

Southward breeding range expansion in Argentina and first breeding record of Barn Swallow *Hirundo rustica* in Patagonia

Luciano N. Segura

Received 29 August 2016; final revision accepted 10 December 2016
Cotinga 39 (2017): 60–62

La Golondrina Tijerita *Hirundo rustica* comúnmente nidifica en el Hemisferio Norte y pasa el invierno en el Hemisferio Sur, pero en la década de 1980 se encontró una pequeña población criando en el centro-este de Argentina, y desde entonces el área de cría se ha expandido de forma constante. En esta contribución reporto la expansión de su área de cría hacia el sur en Argentina, el primer registro de nidificación en la provincia de Río Negro (norte de Patagonia) y el primer registro de nidificación en una nueva ecorregión distinta a las ecorregiones de Pastizal y Espinal en donde comenzó su expansión.

Barn Swallow *Hirundo rustica* is a long-distance migrant distributed worldwide, being probably one of the most widespread and abundant swallows in the world¹⁶. The North American breeding population traditionally wintered in South America, but in the 1980s a small breeding population was also found in coastal Argentina⁸. Since then, the species' breeding range in the country has expanded greatly. Although the breeding of birds in overwintering areas is a rare phenomenon worldwide, the Barn Swallow case is not isolated, as a similar situation is also occurring in Argentina and Chile with Cliff Swallow *Petrochelidon pyrrhonota*¹³.

Initially, Martínez⁸ described six Barn Swallows nests in south-east coastal Buenos Aires province, Argentina, during the 1980–81 breeding season. Since then, population monitoring has shown that the population has increased and may currently number thousands of individuals¹. Several studies^{4,7,11,12} reported the presence of other breeding colonies in south-east Buenos Aires province, all of them near the coast. However, during the past decade the first far inland records were made in Buenos Aires province, west⁹ and north^{6,14} of the original nesting area. Recently, Morici¹⁰ and Grande *et al.*⁵ reported the first breeding sites outside Buenos Aires province, in centre-east La Pampa province in central Argentina. All reports, however, indicate a breeding expansion within the Pampas and Espinal ecoregions³, not in adjacent ecoregions.

The aims of this contribution are to report the expansion of the Barn Swallow breeding population to the south, with the first nesting record in Río Negro province (northern Patagonia) and to discuss the species' occupation of new breeding habitat in Argentina.

Study area and Methods

This study was conducted at 'Colonia Frías' (40°06'S 64°27'W; Fig. 1) near General Conesa, Río Negro

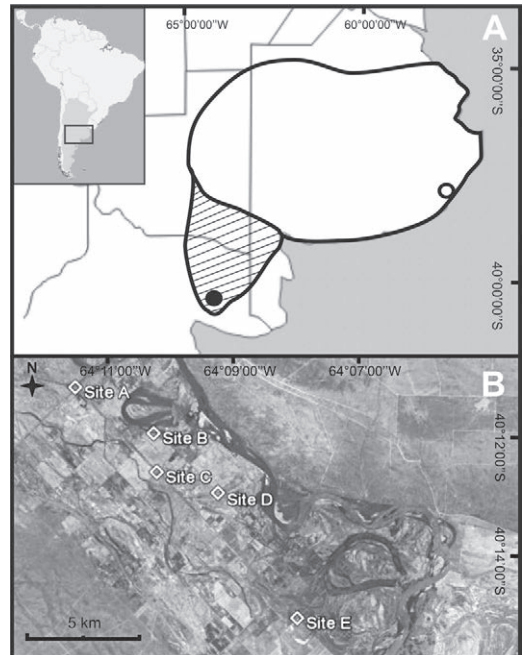


Figure 1. The distribution of the Barn Swallow *Hirundo rustica* breeding population in Argentina (A) and details of the area surveyed in this study (B). (A) The thick black line corresponds to the current known limit of the species' breeding distribution, including records from this study (hatched area). The black dot represents the study area and the white dot the original breeding population reported by Martínez⁸. (B) The white rhombi represent sites with nests.

province, north-east Patagonia, Argentina. The study area is located in the Monte ecoregion³, with vegetation characterised by bushy steppes and marginal xerophytic forests. Summers are warm (max. 41°C) and winters cold (min. -9°C), with annual rainfall of 150–200 mm concentrated in November–March¹⁵.



Figure 2. Nest of a Barn Swallow *Hirundo rustica* attached to a culvert wall under a bridge at General Conesa, Río Negro province, north-east Patagonia, Argentina (Luciano N. Segura)

The study area is 2–4 km from the coast of the Río Negro where natural habitats have been modified to agro-ecosystems. The nesting areas are surrounded by areas with low-density cattle grazing and crop production. Artificial irrigation channels are abundant. I surveyed culverts and bridges below gravel roads by car. These are the most frequently used breeding sites by Barn Swallows in Argentina⁵. I visited potential nest sites once or twice during four consecutive breeding seasons (2012–16). Nests were considered ‘active’ if I observed eggs or chicks in the nest, or if an adult flushed from the nest (or the nest site) when I approached.

Results and Discussion

I checked a total of 17 culverts and bridges identified as potential nest sites along 28 km of gravel roads. The first record of an adult Barn Swallow during the breeding season was on 9 December 2012 at site A (Fig. 1), although I did not find any nests. On 1 February 2013 a single inactive nest was found attached to the culvert wall under the bridge (Fig. 2). On 2 January 2014 (2013–14 breeding season)

I found an active nest at site A. On 28 December 2014 (2014–15 breeding season) I found two active nests at site A, one at site B, and another inactive nest at site C. Finally, on 4 February 2016 (2015–16 breeding season) I observed three inactive nests at site A, one at site D, one at site E and signs of a fallen nest at site E.

