

GEOGRAPHICAL DISTRIBUTION AND SYMPATRY OF TUFTED AND PLAIN-MANTLED TIT-SPINETAILS (*LEPTASTHENURA PLATENSIS* AND *LEPTASTHENURA AEGITHALOIDES*) IN ARGENTINA

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Resumen. Analizamos la distribución geográfica de *Leptasthenura platensis* y *L. aegithaloides* en Argentina, con especial referencia a aquellas localidades en donde han sido encontradas juntas ambas especies. La distribución geográfica es presentada en un mapa de puntos que muestra las localidades conocidas para *L. platensis* (185 localidades) y para *L. aegithaloides* (160). Ambas especies se distribuyen en ambientes secos y xéricos. Presentamos el segundo registro de *L. platensis* en la provincia de Mendoza, identificando a la especie mediante el examen de individuos capturados en redes de niebla y el análisis de sus vocalizaciones. Confirmamos información previa sobre cuatro localidades simpátricas y reportamos un nuevo sitio de simpatría. También presentamos otras localidades donde las especies son probablemente simpátricas. *Leptasthenura platensis* y *L. aegithaloides* son simpátricas o potencialmente simpátricas en algunas áreas de vegetación correspondientes a las formaciones del Espinal y del Monte, especialmente en el centro y centro-este de Argentina.

Abstract. We analyze the geographical distribution of *Leptasthenura platensis* and *L. aegithaloides* in Argentina, with special reference to localities where these two species are sympatric. We map the geographical distribution showing known localities of occurrence for *L. platensis* (185 localities) and for *L. aegithaloides* (160). Both species are distributed in dry and xeric environments. A second record of *L. platensis* for Mendoza Province is reported, where the species was mist-netted. We confirm previous information of four sympatric localities, and report a new sympatric site. Further, other localities in which these species are probably sympatric are discussed. We found that *L. platensis* and *L. aegithaloides* are sympatric or potentially sympatric in vegetation corresponding to the Espinal and Monte formations, especially in central and east-central Argentina. Accepted 24 January 1997.

Key words: *Furnariidae*, geographical distribution, sympatry, *Leptasthenura platensis*, *L. aegithaloides*, tit-spinetails, Nacuanán, Argentina.

INTRODUCTION

The Tufted Tit-Spinetail *Leptasthenura platensis* (Reichenbach, 1853), and the Plain-mantled Tit-Spinetail, *Leptasthenura aegithaloides* (Kittlitz, 1830), are two closely related species of Furnariidae (Wetmore 1926). They are allopatric in most

of their ranges (Narosky & Yzurieta 1987, Canevari *et al.* 1991), but Vaurie (1980) pointed out that these two species overlap in the steppes of north-eastern Patagonia and in some areas of central Argentina. Maps in Ridgely & Tudor (1994) show a broad area of overlap. Vuilleumier (1993), however, did not observe actual sympatry

along a transect in northern Chubut Province, although he sighted the two species near each other in two areas, concluding that they are potentially sympatric. Therefore, the geographical distribution of these two species is in need of further study (Vuilleumier 1993: 22). For example, Olog (1963, 1979) and Meyer de Schauensee (1970) gave Chubut Province as the southern limit of *L. platensis*, but Humphrey & Bridge (1970) reported one specimen from Santa Cruz Province, much further south.

Differences in the plumage of these two species include the presence of a crest in *L. platensis* (absent in *L. aegithaloides*), fourth pair of rectrices cinnamon in *L. platensis* but pale gray to buffy in *L. aegithaloides*, dark crown usually heavily streaked in *L. aegithaloides* (almost unstreaked in *L. platensis*), and throat streaked in *L. platensis* but unstreaked or less streaked in *L. aegithaloides*. Taken together, these characters are distinctive on study skins, but can be difficult to appreciate in the field (Vuilleumier 1993). Although Wetmore (1926), Narosky & Yzurrieta (1987), Canevari *et al.* (1991), and Ridgely & Tudor (1994) described the vocalizations of these species, these are in need of further comparative study (Vuilleumier 1993: 39).

