



FIRST REPORT OF A MAGELLANIC HORNED OWL (*BUBO MAGELLANICUS*) NESTING IN A BUILDING BALCONY

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Abstract · The ability of a species to successfully adapt to urban areas is controlled by certain ecological limiting factors. Many owl species have a negative response to urbanization, while there are others that seem to tolerate, or even thrive, in urban environments. Here, we report a nest of the Magellanic Horned Owl (*Bubo magellanicus*) in a building balcony in a suburban area in the commune of Lo Barnechea, Santiago, Chile. The nest was found in the first week of August 2018, at first bearing a single egg. After 92 days of monitoring, two nestlings successfully abandoned the nest. The use of human-made structures by the Magellanic Horned Owl had not been previously recorded; consequently, this record evidences new nesting opportunities for this owl in urban areas, revealing a change in its reproductive behavior.

Resumen · Primer registro de un tucúquere (*Bubo magellanicus*) nidificando en el balcón de un edificio

La capacidad de una especie para adaptarse con éxito a las zonas urbanas está controlada por ciertos factores ecológicos limitantes. Muchas especies de búhos tienen una respuesta negativa a la urbanización, mientras que otras parecen tolerar, o incluso prosperar, en entornos urbanos. En esta nota, reportamos un nido de un tucúquere (*Bubo magellanicus*) en el balcón de un edificio en un área suburbana de la comuna de Lo Barnechea, Santiago, Chile. El nido se encontró la primera semana de agosto de 2018 con un huevo; luego de 92 días, dos polluelos abandonaron exitosamente el nido. El tucúquere no ha sido registrado previamente utilizando estructuras hechas por el hombre, por lo cual este registro da a conocer nuevas oportunidades de nidificación para estos búhos en zonas urbanas, revelando un cambio en su comportamiento reproductivo.

Key words: Breeding biology · Nest · Owls · Raptors · Reproductive behavior · Unusual nidification · Urban exploiters

The ability of a species to successfully adapt to urban areas is controlled by certain ecological limiting factors absent in natural areas (Poppleton 2016). However, urban habitats may be beneficial for some species, such as raptors, as these environments grant them lower persecution and retaliatory killing and have an abundant year-round food supply, which is why several species of raptors have colonized densely built areas (Solonen & Ursin 2008). Although the density of some avian predatory species may increase along an urbanization gradient, some apex predators that require large home ranges and have specialist diets are largely absent in the urban core (Kettel et al. 2018). Owls are top trophic level predators, often considered vulnerable to habitat loss, and in many instances their populations and distribution have declined as a direct result of landscape modification by urbanization. Despite the fact that many owl species have a negative response to urbanization, there are others that seem to tolerate, or even thrive, in urban environments. Some of these include the Great Horned Owl (*Bubo virginianus*), the Burrowing Owl (*Athene cunicularia*), and the Powerful Owl (*Ninox strenua*; Boal & Dykstra 2018).

The use of artificial nests in sites where natural nesting places are absent or in poor condition can lead to colonization or range expansions of the existing owl species. This may be particularly important, since they do not build their own nests (Bohm 1977). Artificial nesting platforms have been used by a wide variety of owls that use trees for nesting (e.g., the Great Gray Owl [*Strix nebulosa*] and the Great Horned Owl; Bohm 1977). There are some examples of owls from the genus *Bubo* that nest in disturbed and urban areas: Marchesi et al. 2002 found some Eurasian Eagle Owl (*Bubo bubo*) nest-sites close to towns, in forested mountain slopes, and intensively cultivated-urbanized valley floors. In desert regions of Egypt, the Pharaoh Eagle Owl (*Bubo ascalaphus*) is a resident breeding bird whose reproductive behavior has been studied in the suburbs of Hurghada (Moldován & Sándor 2009). The Great Horned Owl has been recorded as well successfully nesting on artificial platforms in urban areas of the United States, specifically in central Minnesota, South Dakota, and Kansas (Conway 1972, Bohm 1977, Dykstra et al. 2012).

The Magellanic Horned Owl (*Bubo magellanicus*) is a nocturnal raptor and the largest of the five species of owls native to

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Figure 1. The nest of a pair of Magellanic Horned owls (*Bubo magellanicus*) with two nestlings (ca. 20 days of age) on an apartment balcony in the commune of Lo Barnechea, Santiago, Chile on October 5th 2018. A) Nestlings of the Magellanic Horned Owl. B) An adult individual of a Magellanic Horned Owl next to a fledgling on the building balcony. Photographs by: María Jesús Leighton.