These are the first breeding records of Barn Swallow in Patagonia (Río Negro province) and a breeding range extension of c.350 km south of the previously known breeding range in Argentina⁷. It complements previous records of westward^{5,9,10} and northward⁶ expansion from the original nesting area⁸.

In the Northern Hemisphere the species successfully breeds in environments as diverse as high mountains, wetlands and deserts², but in Argentina it has not achieved this degree of ecological plasticity. To date its population is largely restricted to the Pampas ecoregion^{4,5,6,8} with a few records in the Espinal ecoregion^{5,7,10,12}. Mine are the first nesting records in the Monte ecoregion, suggesting that despite the relatively dry and arid environment, the species is still

able to breed due to the presence of man-made infrastructure.

The small but increasing number of nests over the study period suggests a very recent and ongoing colonisation (see also Grande *et al.*⁵). Other authors have also noted that an incipient breeding area often holds a few pairs that progressively increase in number within a few years^{8,12}. As I did not monitor the study area systematically throughout the breeding season, nor did I check adjacent areas, I cannot eliminate the possibility of more nests in the study area or in surrounding areas with many bridges.

Until now, all recorded Barn Swallow nest sites in the Southern Hemisphere have been in man-made structures (see also Salvador *et al.*¹³). The abundance of such potential nest sites will probably enable *H. rustica* to continue its expansion in Argentina. The species' ecological plasticity and the presence of available breeding structures through the country suggests that the species will continue its spread.

Acknowledgements

I thank Chocho Segura, Nicolino Segura and Virginia Lynch for help in data collection, and Adrián Jauregui and Ignacio Roesler for helpful comments on a previous version of this manuscript. The author is a CONICET Research Fellow.

References

1. Billerman, S. M., Huber G. H., Winkler, D. W., Safran R. J. & Lovette, I. J. (2011) Population genetics of a recent transcontinental colonization of South America by breeding Barn Swallows (*Hirundo rustica*). *Auk* 128: 506–513.
2. Brown, C. R. & Brown, M. B. (1999) Barn Swallow (*Hirundo rustica*). In: Poole, A. & Gill, F. (eds.) *The birds of North America*. Philadelphia, PA: Birds of North America Inc.
3. Brown, A. D. & Pacheco, S. (2006) Propuesta de actualización del mapa ecorregional de la Argentina. In: Brown, A., Martínez Ortiz, U., Acerbi, M. & Corcuera, J. (eds.) *Situación ambiental Argentina 2005*. Buenos Aires: Fundación Vida Silvestre Argentina.
4. Fiameni, M. (2001) Nuevos registros de nidificación de la Golondrina Tijerita (*Hirundo rustica*) en la Argentina. *Nuestras Aves* 42: 13.
5. Grande, J. M., Santillán, M. A., Orozco, P. M., Liébana, M. S., Reyes, M. M., Galmes, M. A. & Ceregheti, J. (2015) Barn Swallows keep expanding their breeding range in South America. *Emu* 115: 256–260.
6. Idoeta, F. M., Roda, M. A. & Roesler, I. (2011) La Golondrina Tijerita *Hirundo rustica* sigue expandiendo su área de nidificación en Argentina. *Cotinga* 33: 58–60.
7. Larracochea, G., Durán, H. & D'Acunto, C. (2013) Nidificación de la Golondrina Tijerita (*Hirundo rustica*) en el Balneario Arroyo Pareja, Buenos Aires, Argentina. *Nuestras Aves* 57: 18–19.
8. Martínez, M. M. (1983) Nidificación de *Hirundo rustica erythrogaster* (Boddaert) en la Argentina (Aves, Hirundinidae). *Neotropica* 29: 83–86.
9. Morici, A. (2009) Nidificación de la Golondrina Tijerita (*Hirundo rustica*) en el partido de Puán, Buenos Aires, Argentina. *Nuestras Aves* 54: 35–36.
10. Morici, A. (2012) Primeros registros de nidificación de la Golondrina Tijerita (*Hirundo rustica*) en la provincia de La Pampa, Argentina. *Nótulas Faunísticas* 96: 1–7.
11. Narosky, T. & Di Giacomo, A. G. (1993) *Las aves de la provincia de Buenos Aires: distribución y estatus*. Buenos Aires: Asociación Ornitológica del Plata / Vázquez Mazzini / Literature of Latin America.
12. Petracci, P. F. & Delhey, K. (2004) Nesting attempts of the Cliff Swallow *Petrochelidon pyrrhonota* in Buenos Aires province, Argentina. *Ibis* 146: 522–525.
13. Salvador, S. A., Salvador, L. A., Gandoy, F. A. & Areta, J. I. (2016) La Golondrina Rabadilla Canela (*Petrochelidon pyrrhonota*) cría en Sudamérica. *Orn. Neotrop.* 27: 163–168.
14. Sánchez, A. D. & Solís Fieg, M. J. (2012) Primer registro documentado de parasitismo de Tordo Renegrado (*Molothrus bonariensis*) sobre Golondrina Tijerita (*Hirundo rustica*). *Nuestras Aves* 57: 62–63.
15. Servicio Meteorológico Nacional (2016) *Servicio meteorológico nacional*. Buenos Aires: Secretaría de Planeamiento, Ministerio de Defensa. www.smn.gov.ar (accessed 22 March 2016).
16. Turner, A. (2004) Family Hirundinidae (swallows and martins). In: del Hoyo, J., Elliott, A. & Christie, D. A. (eds.) *Handbook of the birds of the world*, 8. Barcelona: Lynx Edicions.

Luciano N. Segura

Sección Ornitología, Museo de La Plata, Universidad Nacional de La Plata, Paseo del Bosque S/N, La Plata (B1904CCA), Buenos Aires, Argentina. E-mail: luchosegura79@gmail.com.