In this paper we analyze the biogeography of *L. platensis* and *L. aegithaloides* in Argentina, with special reference to localities where these two species are sympatric. We confirm previously known sympatric localities, report a new sympatric site (which also constitutes the second record of *L. platensis* for Mendoza Province, Argentina), and present other localities in which these species are probably sympatric.

METHODS

We present the geographic distribution of tit-spinetails on a map, showing known localities of occurrence of these two species. Research to compile this map involved an extensive survey of the literature (see Appendix). In addition, we examined specimens in the collections of the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (MACN), the Facultad de Ciencias Naturales y Museo de La Plata (MLP), and the Instituto Argentino de Investigaciones de las Zonas Áridas (IAIZA). Finally, we carried out field work to further elucidate the distribution of these two tit-spinetails.

Most localities cited prior to 1925 were taken from Cory & Hellmayr (1925). Several localities for Buenos Aires Province were taken from the maps in Narosky & Di Giacomo (1993). Some records for La Pampa, Rio Negro, Chubut, and Santa Cruz Provinces were kindly provided by F. Vuilleumier (unpublished data, 1992 and 1993). Several localities for Neuquén Province were given by M. Babarskas, J. Veiga, and F. Filiberto (pers. comm.), and M. Babarskas provided data for other provinces as well. C. Ludwig kindly informed on specimens of *Leptasthenura* stored in the collections of the U. S. National Museum of Natural History, Washington D. C.

We present a map of the Phytogeographic Provinces of Argentina. The comparison of this map with that of the geographic distribution of the species permits one to obtain data of the type of vegetation that these birds inhabit.

From April 1993 to December 1995 we carried out eleven visits to the Biosphere Reserve of Nacuñán (34°02' S, 67°58' W, Fig. 1). Nacuñán is located in an intermediate latitude of the Monte desert (Morello 1958). The prevailing habitat in the reserve is an open woodland of algarrobo (*Prosopis flexuosa*) with high shrub (*Larrea divaricata*, *Capparis atamisquea*, *Condalia microphylla*) and grass cover. Isolated patches with high cover of chañar (*Geoffroea decorticans*) and shrublands of *Larrea cuneifolia* also prevail in some areas. In October 1994 we tape-recorded individuals in the field. Sonagrams were obtained from these recordings, as well as from previous recordings of both species at other locations. Sound analyses were carried out at the Laboratorio de Investigaciones Bioacústicas de la Fundación "Federico Wildermuth", Gálvez, Santa Fe Province.

RESULTS AND DISCUSSION

Geographic distribution. We were able to obtain a list of 185 localities for *L. platensis* and of 160 localities for *L. aegithaloides* in Argentina (Fig. 1). We did not use unprecise localities, such as "A lo largo del Río Chico de Chubut", or "Córdoba Province", as well as those localities in which the specific identity of tit-spinetails was either dubious or not reported. A complete list of these localities is available from the authors upon request.

The two species of *Leptasthenura* are distributed in dry and xeric environments (see Fig. 1 and 2). In Argentina, *Leptasthenura platensis* occurs mostly from central to northern, northeastern, and eastern regions, inhabiting areas with xerophilous trees and shrubs, belonging to the Chaco and Espinal Phytogeographic Provinces (Cabrera 1976). *Leptasthenura aegithaloides* ranges from the south northwestward toward the extreme northwest of the country, and is found in shrub-steppes, shrublands, and zones with xerophilous trees, belonging to the Patagonian, Monte,

Espinal, and Puna Phytogeographic Provinces (Cabrera 1976).

Some locality records appear to be outside the main ranges as outlined above. For *L. aegithaloides* these outlying records could represent migratory movements, as suggested by Olrog (1979) and Nores *et al.* (1983) for *L. aegithaloides pallida*. These records are in southern Santiago del Estero Province, in Córdoba Province, and in eastern Buenos Aires Province. The locality records for *L. platensis* in Chubut and northwestern Santa Cruz may indicate a southward