Chile. It has a wide distribution in the southern cone of South America; its range goes from central Peru and western Bolivia to southern Argentina and Chile (Pavez 2004, Muñoz-Pedreros et al. 2016). This species inhabits a wide range of habitats, including semi-open forests of *Nothofagus* tree species, secondary forests, cultivated areas, mountain ranges up to 4500 m a.s.l., hillsides, and in the Patagonian shrub-steppe (Muñoz-Pedreros et al. 2004, Novoa et al. 2016, Figueroa et al. 2017). The main preys of the Magellanic Horned Owl are rodents, birds, and arthropods (Figueroa et al. 2017). The Magellanic Horned Owl does not build nests and breeds in natural cavities in tree trunks, high platforms and rocky depressions in cliffs, on the ground in well-protected sites, and in abandoned nests belonging to Falconiformes (Muñoz-Pedreros et al. 2004, Figueroa et al. 2017).

Here, we report the observation of a Magellanic Horned Owl nest on the balcony of a building in the central zone of Chile. On August 5th 2018, a pair of Magellanic Horned Owls were found to have laid one spherical egg on a 3 m² balcony of an inhabited apartment, at a height of 12 m, in the commune of Lo Barnechea, Santiago, Chile (33°21'S, 70°32'W). The building used to nest is surrounded by an isolated hill with natural vegetation. Several patches of natural vegetation have been fragmented and isolated by the expanding urban matrix in the area in an ongoing degradation process of habitat quality and connectivity (Fernández 2011). The adults nested directly on the balcony floor, without any nesting material (Figure 1A). The people who live in the apartment constantly monitored the nest and the individuals' behavior, took photographs, and sometimes provided meat to adults, which was not consumed. When the owls were observed, they stood still, with no signs of frightening or aggressive behavior; they only stared at the observers. This behavior contradicts the observations of Figueroa et al. (2017), who described a pair of Magellanic Horned Owl as very aggressive when defending their nest.

The laying period was calculated to have lasted 10 days, and the incubation period started on August 15th 2018, which resulted approximately in 31 days of incubation for the two eggs. This record is in accordance to literature for the species, since the incubation period described in Chile for this owl ranges from 21 to 35 days (Muñoz-Pedreros et al. 2004, Pavez 2004, Figueroa et al. 2017). The first chick hatched on September 15th 2018 and successfully abandoned the nest on October 26th 2018. The chicks remained about 41 days in the nest before fledging. The second chick successfully abandoned the nest on November 5th 2018, remaining approximately 52 days in the nest before fledging. At the end of the breeding period, nestlings are expelled from their natal site by their parents (Housse 1945, Figueroa et al. 2017; Figure 1B). During the breeding period, the two adults were observed feeding the nestlings with rodents and rabbits. The Magellanic Horned Owl has been described to primarily consume certain species of small mammals (Jaksic et al. 1997, Iriarte et al. 1990, Muñoz-Pedreros et al. 2016).

The observation of a pair of Magellanic Horned Owls nesting in a human-made structure reveals the ability of this species to use artificial nesting structures, which had not been previously recorded. A similar case of owls nesting in urban areas was reported by Smith et al. (1999), who observed that Great Horned Owl individuals in rural areas tended to select nesting places in sites with more edge density and forest fragmentation, driven by the urban/suburban sprawl. Urban habitats can differ from natural areas in factors such as supplementary feeding and prey abundance, built structure influences, continuity of forest cover, presence of natural predators, increased land-cover heterogeneity, and weather conditions (Solonen & Ursin 2008, Poppleton 2016). Urban areas could provide relatively stable food resources (e.g., invasive rodents, such as *Rattus rattus*, *Rattus norvegicus*, and *Mus musculus*), as well as warmer microclimatic conditions, creating an attractive niche to be

exploited.

Our record is the first nesting observation of the Magellanic Horned Owl in a building, testifying to the resilience of this species in urbanized and degraded habitats and the use of artificial structures for its reproduction, which highlights the importance of suitable human constructions as a nesting place for the species. Future monitoring will reveal whether the owl pair continues to attempt breeding in the balcony and whether this novel breeding behavior is successful and spreads to new artificial nesting places.

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