



INSTITUTO NACIONAL DE
NEUROLOGÍA Y NEUROCIURUGÍA
MANUEL VELASCO SUÁREZ

ATAXIA GLOBAL
INITIATIVE

worldwide platform for clinical research in ataxias



Clinical Research Perspectives on SCAs in Mexico

Miguel Ángel Ramírez García MD, PhD
Genetics Department, INNNMVS

dr.miguelangelrg@gmail.com
miguel.ramirez@innn.edu.mx

Key Points

- Minimum Frequency Estimation for SCAs in Mexico
- Historic and Anthropological Assessment for SCA7 in the State of Veracruz
- Qualitative Research for SCAs: Lessons from SCA7
- Clinical Research and Scientific Perspectives of SCA10

1 Minimum Frequency Estimation for SCAs in Mexico

- The **National Institute of Neurology and Neurosurgery, Manuel Velasco Suárez (NINNMVS)** from Mexico City —> Largest Registry of **Genetic Neurodegenerative Disorders (GND)**.
- Protocol Update (NINNMVS—0423)—> **Minimum Frequency Estimation (MFE)**, as well as the main clinical features for GND (HD and SCAs).
- **Mexico's total population (126,014,024)**, according to the **2020 National Register, INEGI**.

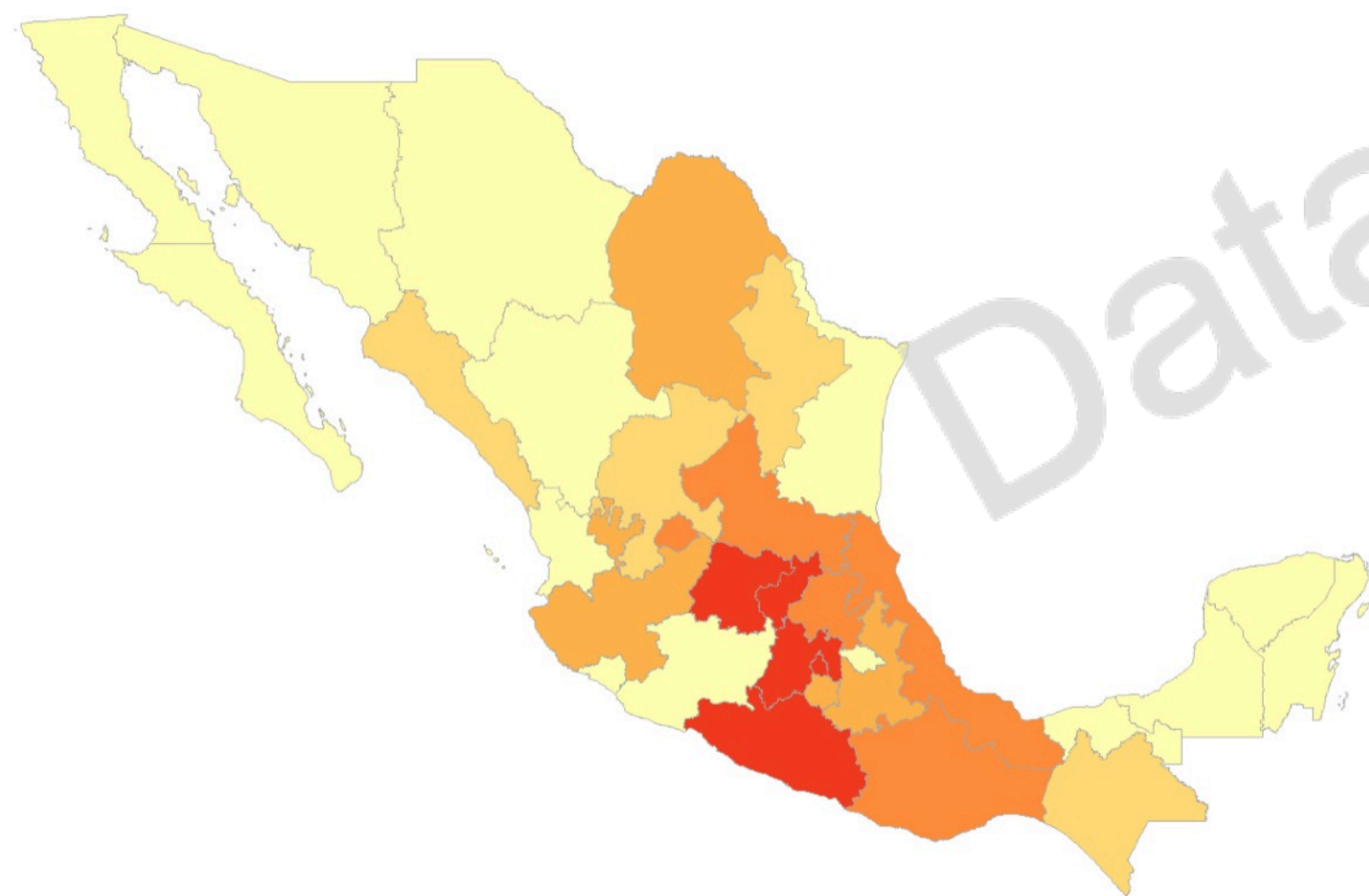
Minimum Frequency Estimation for SCAs in Mexico

