

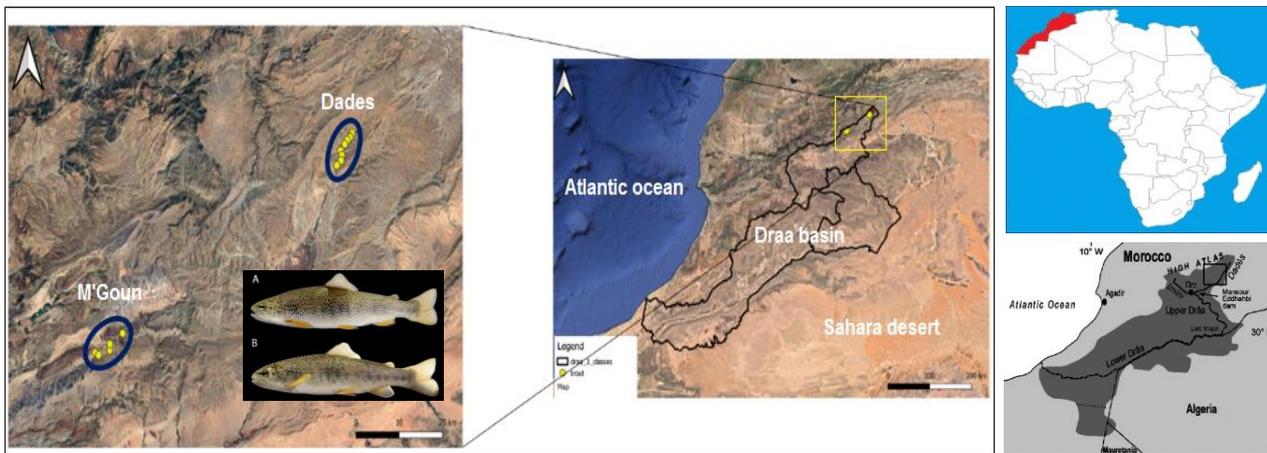
Project reference: 222528065 (Period: June 2022 – May 2024).

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Project title : Initiating the recovery of the relict endangered Dades trout on the southern slope of the Moroccan Atlas range



Only two small relict populations (*straight-line distance of 65 km*) of the Oldest Salmonid that invaded Africa: *Salmo multipunctatus* (A: Dades; B: M'Goun) located in extreme NE of the Moroccan part of the Draa basin at medium altitudes (2000 to 2400 m)

PROJECT'S OBJECTIVES

- i) **MONITORING:**
 - a) The current species distribution using electrofishing/net trapping/environmental DNA barcoding (**WAITING FOR THE NEW ELECTROFISHING PERMIT**)
 - b) The historical distribution through surveys of the popular knowledge of people about the trout, including a compilation of the personal life-long perceptions on changes in trout distribution and abundances (**IN THE PROCESS OF BEING DEVELOPPED**)
 - c) The temporal patterns of trout occurrence within suitable habitat patches using GIS modeling (**WAITING FOR GETTING ENOUGH DATA**)
- i) **EVALUATING** the seasonal fish body condition and reproductive status, the age/stage population structure, and monitoring the trout population abundance using the removal method along with snorkeling surveys. (**TO BE DONE LATER**)

- ii) **MONITORING** stream-riparian habitat quality and quantity (temperature mapping, state of riparian vegetation), and assessing the impacts of adverse factors related to land **resource** use and changes in water management on the habitat quality and trout abundance using small-scale fenced vs. unfenced stream-riparian habitats experiments (**EXPERIMENT TO BE CONDUCTED LATER IN SPRING-SUMMER 2023 IN THE TWO SITES**)
- iii) **RESTORING** degraded/polluted habitats (spawning and foraging sites) – (**ACCORDING TO A MEMBER OF OUR RESEARCH TEAM (ME), HABITAT RESTORATION IS THE MOST IMPORTANT ACTION TO BE CARRIED OUT FOR SAVING THE RELICT TROUT POPULATIONS**)
- iv) **RESTOCKING/REINTRODUCING** wild-caught trouts to suitable habitats with low abundance/absence of trouts, within each of the two distinct genetic stocks of M’Goun and Dades areas (**THIS ACTION NECESSITES MORE REFLEXION FOR A GOOD DECISION**).

Objective iii is at the moment the most required ; we’ll try to engage local people for removing or dams and bridges along the stream’s with trouts

Photos (Manu Esteve) – Member of the MBZ research project on the Dades trout.



N’Gouni - 2 bridges

Daming–Small weir

N’Gouni agricultural field

Eutrophication of waters due to algae bloom in several pools. Due to the lack of precipitations, the low flows and high air temperatures

Mud accumulation from a nearby road construction. Pollution: Plastic wastes, pesticides

Dryness and aquatic vegetation covering the gravel substrate turning it into a brown greenish colour.

DADES TROUT’S SPAWNING AREAS LOCALISAION – From M. Esteve (2001).

Ichthyological Research <https://doi.org/10.1007/s10228-021-00834-1>

S1-1 N’gounni map. A total of 9 one-day surveys looking for spawning trout were conducted. Details on each section visited are available below (Google Earth, Google Inc)



S1-2 Aflafal map. A total of 26 one-day surveys looking for spawning trout were conducted. The base camp marks the closest place to Aflafal stream that can be reached with a 4 × 4 vehicle. From the base camp to the junction with the Aflafal there are 2.72 km following the M'Goun in upriver direction. During the study Dades trout were frequently seen on this M'Goun section but never performing spawning activity (Google Earth, Google Inc)



S1-5 The Aflafal stream showing the spawning locations of the three females studied (Google Earth, Google Inc)