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DESCRIPTION OF THE NEST AND EGGS OF THE SHEAR-TAILED GRAY-TYRANT (*MUSCIPIPRA VETULA*) AND CONSIDERATIONS ON ITS HISTORICAL ECOLOGY IMPLICATIONS

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The Shear-tailed Gray-Tyrant *Muscipipra vetula* occurs in Brazil from Espírito Santo and Minas Gerais to Rio Grande do Sul, northeastern Argentina and southeastern Paraguay (Meyer de Schauensee 1970, Ridgely & Tudor 1994). According to Ridgely & Tudor (1994), it is a rare to uncommon species that inhabits the borders of humid montane forests (usually above 1000 m a.s.l.) to a lesser extent out into adjacent clearings or natural grasslands. In Rio Grande do Sul, most records are from northern areas (north of 30° 30'S and east of 53° W) with the exception of one questionable record made by Gliesch in Santo Cristo (27° 49'S, 54° 40'W) in 1930 and the record made by Pacheco and Fonseca in Turvo State Park (27° 00' to 27° 20'S, 53° 40' to 54° 10'W) on 17–19 January, 1990 (Belton 1994).

The published information on the natural history of *M. vetula* is restricted to few behavioral data (Silva *et al.* 1989, Belton 1994, Ridgely & Tudor 1994) or records from surveys in specific forested areas (e.g., Bencke 1996, Gonzaga *et al.* 1995). In northeastern Rio Grande do Sul we have observed *M. vetula* especially in the borders of secondary forests during almost the entire year. This species is commonly seen flycatching around the upper portion of tree tops, or sitting on high, exposed branches. It can also be observed sitting on lower perches and even descending to the ground.

There are no published descriptions of the nest and eggs of *Muscipipra vetula.* Andors & Vuilleumier (1998), when comparing the diversity, variation of nest location, and clutch size in the *Muscisaxicola* Group, presented no data on this monotypic genus. During a bird survey in the "Centro de Pesquisas e Conservação da Natureza – Pró-Mata" (29° 20'25"S, 50° 13'51"W), Mun. of São Francisco de Paula, Rio Grande do Sul, we found a nest of *M. vetula*, on 13 November 1998. The nest was found in an open area, sitting low on a shrub of *Baccharis* sp. (Compositae) surrounded by many other shrubs of different species of *Baccharis* sp. and other pioneer forest vegetation lower than 2 m high. The shrub housing the nest was not very dense above the nest, leaving it partially exposed above.

FIG. 1. Nest of the Shear-tailed Gray-Tyrant *Muscipipra vetula* in the "Centro de Pesquisas e Conservação da Natureza Pró-Mata", São Francisco de Paula, Rio Grande do Sul. Photo by André de Mendonça Lima.

The area around the nest site is partially open, surrounded by montane Araucaria forest at an altitude of about 900 m. Larger trees have been selectively removed from this forest for timber in the recent past (10–40 years ago). The area shows clear signs of regeneration after extensive cattle grazing that ended about 3–4 years before the nest was found, when the former farm was converted into a preservation reserve.

The nest found was a raised, open-cup nest mostly similar in shape to that of a thrush (e.g., *Turdus rufiventris*), except by the fact that it had apparently no mud on it. It was mainly composed of coarse grasses and a few sticks. The external layer was covered with dry, darkened mosses and the incubatory chamber was lined with finer, dry grasses (Fig. 1). Total external diameters of the nest were 133 and 131 mm, and its total depth was 82 mm. Inner diameters of the incubatory chamber were 80 and 73 mm and its depth was 46 mm. The nest was made at less than 1 m from the ground on the shrub. Three eggs were found in the nest, light cream in color (similar of color 54 of Smithe 1981). The eggs were elliptical in one end and rounded in the other. The eggs had all the same apparent size, and one randomly chosen had 23 mm in the longer axis and 17 mm in the shorter.

During our observations one individual of *M. vetula* was incubating the eggs around 16:00. It discreetly left the nest upon our approximation, without any vocalization or agonistic behavior, flying some 10 m away and perching on the top of a 5 m high tree at the edge of the forest, where it stayed observing us. The bird remained at the same place