SCA2

MFE \rightarrow **0.19/100,000**

Mexico City \rightarrow **0.79/100,000**

State of Mexico \rightarrow **0.43/100,000**



SCA3

MFE \rightarrow **0.09/100,000**

Mexico City \rightarrow **0.41/100,000**

State of Mexico \rightarrow **0.22/100,000**



SCA7

MFE \rightarrow **0.08/100,000**

Veracruz \rightarrow **1.09/100,000**

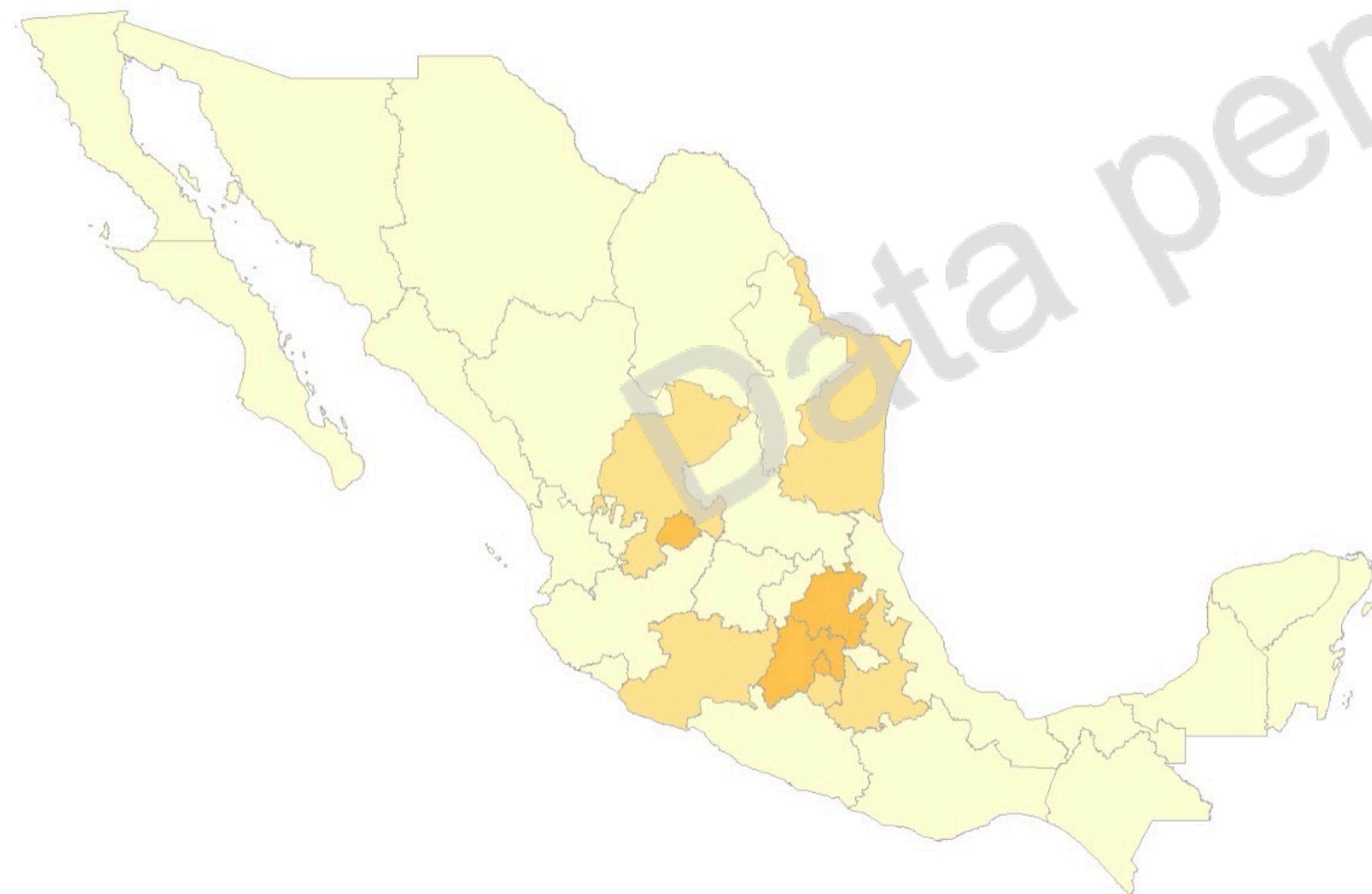


Minimum Frequency Estimation for SCAs in Mexico

SCA10

MFE \rightarrow **0.075/100,000**

Mexico City \rightarrow **0.79/100,000**



SCA17

