

Floristic patterns of the neotropical forests, savannas and scrublands with *Trithrinax campestris* (Arecaceae) in central Argentina

Sebastián R. Zeballos¹, Marcelo R. Cabido¹, Juan J. Cantero^{1,2}, Alicia T.R. Acosta⁴, M. Virginia Palchetti¹, Juan Argañaraz⁵, Paula I. Marcora¹, Paula A. Tecco^{1,3}, Ana Ferreras¹, Guillermo Funes^{1,3}, Victoria M. Vaieretti¹, Georgina Conti¹, Melisa A. Giorgis^{1,3}

1 *Instituto Multidisciplinario de Biología Vegetal (CONICET-UNC), Córdoba, Argentina*

2 *Departamento de Biología Agrícola, Facultad de Agronomía y Veterinaria, UNRC, Córdoba, Argentina*

3 *Facultad de Ciencias Exactas, Físicas y Naturales, Universidad Nacional de Córdoba, Córdoba, Argentina*

4 *Dipartimento di Scienze, Università degli Studi di Roma Tre, Roma, Italy*

5 *Instituto de Altos Estudios Espaciales Mario Gulich (CONAE-UNC), CONICET, Córdoba, Argentina*

Corresponding author: Melisa A. Giorgis (mgiorgis@imbiv.unc.edu.ar)

Academic editor: F. Fernández-González ♦ Received 7 October 2020 ♦ Accepted 17 December 2020 ♦ Published 17 February 2021

Abstract

Aims: *Trithrinax campestris* is one of the palm species with the southernmost distribution in the Neotropics. Despite that the vegetation types in which *T. campestris* occurs are nowadays heavily threatened by land use and land cover changes, their floristic composition and structure are still to be documented. In order to characterize *T. campestris* habitats, the aim of this study was to describe the floristic composition of the vegetation types in which this palm occurs and their relationships with different environmental factors.

Study area: The survey was conducted in central Argentina in an area comprising the southern extreme of the distribution of *T. campestris* in the following phytogeographic areas: Espinal, Lowland and Mountain Chaco.

Methods: Following the Braun-Blanquet approach we collected 92 floristic relevés recording a total of 601 vascular plant species. Vegetation was classified through the ISOPAM hierarchical analysis. Bioclimatic and elevation data were related to the floristic data through the ISOMAP ordination. Remote-sensed images (Landsat TM, ETM+ and OLI) were used to characterize the fire frequency in the 92 stands.

Results: Four vegetation types that differed in floristic composition and in diagnostic species were discriminated: 1.1 *Celtis tala/Sida rhombifolia* closed forest; 1.2 *Aspidosperma quebracho-blanco/Prosopis kuntzei* open forest; 2.1 *Jarava pseudoichu/Vachellia caven* open savanna; and 2.2 *Acalypha variabilis/Nassella cordobensis* scrubland. The ISOMAP ordination showed that differences in floristic composition were related to elevation, topography and climatic variables. Out of the 92 stands, only 21 showed the occurrence of fires during the period 1999–2018.

Conclusions: Our results evidenced that vegetation types (forests, savannas and scrublands) comprising *T. campestris* developed in a wide range of environmental conditions. This is the first study that focuses on all vegetation types in which *T. campestris* occurs in central Argentina and it is relevant for conservation and sustainable management of the only native palm species in the flora of this part of the country.

Taxonomic reference: Catálogo de las Plantas Vasculares del Cono Sur (Zuloaga et al. 2008) and its online update (<http://www.darwin.edu.ar>).

Abbreviations: ISOMAP = isometric feature mapping; ISOPAM = isometric partitioning around medoids.