

Chapter 23 Introduction

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Received: 10 January 2013; accepted: 10 January 2013.

Previous studies have treated the status of decline and conservation in amphibians, generally and on a country-by-country basis, for the Western Hemisphere. The present volume presents a series of papers for the Eastern Hemisphere, and this issue covers North Africa. An annotated checklist to current nomenclature of regional taxa is also provided.

Key words: amphibians; conservation; decline; North Africa.

Introducción. En estudios anteriores se han tratado el declive y la conservación de los anfibios del hemisferio occidental, tanto de manera general como país por país. El presente volumen presenta una serie de artículos correspondientes al hemisferio oriental, y este número en particular versa sobre el norte de África. Se aporta además una lista con la nomenclatura actualizada de los taxones de la región.

Key words: anfibios; conservación; declive; norte de África.

Amphibian skin is a bare, thin, and moist accessory respiratory organ endowed with a plentiful blood supply, attributes that make it a poor barrier against desiccation, noxious chemicals, and various other stresses (HEATWOLE *et al.*, 1994). Exacerbating this basic ecological vulnerability is an emergent fungal disease, chytridiomycosis, that attacks the skin and larval mouthparts of amphibians and to which most species are highly susceptible (BERGER *et al.*, 2009; MARTEL *et al.*, 2013). Anthropogenic changes to the environment, such as fragmentation and destruction of habitat; pollution by endocrine disruptors and industrial, agricultural, and household waste; depletion of the ozone layer and concomitant elevation of ultraviolet radiation; acidification; climatic change; and road kills have contributed to the assault on

amphibians (HEATWOLE & WILKINSON, 2009, 2012). As a result, populations of many species around the world have been declining on an unprecedented scale, and many extinctions have occurred (LANNON, 2005; WILSON *et al.*, 2010; HEATWOLE, 2013).

The series *Amphibian Biology* (HEATWOLE *et al.*, 1994 *et seq.*) variously published or in press by Surrey Beatty & Sons (Chipping Norton, later Baulkham Hills, Australia); Natural History Press (Kota Kinabalu, Sabah); Pelagic Press (Exeter, UK); Herpetological Monographs; and the present chapters by Basic and Applied Herpetology, has devoted three volumes to amphibian decline and extinction, two of which (Volumes 8 and 10) treated causes and potential remedies for these phenomena. Volumes

9 and 11, being published in parts as chapters become available, provide assessments of decline and extinction on a country-by-country basis for the Western and Eastern Hemispheres, respectively. Volume 9, Parts 1 (Paraguay, Chile and Argentina [2010]), 2 (Uruguay, Brazil, Ecuador and Colombia [2011]) and 3 (Venezuela, Guyana, Suriname, and French Guiana [2012]) have been issued (HEATWOLE *et al.* 2010, 2011, 2013); Bolivia and Peru (Part 4) are under review. Parts on Central America, the Caribbean, and North America are pending.

The present contribution to the *Amphibian Biology* series represents Part 2 (Mauritania, Morocco, Algeria, Tunisia, Libya, and Egypt) of Volume 11. Part 1 covers all of Asia (HEATWOLE & DAS, 2014) and Part 3 deals with Western Europe (HEATWOLE & WILKINSON, 2013).

Various websites provide amphibian status at particular times and places; these websites change as population status of considered amphibian species changes. Without reference to previous conditions, however, it is not possible to assess the extent and rate of amphibian decline. *Amphibian Biology* serves as an internationally available historical reference with which future assessment may be compared – a sort of time capsule. In one sense, because species of amphibians are going extinct while chapters are being written and put to press, any static publication may be out of date by the time it is published. An established benchmark, however, is timeless and necessary for temporal comparisons.