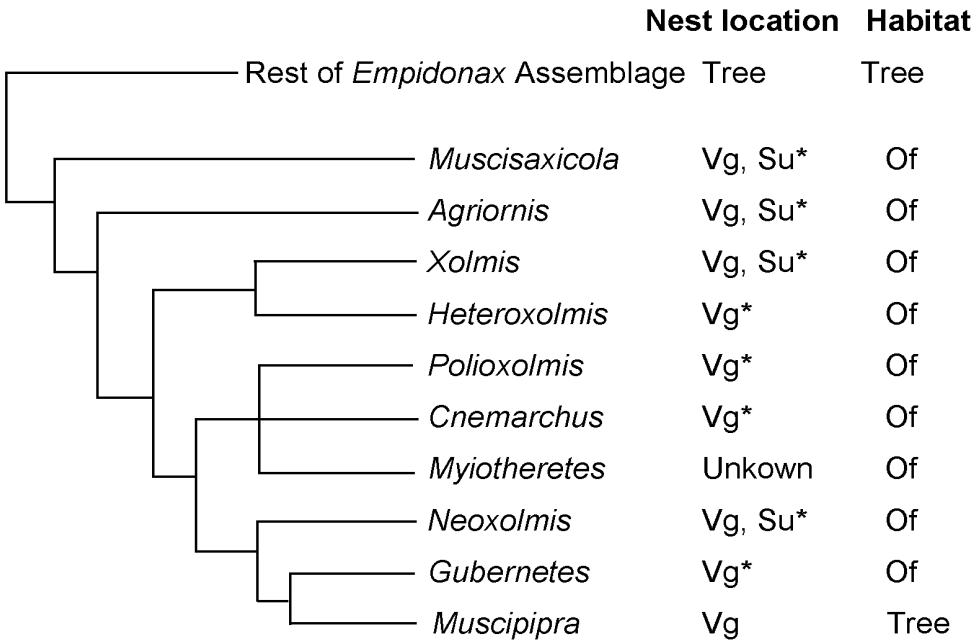

FIG. 2. Phylogenetic relationships of the Bush and Ground Tyrants Group, according to Lanyon (1986: 43). Refer to Lanyon (1986: 44) for the non-reproductive characters supporting each branch. Nest location: Vg = raised open-cup nest in vegetation; Su = superficial or subterranean cup nest (* data from Andors & Vuilleumier, 1998). Habitat: Of = open or steppe-like field; Tree = woodlands.

few minutes later, when we left the area.

Muscipipra vetula belongs to the *Muscisaxicola* assemblage, *sensu* Lanyon (1986) and is considered as sister-species of the Streamer-tailed Tyrant *Gubernetes yetapa,* and this clade is sister to *Neoxolmis*, with three species. The monophyly of this clade and the sister-group relationship of *Muscipipra* and *Gubernetes* are based on non-reproductive characters, mainly on the anatomy of internal cartilages of the syrinx (Lanyon 1986: 44, Fig. 2). Both *Muscipipra* and *Gubernetes*, however, have not been considered related to the *Muscisaxicola* group (bush and ground tyrants) until the anatomical work of Ames (1971), mainly because of their differences in general morphology and habitat (*M. vetula* usually associated with forest formations).

The report of this nest of *Muscipipra vetula* in an open area, close to the ground, is in accordance with the relationships hypothesized by Lanyon (1986). All other genera included by Lanyon (1986) in his *Muscisaxicola* Group inhabit open areas like grasslands or slightly closer steppe-like formations, where they are typically perch-to-ground predators or ground feeders, and reproduce. The nests of the species in this group, including the nest of *M. vetula* herein described, are more commonly an open-cup on or very near the ground, in a slight depression, crevice or burrow, often under or among stones (Lanyon 1986: 44, Andors & Vuilleumier 1998). Viewing the discovery of this nest from a historical ecology perspective (Brooks 1985) can bring some light on the evolution of the habitat preference and nesting habits of this species. In Fig. 2 we map habitat and nest location on

Lanyon's (1986) cladogram of the *Muscisaxicola* group, and we concur with Andors & Vuilleumier (1998: 17) who hypothesized the open-cup structure to be plesiomorphic. The habit of nesting on or close to the ground in open areas, however, is more likely an additional synapomorphy of the bush and ground tyrants, as already suggested by Vuilleumier (1971), who postulated a "major shift during the evolutionary history of the bush and ground tyrants, both from arboreal to terrestrial habitats and from a relatively closed habitat to a much more open one." Accordingly, *M. vetula* shares with the remaining bush and ground tyrants the derived feature of nesting close to the ground in open areas, but the habit of living and feeding on tree tops of borders of montane forests was probably acquired as an autapomorphic reversal.

The nest just described adds a modest contribution to the knowledge of phylogenetic aspects within the *Muscisaxicola* group. Nevertheless, more conclusive considerations about this subject only can be reached with the increase of field information on the ecology and behavior of the species, including the observations of additional nests.

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