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## Diurnal Activity of the Austral Pygmy Owl (*Glaucidium nana*) in Southern Chile

Heraldo V. Norambuena<sup>1,3</sup> and Andrés Muñoz-Pedrerros<sup>2</sup>

**ABSTRACT.**—The Austral Pygmy Owl (*Glaucidium nana*) is usually recorded as actively calling and foraging during daylight. We studied the diurnal activity of the Austral Pygmy Owl over 1 year in Cerro Nielol Natural Monument in southern Chile totaling 339 hrs of observation. The most intense activity was recorded at mid-morning between 0900 to 1200 hrs when conspicuous perching and foraging attempts were observed. Vocalizations showed a pattern associated with the reproductive season. The contact pair call was most used throughout the year (54%), slightly more than the territorial call (46%). Received 20 July 2011. Accepted 14 April 2012.

Yzurieta 1987), often calling during daylight (Housse 1945, Barros 1949) and foraging on diurnal birds, mammals, and reptiles (e.g., Plain-mantled Tit-Spinetail [*Leptasthenura aegithaloides*], White-crested Elaenia [*Elaenia albiceps*], degu rat [*Octodon degu*], and lizards [*Liolaemus* spp.]; Jiménez and Jaksic 1989, 1993). However, to the best of our knowledge, records on diurnal activity are mostly anecdotal and have not been systematically described. Our objective was to collect new data on the diurnal activity of the Austral Pygmy Owl to support the observation that it is primarily a diurnal bird of prey.

The Austral Pygmy Owl (*Glaucidium nana*) is widely distributed in almost all environments in Chile from Atacama (24° S) to Tierra del Fuego (53° S) (Jaramillo 2003). This species has been described by numerous authors as having diurnal activity (i.e., Housse 1945, Barros 1949, Goodall et al. 1951, Venegas and Jory 1979, Narosky and

### METHODS

The study was conducted in Cerro Nielol Natural Monument (CÑNM) (114 ha) (38° 43' S, 72° 35' W), a public protected wildlife area in the central lowland of the Araucanía Region in southern Chile. Most of CÑNM (76%) is covered by temperate forest, dominated by associations of boldo-roble (*Peumus boldus*-*Nothofagus obliqua*), peumo-boldo (*Cryptocarya alba*-*Peumus boldus*), and olivillo (*Aextoxicon punctatum*); less represented (24%) are the open shrublands dominated by maqui (*Aristotelia chilensis*), retamilla (*Teline monspesulana*), blackberry (*Rubus ulmifolius*), and colonial bentgrass (*Agrostis capillaris*) (Hauenstein et al. 1988).

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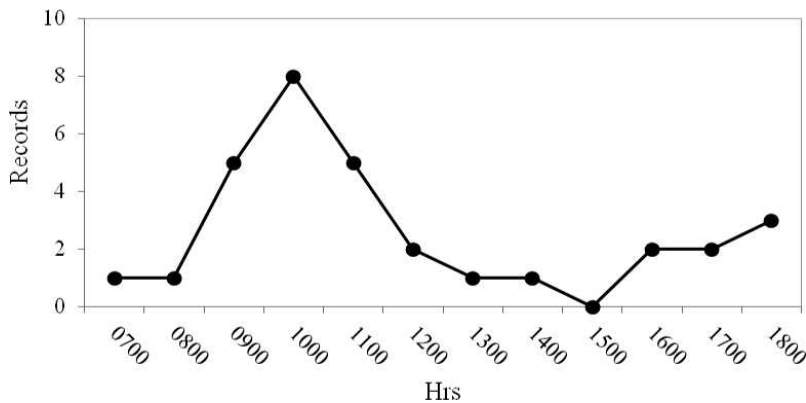


FIG. 1. Daytime activity records of the Austral Pygmy Owl (*Glaucidium nana*) throughout the day in Cerro Ñielol Natural Monument, Araucanía Region, Chile, 2009–2010.