MFE \rightarrow **0.01/100,000**

Mexico City \rightarrow **0.05/100,000**



2 Historic and Anthropological Assessment for SCA7 in the State of Veracruz

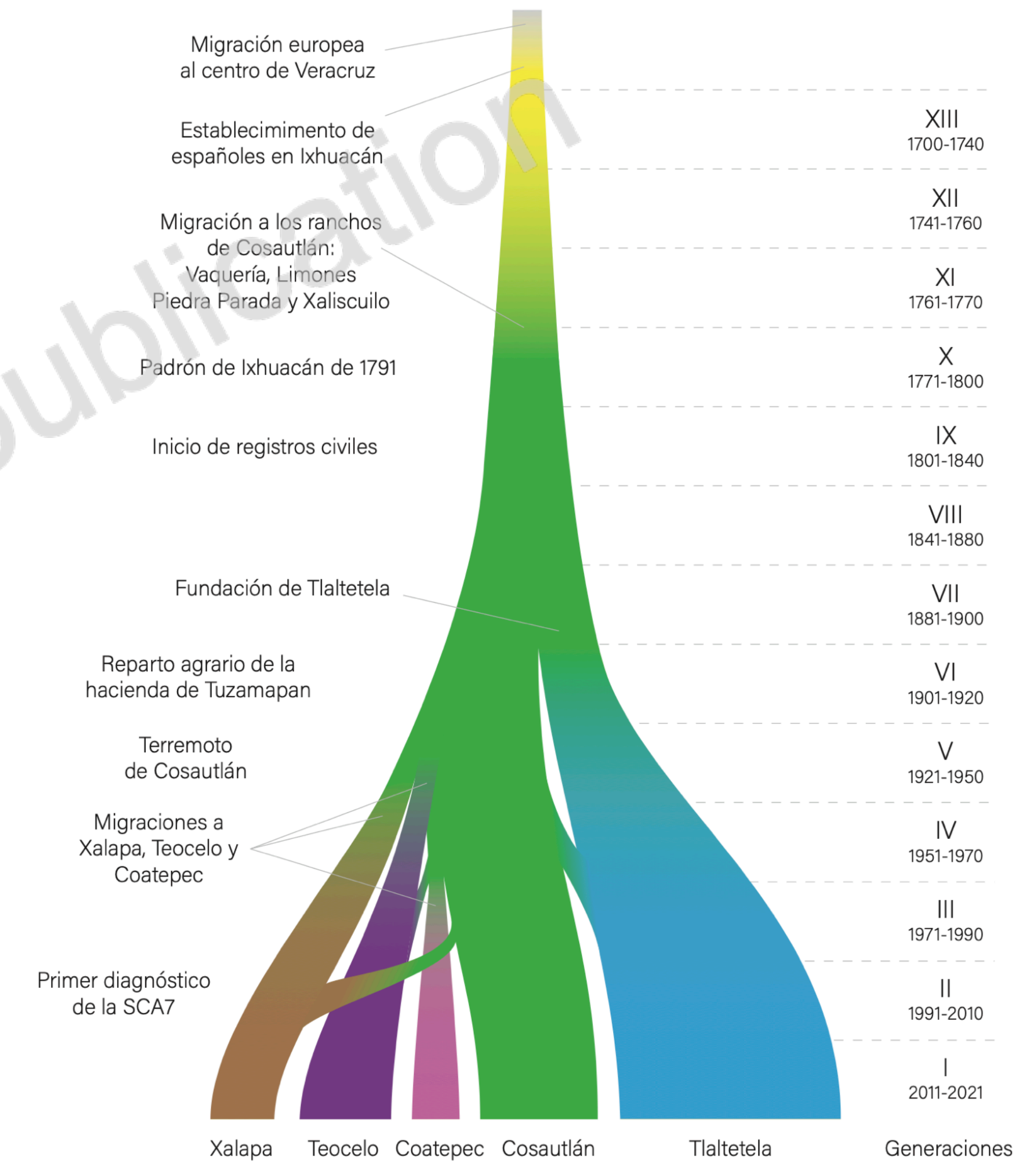
- Two previous studies suggest that **SCA7 has an European origin.**
- This research aimed to determine the origin of SCA7 through **two strategies:**
 - **1 —> Based on Field Study**
 - Civil and Parochial Records
 - Direct semistructured Interviews
- A total of **791 individuals** (symptomatic and asymptomatic) from **13 generations** were identified

