



# JULIA TOJA

1946, SPAIN

Chair at the University of Sevilla (Spain) and expert on the ecology and management of ponds, reservoirs and marshes in arid climates.

She is known for her studies on the biology and ecology of algae and rotifers.

In 1978, she imparted for the first time a Limnology course at the University of Sevilla, just one year later than Ramon Margalef at the University of Barcelona.

She has published ~ 100 papers, 6 books, 29 book chapters, and > 50 technical reports.

## HERSTORY

Julia was the first woman that worked professionally on water management in Spain. She collaborates with the Gender & Science group of the Iberian Association of Limnology to visualize the role of women in Limnology.

# RESERVOIRS IN SPAIN

During the 70s, Julia participated in a sampling campaign for studying the ecology of > 100 reservoirs in Spain.

## Types of reservoir in Spain

1. High mineral water content in limenstone and calcalreous areas
2. Low mineral water content in siliceous and metamorphic areas



Margalef, Ramon, et al. (1976).  
Limnología de los embalses españoles.

**Main drivers** determining the species and function of reservoirs in Spain:

- Eutrophication
- Age of the reservoir
- Volume of water

# DOÑANA NATIONAL PARK

**Doñana National Park** is one of the most emblematic national protected areas in Spain.

Doñana is located at Southern Spain, and it is the natural border between Africa and Europe, and also between the Mediterranean sea and the Atlantic ocean.

Doñana has been the focus of several studies analyzing the ecological interaction between terrestrial, freshwater and marine ecosystems in Spain.



García et al. (2007) summarizes years of study and show a general view of the history and ecology of this protected area.

**Francisco García, Ángel Martín & Julia Toja. (2007). La frontera de Doñana.**

# FARM PONDS IN MEDITERRANEAN REGIONS

**Farm ponds** might play a principal role in region-wide habitat complementarity, by providing a relatively high density of small, permanent, oligohaline waterbodies that is not matched by natural wetland.



Many **zooplankton** species are exclusive to the farm ponds.

Farm ponds with natural substrate have a higher diversity and species richness of zooplankton than those with artificial substrate.

# RELEVANT CONTRIBUTIONS

**Toja, J.** (1976). Estudio limnológico comparado de dos embalses con distinto grado de eutrofia: Aracena y La Minilla. PhD.

Margalef, R., Planas, D., Armengol, J., Vidal A., Prat, N., Quiset, A., **Toja, J.**, Estrada, M. (1976). Limnología de los embalses españoles. Ministerio de Obras Públicas. Madrid.

**Toja, J.**, López, T., Gabellone, N. (1991). Successional changes in two dune ponds (Doñana National Park). Internationale Vereinigung für Theoretische und Angewandte Limnologie, 24, 1556-1559.

Espinar, J.L., García, L.V., García-Murillo, P., **Toja, J.** (2002). Submerged macrophyte zonation in a Mediterranean salt marsh: A facilitation effect from established helophytes? Journal of Vegetation Science, 13, 831-840.

Serran, L., Calzada, I., **Toja, J.** (2003). Variability of the sediment phosphate composition of a temporary pond (Doñana National Park, SW Spain). Hydrobiologia, 492, 159-169.

LOOKING  
FOR MORE?

**You can find more information about her story and research at:**

<https://www.researchgate.net/profile/Julia-Toja>

[https://investigacion.us.es/sisius/sis\\_showpub.php?idpers=2320](https://investigacion.us.es/sisius/sis_showpub.php?idpers=2320)