, Argentina: (A) fledgling in advanced stage (right), showing barred breast and shorter wings than the female, 2 December 2018 (Giselle Mangini); (B) fledgling (right) showing short tail with black and cinnamon bars, black and white barred rump, 2 December 2018 (Giselle Mangini); (C) female, 18 January 2019 (Giselle Mangini)

Figure 4. Eggs collected in Yala, Jujuy province by Juan Mazar Barnett on 19 November 2003 (Yolanda Davies and Dario Lijtmaer)

greyish feathers on its head and breast, with small and diffuse dark bars on the latter.

The nest site was a cluster of dry vegetation with dirt, small twigs and leaves, which had probably accumulated naturally (Fig. 2C). It was sited 15 m above ground on a small ledge, c.50 cm tall and several metres long (Fig. 2A–B). Small plants were growing around the site, providing additional cover (Fig. 2B). We observed the female and nestling over four consecutive hours. They remained at the nest, the female performing breast-neck movements occasionally. We did not observe foraging behaviour, but did see the female preening the chick (Fig. 2D). On 14 November, we visited the nesting site at 11h30, and found the female and nestling in the same place as the previous day.

On 2 December 2018, we studied the nest site between 22h15 and 01h07 during a period of heavy mist and light drizzle; thereafter, we recorded female and chick behaviour every 30 minutes until dawn, whenever the heavy mist lifted. When first found, they were together but on a different ledge c.10 m from the previous spot, indicating that the chick was capable of flight. The fledgling's primaries were shorter than the female's; it had

a heavily barred breast, short tail with black and cinnamon bars, black and white bars on the rump, and an incipient rufous nuchal collar (Fig. 3A–B). The fledgling was fed three times during the observation period; the female regurgitating by engulfing the fledgling's bill and vibrating her neck and head, but we did not observe the female foraging prior to any of these feeding events. However, at 05h54, before sunrise, we could only see the fledgling, and we assumed that the female was foraging. A few minutes later, the fledgling was seen flying above the river. The female and fledgling remained together for the rest of the day, resting on a cliff ledge.

Yala

One nest was found at Parque Provincial Potrero de Yala (PPY) (24°07'14"S 65°27'35"W; c.1,500 m), 18 km north of San Salvador de Jujuy, near Yala water catchment. Forest at PPY is mainly composed of *Prunus tucumanensis*, *Alnus acuminata*, *Podocarpus parlatorei* and *Allophylus edulis*. On 24 October 2018, FB observed a female resting on a dry-leaf cluster of *Alnus acuminata*, facing south. After a few minutes, FB observed two eggs when the female preened. Additionally, we found two eggs at the Museo Argentino de Ciencias Naturales (MACN 68384), collected on 19 November 2003 by J. Mazar Barnett at Laguna Rodeo (24°06'19"S 65°28'46"W; 2,100 m), c.2 km from the October 2018 site. These eggs are cream-coloured with fine dark brown lines that cover the egg without any defined pattern (Fig. 4).

El Mato, San Antonio

In October 2012, FB saw a female resting on a north-facing cliff at the confluence of the ríos Negro and Los Morados (24°19'42"S 65°26'12"W; c.1,400 m). A few days later, D. Zambrano (pers. comm.) accidentally broke an egg in the same place. Forest near this site is dominated by *Juglans australis* and *Myrcianthes pungens*. This site is close to Perico, the type locality of *U. l. argentina*[14].

Discussion

Here we report four nest sites of *U. lyra* in Argentina, all of them in Jujuy province. All of the sites are in the Yungas phytogeographic district, known as Selva Montana and Bosque Montano[4,5]. This phytogeographic district is characterised by evergreen forest, which is very humid due to fog and drizzle mainly during summer.

Only the female tended and fed the nestling, as previously reported by Greeney & Wetherwax[7] in Ecuador for *U. l. lyra* and by Harms *et al.*[8] for Swallow-tailed Nightjar *U. segmentata*, although bi-parental care has been reported in other caprimulgids[8]. The chick observed at río Jordan, San Francisco, had smooth-looking greyish feathers. In general, nightjar feathers start to break their sheaths when the chick is 3–4 days old, some adult feathers are typically evident at 8–9 days[3,10] and limited flying ability is present by 12 days[17]. Based on the development of the chick when first seen, we suggest that it was 6–9 days old and took c.26–29 days to fledge (controlled flight over several metres). The chick did not move at the nest site for at least three consecutive days, whereas the chicks of other species of nightjars are quite mobile[3,10,16,17]. This might be explained by the perilous location of *U. lyra* nest sites on tall cliffs, or by the low predation risk at relatively inaccessible nest sites[7].

The courtship period in Argentina probably occupies late September to early November[6]. We did not record any males in the area from mid November until January, suggesting that courtship had finished. Nonetheless, the species' breeding season appears to vary, with records of courtship and birds in breeding condition in June–August and December in Colombia[9] and January and June–August in Ecuador[7] (www.flickr.com/photos/neotropical_birds_mayan_ruins/9061048561; 9137749959). In Argentina, most nightjar species breed between mid October and January[3,10,16,17], i.e. mid spring to early summer; *U. lyra* is no exception. We found nests with eggs in late October, eggs in early November, and a young nestling in mid November. All the four records presented here indicate that breeding in Argentina occurs during the wet and warmer season (mid spring), matching the reproductive season of other bird species in the area[1]. The lack of previous breeding records might reflect the species' low detectability and its inaccessible nesting places. Further research on the breeding biology of *U. lyra* is needed.

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