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Historic and Anthropological Assessment for SCA7 in the State of Veracruz



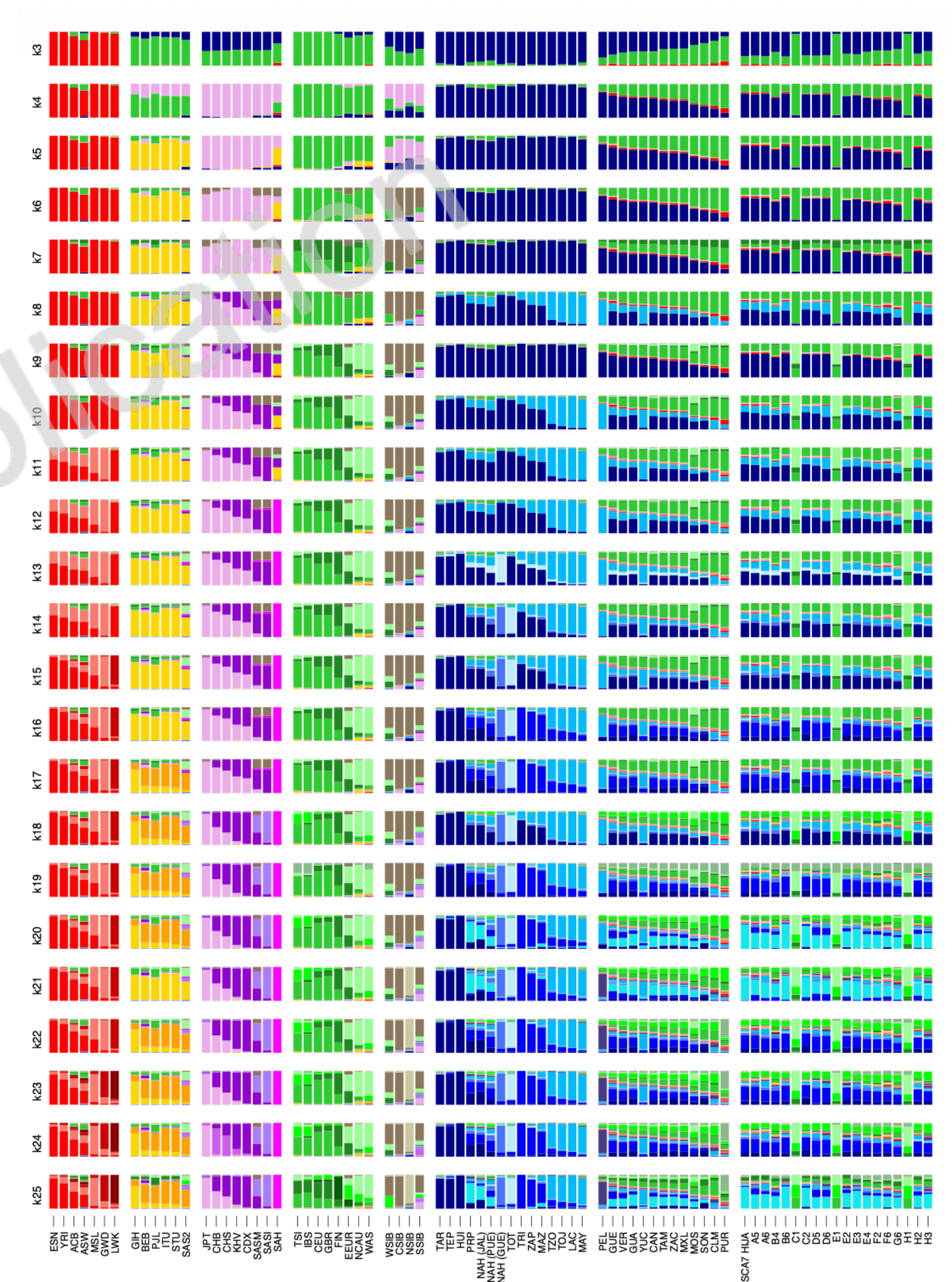
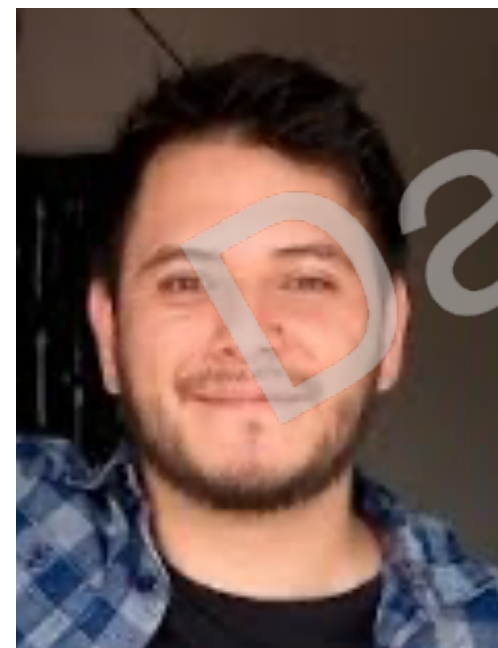
Historic and Anthropological Assessment for SCA7 in the State of Veracruz