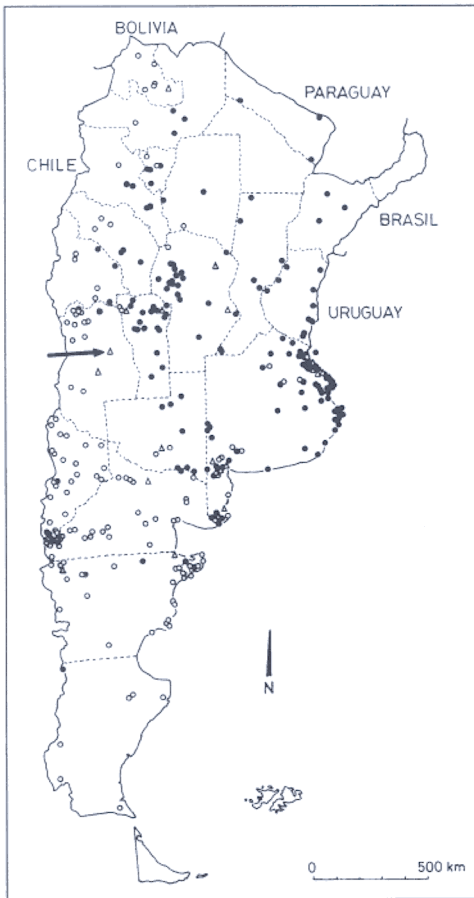


FIG. 1. Geographical distribution of *Leptasthenura platensis* (black dots) and *L. aegithaloides* (circles) in Argentina. The 19 localities where the two species occur together appear as triangles. The Biosphere Reserve of Nacuñán is indicated by an arrow.

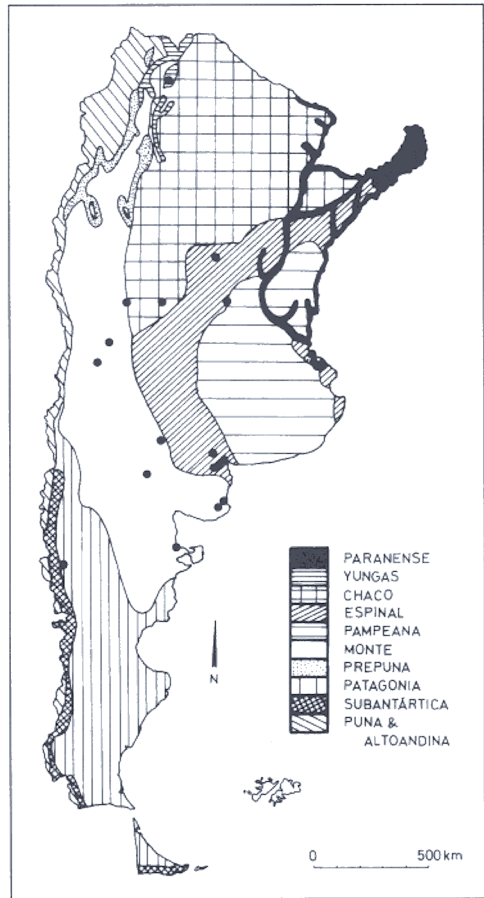


FIG. 2. Phytogeographic Provinces of Argentina, according to Cabrera (1976) and modified by Canevari *et al.* (1991). Province nomenclature follows Cabrera (1976). Localities where *Leptasthenura platensis* and *L. aegithaloides* occur together appear as black dots.



FIG. 3. Tufted Tit-Spintail, *Leptasthenura platensis*, captured in *Larrea cuneifolia* shrubland at the Biosphere Reserve of Nacuñán, Mendoza, Argentina. The 10 g bird was mist-netted 9 August 1994. Photograph by V. R. Cueto.

range extension and emphasize the need to obtain new distributional data in these rarely visited areas.

Leptasthenura spp. in Nacuñán. We observed and/or captured *L. platensis* (Fig. 3) at Nacuñán at every visit. The species was found to be a year-round resident breeding in the Reserve. Average densities in the open woodland in 1993, 1994, and 1995 were 12 individuals/10 ha in winter (August) and 38 individuals/10 ha during the breeding season (October–November). The species occupied the *Larrea cuneifolia* shrubland in lower densities. *Leptasthenura platensis* is a foliage-gleaning insectivore which hops and climbs searching for arthropods in small branches and twigs, mainly in the tops of *Prosopis flexuosa*, *Geoffroea decorticans*, and *Larrea* spp. (Lopez de Casenave, Cueto & Marone; unpub. data).