The diurnal activity of the Austral Pygmy Owl was recorded by (1) visual observations with  $7 \times 50$  binoculars and a  $20\text{--}60\times$  telescope, and (2) records of spontaneous calls (without playback, Martínez and Zuberogoitia 2002). We identified vocalizations following Barros (1949) and Goodall et al. (1951): discriminating between the contact pair call as a whistle with 6 to 7 notes/sec described as huj-huj-huj-huj-huj-huj (Jiménez and Jaksic 1989) and a territorial call (incorrectly described as a hunting call by Goodall et al. 1951) as a sharp trill described as trueie-trueie-yi-yi. Observations were conducted from 6 March 2009 (austral autumn) to 26 February 2010 (austral summer), once a week from as early as 0700 through 1900 hrs (mean  $\pm$  SD daily observation time was  $9.97 \pm 0.32$  hrs,  $n = 34$ ) for 339 hrs of observation (112 in summer, 35 in autumn, 98 in winter, and 93 in spring) during 34 field trips.

#### OBSERVATIONS

We obtained 31 records of daytime activity of the Austral Pygmy Owl of which 84% ( $n = 26$ ) were acoustic and 16% ( $n = 5$ ) were visual records.

**Acoustic Records.**—Vocal activity was more frequent at mid-morning between 0900 and 1200 hrs with a marked decline between 1300 and 1600 hrs and a gradual increase toward the crepuscular hours (Fig. 1). Daytime vocalizations were recorded throughout the entire year of study with the contact pair call being the most commonly heard (54% of the records), slightly more than the territorial call (46%). The contact pair call was more frequent (75%) compared to the territorial call (25%) in early spring (1 Aug to 20 Sep) and

during the austral spring (Oct to Dec; 100%) when the territorial call was not recorded. The territorial call was heard more frequently in the austral summer (Jan to Mar; 75%) and austral autumn (Apr to Jun; 100%), when the contact pair call was not recorded.

**Visual Records.**—Visual observations occurred in all seasons of the year (2 in winter, and 1 in each of the other seasons), all between 0800 and 1400 hrs. Individual Austral Pygmy Owls were observed perched and scanning in four of these records. We recorded an individual Austral Pygmy Owl stalking and attacking a White-crested Elaenia, which was  $\sim 3$  m distant perched on a roble beech (*Nothofagus obliqua*) (height 15–20 m) only once (7 Mar 2009 at 1110 hrs); the owl was unsuccessful and returned to its original perch. Two Tufted Tit-Tyrants (*Anairetes parulus*) and one Striped Woodpecker (*Veniliornis lignarius*) approached the owl from the rear at 1121 hrs which continued watching them. The Striped Woodpecker flushed, uttering alert vocalizations when the owl approached to within  $\sim 2$  m, chasing it and the two Tufted Tit-Tyrants. This owl flushed at 1125 hrs and perched on the edge of a road with human traffic.

#### DISCUSSION

Our results suggest the diurnal activity of the Austral Pygmy Owl varies during the day, similar to that reported for other raptors in the Strigidae (Negro et al. 1990, Sovern et al. 1994, Sun and Wang 1997). However, the owl's activity does not reach its maximum immediately after sunrise or before sunset, but during the mid-morning when most passerine birds are still active (Ralph et al. 1996).

Our records of contact pair calls coincided with the period of pair formation (Aug) and laying (Sep–Nov) (Barros 1949, Goodall et al. 1951, Marks et al. 1999), while territorial calls were more common during the juvenile dependence period (Feb–Mar), possibly to stimulate juvenile dispersal from the natal territory (HVN and AM, unpubl. data).

The high proportion of crepuscular/diurnal prey in the diet of the Austral Pygmy Owl (Jiménez and Jaksic 1989, 1993) and occasional observations of daytime foraging and calling (Housse 1945, Barros 1949, Goodall et al. 1951, this study) indicates this owl is largely a crepuscular/diurnal species with a peak of activity in the mid-morning and after sunrise, similar to the Northern Pygmy-Owl (*G. gnoma*), a primarily diurnal species that is most active between dawn and dusk (Giese and Forsman 2003, Sater et al. 2006, Deshler 2011). However, more studies are needed to know more precisely about the nocturnal/diurnal activity and other biological aspects about the little known Austral Pygmy Owl.