- **2 → Based in Genetic Markers**

- SNPs Microarrays

- Global and Local Ancestry

- Best Thesis Award in the Master's degree category by the C.C.I.N.S.H.A.E.



3 Qualitative Research for SCAs: Lessons from SCA7

Individual at Risk

68-year-old woman, divorced, retired teacher, one son.

At risk for SCA7: two affected sisters and suspected paternal inheritance (father deceased, asymptomatic).

A Caregiver

30-year-old woman, single, no children, police officer (Xalapa).

Primary caregiver for mother and uncle with SCA7.

Affected Individual

56-year-old woman, married accountant, no children.

Confirmed SCA7 (maternal inheritance) with a 15-year history of visual, gait, and coordination disturbances.

Phenomenological approach

Mireya Chávez-Oliveros, et al. "*The Role of Narratives in the Context of a Spinocerebellar Ataxia Type 7 Diagnosis.*" Submitted for publication.

Qualitative Research for SCAs: Lessons from SCA7

Individual at Risk

A Caregiver

Affected Individual

- Values, customs, and beliefs surrounding the disease.
- The diagnostic odyssey.
- Emotional responses to facing the disease.
- The stage of denial.
- The impact of the disease on couples.
- Changes in family relationships.
- Labor and economic changes.
- Lessons learned about the health-disease process.

Mireya Chávez-Oliveros, et al. "The Role of Narratives in the Context of a Spinocerebellar Ataxia Type 7 Diagnosis." Submitted for publication.

4 Clinical Research and Scientific Perspectives of SCA10

The Cerebellum (2025) 24:33
<https://doi.org/10.1007/s12311-024-01784-w>

BRIEF REPORT



***ATXN10* Gene Expansions in Mexican Patients with Ataxia Without Epilepsy**

Brain Imaging and Behavior (2026) 20:3
<https://doi.org/10.1007/s11682-026-01091-4>