The observations of *L. platensis* at Nacuñán constitute the second record of this species in Mendoza Province (see Navas & Bó 1987). The identity of the species was confirmed by mist-netted birds (Fig. 3) and by an analysis of their voice. The sonagram obtained at Nacuñán was compared with those of *L. platensis* and

L. aegithaloides obtained elsewhere (Fig. 4). The notes of *L. aegithaloides* are simple, short trills, that can be transcribed as “prrr” (Fig. 4), and which are repeated several consecutive times by the bird (see also Narosky & Yzurieta 1987). *Leptasthenura platensis* emits slightly more complex calls consisting of a series of short syllables followed by a sharp trill (Fig. 4). These can be transcribed as “pit-pit-pit...prrr”. Figure 4c illustrates the call of a Nacuñán individual, showing its resemblance to the call of *L. platensis* from Córdoba.

Contreras (1979) and Marone (1992) reported *L. aegithaloides* as a resident species at Nacuñán. However, after reviewing these data, one of us (LM) established that the record reported earlier by Marone (1992) corresponded to *L. platensis*. Thus, *L. platensis* has been a moderately abundant resident in the Nacuñán Reserve at least from 1985 until today. Five of six *Leptasthenura* specimens collected at Nacuñán (stored at IADIZA) had been identified earlier as *L. aegithaloides* (A01317, A01869, A06352, A06561, A06574), but are, in fact, *L. platensis*. The sixth specimen (A06448), originally identified only as a *Leptasthenura* sp., also belongs to *L. platensis*.

In May 1995 two of us (JLC and VRC) sighted a solitary individual of *L. aegithaloides* in the open woodland at Nacuñán. We identified the bird because it lacked a conspicuous crest and presented an unstreaked white throat. The bird was sighted feeding on arthropods in the foliage of *Larrea divaricata* shrubs, gleaning in and hanging from terminal branches. Our observation not only confirms the report of the species by Contreras (1979) for Nacuñán, but also indicates that the two species of *Leptasthenura* are sympatric there.

Sympatry in *Leptasthenura*. The presence of both *Leptasthenura platensis* and *L. aegithaloides* at Nacuñán is the second reference to their co-occurrence in Mendoza Province. Many years ago, Pereyra (1937) reported three species of *Leptasthenura* (*L. platensis*, *L. aegithaloides*, and *L. fuliginiceps*) at San Rafael, 70 km southwest of Nacuñán. In addition, our review of distributional data indicates that *L. platensis* and *L. aegithaloides* occur together in at least 19 other localities (Fig. 1). In four cases, individuals of the two species were occupying the same area simul-

taneously, as could be determined by collecting dates of the specimens (Table 1). These should be considered, together with Nacuñán, as situations of actual sympatry. In the remaining cases, even though the localities are the same, we can not be sure of the temporal co-occurrence, and therefore these instances remain situations of potential sympatry, as suggested by Vuilleumier (1993) for sites along his transect in northern Chubut.

Leptasthenura platensis and *L. aegithaloides* are sympatric or potentially sympatric in Espinal and Monte areas (Fig. 2), especially in parts of central and east-central Argentina. The arid plains of eastern Mendoza, northern San Luis, southern and southwestern Buenos Aires, and the coastal areas of northeastern Buenos Aires appear to be particularly suitable for sympatry. These areas should be visited to search for new

