

On the meridional distribution of *Alytes maurus* Pasteur and Bons, 1962 (Amphibia, Discoglossidae)

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THE Moroccan midwife toad *Alytes maurus* Pasteur & Bons, 1962 was finally separated from the European midwife toad *Alytes obstetricans* after 41 years, and elevated to full specific rank when it was found to be closely related to the Betican *Alytes dickhilleni* and Majorcan midwife toad *Alytes muletensis* (Donaire & Bogaerts, 2003). These authors suggested the need to study the relationships between the two disjunct distributional ranges in the Rif and Middle Atlas regions within Morocco, and because the species is rare and much localized, they stressed the need to undertake more field research to determine its global distribution. (Map 1).

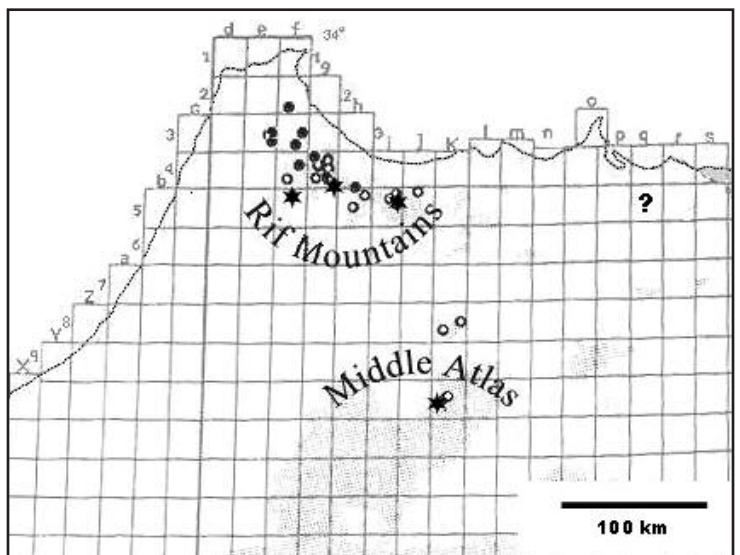
Due to its reduced distributional range (about 30 localities known in an extent of occurrence less than 5000 km²) in the wettest areas of the Rif and Middle Atlas of Morocco, *Alytes maurus* has been classified as a Near Threatened species (IUCN, 2004). Furthermore, Mateo *et al.* (2003) feared a radical reduction in the density of the populations of the species exposed to human activity in the Rif Mountains.

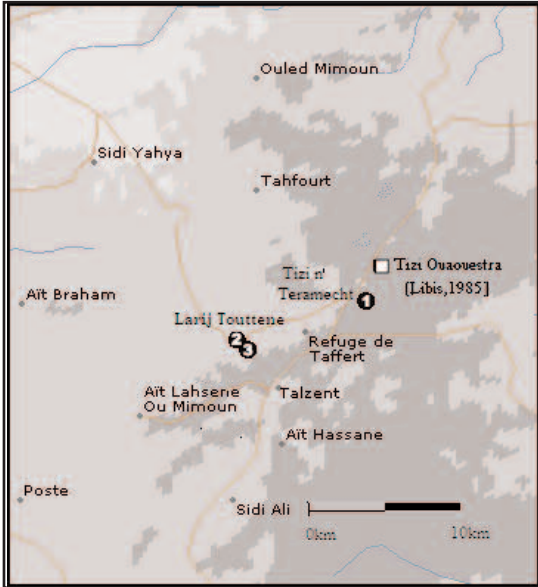
The Middle Atlas distribution of the species is scarcely known as it is

Map 1. Updated global distribution of *Alytes maurus* Pasteur & Bons, 1962; hollow circles based on Bons & Geniez, 1996, solid circles by Donaire & Bogaerts, 2003 and star symbol unedited data from the project ‘Environmental characteristics and population census of three endemic amphibians of Morocco’.

based only on one observation from the 1980s (Libis, 1985) and two from the 1990s (Mellado & Mateo, 1992; Bons & Geniez, 1996). No tangible proof of its existence has ever been shown in the form of photographs or specimens.

Under the scope of the DAPTF SEED GRANT 2004 project: ‘Environmental characteristics and population census of three endemic amphibians of Morocco (North Africa): Implications for conservation’, a field expedition to the Rif and Middle Atlas regions was undertaken from 31st October until 7th November 2004. During the rainy night of 4th November, on a track running from Taffert to Merhaoua in the Middle Atlas region, the first author had the opportunity to find, photograph, measure and collect toe clips (deposited at the MNCN Madrid tissue bank for a future genetic





Map 2. Meridional distribution of *Alytes maurus* at the Djebel Bou Iblane SIBE natural park. Square = former southern most location (Libis, 1985); other symbols = new records presented in this note.

analysis) of three specimens of *Alytes maurus* from three different sites (one male, one female and one juvenile; Fig.1). Locality 1 at Tizi n'Teramecht (N33° 40' 11.7" W 4° 7' 29.7", altitude 2142 m), locality 2 and 3 at Larij Touttene (N33° 38' 37.2" W 4° 12' 50.5", altitude 2017 m; N33 38' 26" W 4 12' 35.2", altitude 1688 m respectively).

These three new sites confirm and validate the 20 year-old record by Libis (1985) of *Alytes* at Tizi Ouaouestra (N33° 41' W4° 6', altitude 2050 m) which is very close to locality 1 (about 2 km away), and slightly expands its distribution since Larij Touttene (localities 2 & 3) lies about 10 km. from Tizi Ouaouestra to the southwest, proving its wider distribution in the area of Djebel Bou Iblane (see Map 2). The two Larij Touttene sites are about 500 m from each other and they represent the new southernmost known record of the species' distribution.

At first glance, both locations, Tizi n'Teramecht and Larij Touttene, have different habitats corresponding to two bioclimatic zones; the first is a rocky criomediterranean zone devoid of forest with only bushy thorny vegetation present and patches of snow (as described in Libis, 1985); Larij Touttene is a forested oromediterranean zone of



Figure 1. Examples of *Alytes maurus* found at Djebel Bou Iblane. Top left: male from location 2; top right: female from loc. 1; bottom centre: juvenile from loc. 3.

Pinus and *Quercus* trees below the Cedar line. These two locations are found within the protected SIBE priority 1 (site of bio-ecological interest) Jebel Bou Iblane where neither deforestation nor human impact seem to threaten the species. However, outside the protected area the pressure of domestic animals, deforestation and soil erosion is alarmingly encroaching upon this population.

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