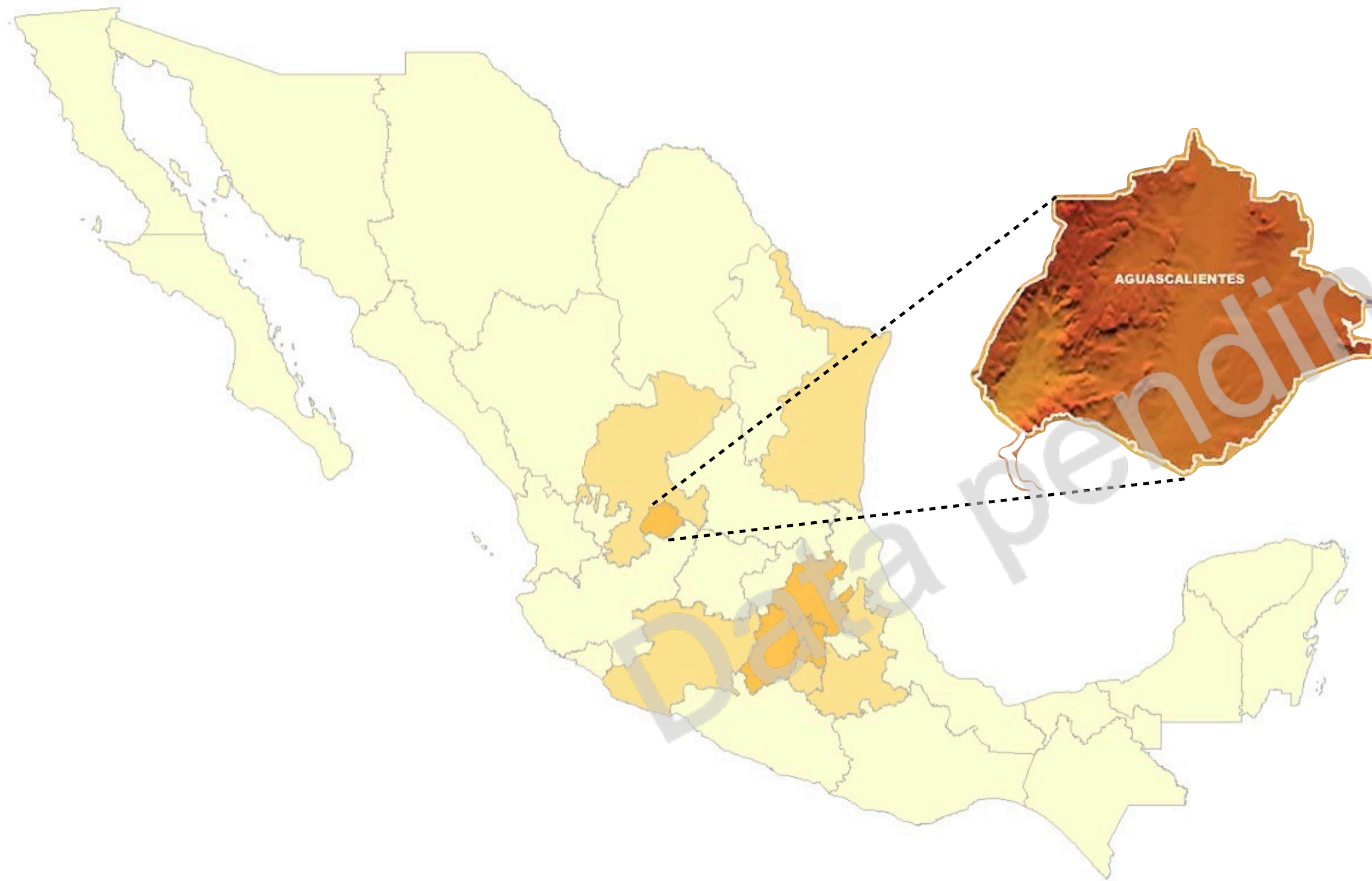
RESEARCH



Functional connectivity alterations in spinocerebellar ataxia type 10: insights from gray matter atrophy

Jara-Prado A. Cerebellum. 2025 Jan 16;24(2):33.
Padron-Rivera G. Brain Imaging Behav. 2026 Feb 7;20(1):3.

Clinical Research and Scientific Perspectives of SCA10



Aguascalientes State

MFE \rightarrow **1.4/100,000**

New cases (and families) of SCA10 in AGS (and surrounding areas) suggests \rightarrow **Founder effect**

Clinical Research and Scientific Perspectives of SCA10

- We would like to determine the origin of SCA10 in this region using the same strategy (SCA7):
 - **Based on Field Study**
 - Civil and Parochial Records
 - **Based on Genetic Markers**
 - SNPs Microarrays (Global and Local Ancestry)

As well as **continuing research with Functional MRI**

Thank you

Dr. Miguel Ángel Ramírez García

dr.miguelangelrg@gmail.com
miguel.ramirez@innn.edu.mx



Facultad de Medicina