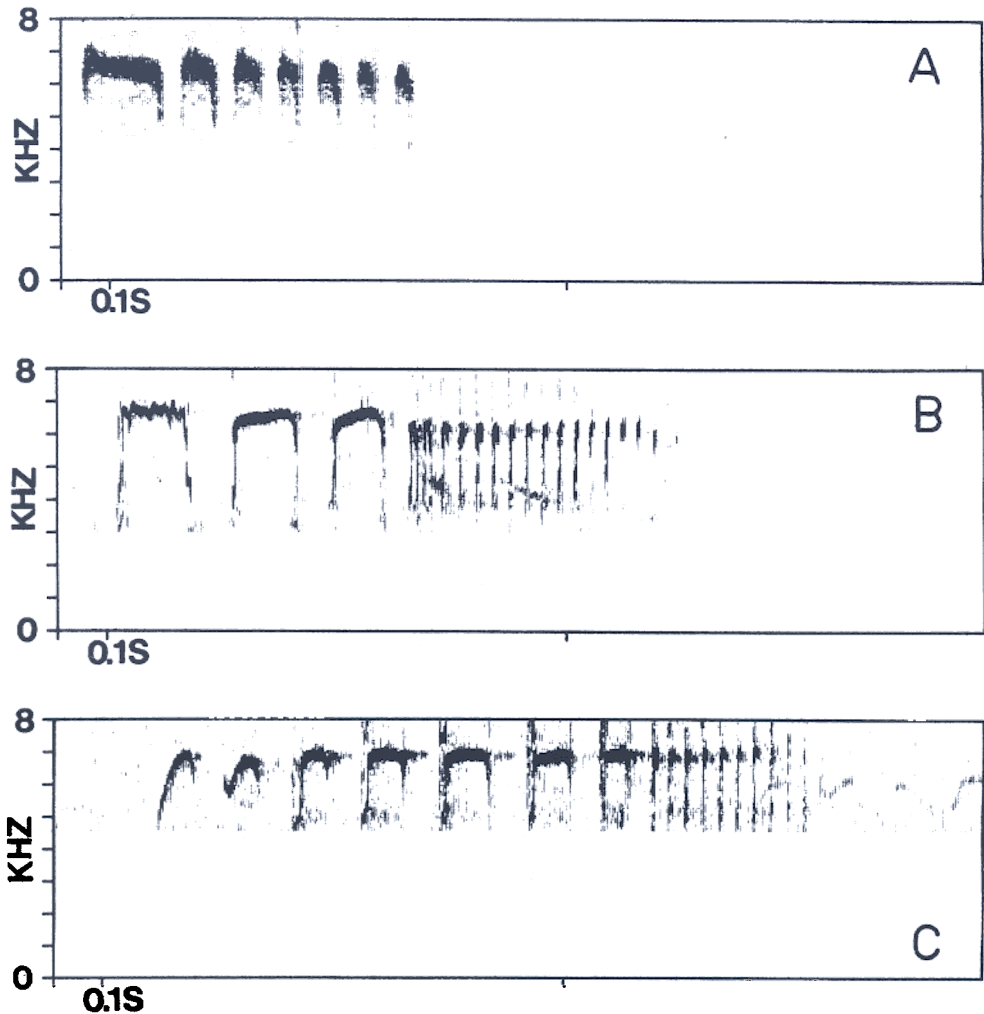


FIG. 4. Sonagrams of Tit-spinetail vocalizations. (A) *Leptasthenura aegithaloides*. Recorded by R. J. Straneck at Isla Victoria, Neuquén; October 8, 1980. (B) *Leptasthenura platensis*. Recorded by R. J. Straneck at Villa General Belgrano, Córdoba; December 14, 1990. (C) *Leptasthenura platensis*. Recorded by V. R. Cueto at Nacuñán, Mendoza; October, 1994. See text for further details.

TABLE 1. Localities where *Leptasthenura platensis* and *L. aegithaloides* are actually sympatric in Argentina, on the basis of site and date of capture from museum specimens (MACN).

Locality	Date of collection		Phytogeographic Province*
	<i>L. platensis</i>	<i>L. aegithaloides</i>	
Laguna Chasicó, Buenos Aires	16 Apr 1967	11 Apr 1967	Espinal
General Cerri, Buenos Aires	12 Feb 1962	12 Feb 1962	Espinal
Leones, Córdoba	27 Aug 1961	7 Sep 1961	Espinal
Lihuel Calel, La Pampa	5 Jun 1963	2 Jun 1963	Monte

* Phytogeographic Province according to Cabrera (1976).

shared localities, as well as to initiate studies on the patterns of coexistence and on the importance of interspecific interactions between these two similar species.

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