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#### LITERATURE CITED

- BARROS, R. 1949. La historia del chucho, *Glaucidium nanum* (King). *Revista Universitaria* 35:17–30.
- DESHLER, J. F. 2011. Nest-site habitat selection and breeding biology of the Northern Pygmy-Owl in northwestern Oregon. Thesis. Portland State University, Portland, Oregon, USA.
- GIESE, A. R. AND E. D. FORSMAN. 2003. Breeding season habitat use and ecology of male Northern Pygmy-Owls. *Journal of Raptor Research* 37:117–124.
- GOODALL, J., A. JOHNSON, AND R. PHILIPPI. 1951. Las aves de Chile. Su conocimiento y sus costumbres. Volume 2. Platt Establecimientos Gráficos, Buenos Aires, Argentina.
- HAUENSTEIN, E., C. RAMÍREZ, M. LATSAGUE, AND D. CONTRERAS. 1988. Origen fitogeográfico y espectro biológico como medida del grado de intervención antrópica en comunidades vegetales. *Medio Ambiente* 9:140–142.
- HOUSSE, R. 1945. Las aves de Chile en su clasificación moderna. Ediciones Universidad de Chile, Santiago.
- JARAMILLO, A. 2003. *Birds of Chile*. Princeton University Press, Princeton, New Jersey, USA.
- JIMÉNEZ, J. E. AND F. M. JAKSIC. 1989. Biology of the Austral Pygmy-owl. *Wilson Bulletin* 101:377–389.
- JIMÉNEZ, J. E. AND F. M. JAKSIC. 1993. Variación estacional de la dieta del caburé grande (*Glaucidium nanum*) en Chile y su relación con la abundancia de presas. *Hornero* 13:265–312.
- MARKS, J. S., R. J. CANNINGS, AND H. MIKKOLA. 1999. Family Strigidae (Typical owls) in *Handbook of the birds of the world*. Volume 5. Barn Owls to hummingbirds (J. del Hoyo, A. Elliott, and J. Sargatal, Editors). Lynx Edicions, Barcelona, Spain.
- MARTÍNEZ, J. A. AND I. ZUBEROGOITIA. 2002. Factors affecting the vocal behaviour of Eagle Owls *Bubo bubo*: effects of sex and territorial status. *Ardeola* 49:1–9.
- NAROSKY, T. AND D. YZURIETA. 1987. Guía para la identificación de las aves de Argentina y Uruguay. Asociación Ornitológica del Plata, Buenos Aires, Argentina.
- NEGRO, J. J., M. J. DE LA RIVA, AND F. HIRALDO. 1990. Daytime activity of Little Owls (*Athene noctua*) in southwestern Spain. *Journal of Raptor Research* 24:72–74.
- RALPH, C. J., G. GEOFFREY, P. PYLE, T. E. MARTIN, D. DESANTE, AND B. MILÁ. 1996. Manual de métodos de campo de monitoreo de aves terrestres. USDA, Forest Service, General Technical Report 159. Pacific Southwest Station, Albany, California, USA.
- SATER, D. M., E. D. FORSMAN, F. L. RAMSEY, AND E. M. GLENN. 2006. Distribution and habitat associations of Northern Pygmy-owls in Oregon. *Journal of Raptor Research* 40:89–97.
- SOVERN, S. G., E. D. FORSMAN, B. L. BISWELL, D. N. ROLPH, AND M. TAYLOR. 1994. Diurnal behaviour of the Spotted Owl in Washington. *Condor* 96:200–202.
- SUN, Y. H. AND Y. WANG. 1997. Tawny Fish Owl activity pattern. *Wilson Bulletin* 109:737–741.
- VENEGAS, C. AND J. JORY. 1979. Guía de campo para las aves de Magallanes. Publicaciones Instituto de la Patagonia, Serie Monografías 11. Punta Arenas, Chile.