While some amphibian taxonomic rearrangements first proposed by FROST *et al.* (2006) have been widely accepted without argument, some rearrangements have been modified and others remain controversial (for updates see FROST, 2013). Until a more comprehensive consensus is

reached and nomenclature regarding all species becomes stabilized, it seems unwise to dictate any particular scheme for use in the *Amphibian Biology* series and authors have been allowed to exercise professional judgment regarding choice of nomenclature. As Part 2 of Volume 11 was in final review one species was reassigned (*Bufo* *boulengeri* is now the recommended name) and the genus *Barbarophryne* was described (now the recommended name for *Barbarophryne brongersmai*) (BEUKEMA *et al.*, 2013). As taxonomic allocations in poorly-understood species assemblages continue to receive attention, additional reallocations are possible.

Because it is important that information regarding conservation status be provided to herpetologists, government professionals in conservation and law enforcement, ecologists, and other interested parties in an unambiguous manner, the following annotated “checklist” to species in the areas covered in this issue is presented by family and arranged following nomenclatural choice of the authors. We hope it serves as a convenient checklist for species treated in this issue.

ORDER ANURA

Family Alytidae

Alytes maurus Pasteur and Bons, 1962 (Morocco, Algeria).

Discoglossus pictus Otth, 1837 (Morocco, Algeria, Tunisia).

Discoglossus scovazzi Camerano, 1878 (Morocco, Algeria).

Family Bufonidae

Amietophrynus kassasii (Baha El Din, 1993) (Egypt).

Amietophrynus mauritanicus (Schlegel, 1841) (Morocco, Algeria, Tunisia).

Amietophrynus regularis (Reuss, 1833)
(Mauritania, Egypt).

Amietophrynus xeros (Tandy, Tandy, Keith
& Duff-Mackay, 1976) (Mauritania,
Morocco, Algeria, Libya).

Barbarophryne brongersmai Hoogmoed,
1972 (Morocco, Algeria).

Bufo spinosus Daudin, 1803 (Morocco,
Algeria, Tunisia).

"*Bufo*" *pentoni* Anderson, 1893 (Mauritania).

Bufotes boulengeri (Lataste, 1879) (Morocco,
Algeria, Libya, Tunisia, Egypt).

Duttaphrynus dodsoni (Boulenger, 1895)
(Egypt).

Family Dicroglossidae

Hoplobatrachus occipitalis (Günther, 1858)
(Mauritania, Morocco, Algeria, Libya*).

Family Hylidae

Hyla meridionalis Boettger, 1874 (Morocco,
Algeria, Tunisia).

Hyla savignyi Audouin, 1827 (Egypt).

Family Hyperoliidae

Kassina senegalensis (Duméril & Bibron,
1841) (Mauritania).

Family Pelobatidae

Pelobates varaldii Pasteur and Bons, 1959
(Morocco).

Family Phrynobatrachidae

Phrynobatrachus natalensis (Smith, 1849)
(Mauritania).

Family Ptychadenidae

Ptychadena bibroni (Hallowell, 1845)
(Mauritania).

Ptychadena mascareniensis (Duméril &
Bibron, 1841) (Mauritania, Egypt).

Ptychadena trinodis (Boettger, 1881)
(Mauritania).

Ptychadena schillukorum (Werner, 1908) (Egypt).

Family Pyxicephalidae

Pyxicephalus edulis Peters, 1854 (Mauritania)

Tomopterna cryptotis (Boulenger, 1907)
(Mauritania).

Family Ranidae

Pelophylax bedriagae (Camerano, 1882)
(Egypt).

Pelophylax saharicus (Boulenger, 1913)
(Morocco, Algeria, Libya, Tunisia, Egypt).

*Although historically cited, the current
presence of *Hoplobatrachus occipitalis* in Libya
has not been confirmed in recent surveys.

ORDER CAUDATA

Family Salamandridae

Pleurodeles nebulosus (Guichenot, 1850)
(Algeria, Tunisia).

Pleurodeles poireti (Gervais, 1835) (Algeria)

Pleurodeles waltl Michahelles, 1830
(Morocco).

Salamandra algira Bedriaga, 1883
(Morocco, Algeria).

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