



Harold Heatwole
Indraneil Das
Susan King *Editors*

Status of Decline and Conservation of Amphibians of the Middle East

Amphibian Biology, Volume 11, Part 8
Status of Conservation and Decline
of Amphibians: Eastern Hemisphere

 Springer

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Dedication to Ahmad M. M. Disi



Ahmad M. Disi. (Photograph by Kraig Adler, Bonn, 1995)

Ahmad Mohammad Mousa Disi, the founder of herpetological studies in the Hashemite Kingdom of Jordan, was born on July 26, 1942, in the holy city of Jerusalem, which was then part of the British Mandate of Palestine and Transjordan. He attended Ain Shams University in Egypt, where he earned a B.Sc. in 1965, and later pursued advanced training in the United States, earning an M.Sc. from the University of Wisconsin at Madison in 1974, followed by a Ph.D. in 1976. He completed his doctoral work on the functional anatomy of higher primates under the supervision of John T. Robinson, a South African who had

studied the anatomy of vertebrates, including several herpetological taxa, and David A. Langebartel, a former student of the herpetologist, Hobart M. Smith, and author of the leading textbook on structural anatomy of vertebrates. Robinson was also director of Wisconsin's Zoological Museum. It was in this nurturing environment that Disi's scientific interests began.

Previously, Disi had held instructorships at Riyadh University in Saudi Arabia (1965–1968) and at the University of Jordan (1968–1970) before going to Wisconsin. Upon his return to Jordan in 1976, he became an assistant professor in the Department of Biological Sciences at the University of Jordan in Amman. Due to a lack of primates for research, he turned to living vertebrates and to reptiles in particular. He took on several departmental and university administrative posts, including chair of his department.

Concurrently, he was curator of the Jordan University Museum, where he built the first scientific museum collection of amphibians and reptiles in the country, now numbering 3000 fully documented specimens. He retired from his department in 2012, after which he held a short-term post at Isra University, also in Amman, where he taught in the pharmacy department. Besides his main interests in the biogeography and conservation of the vertebrates of Jordan, he has also published works on medical topics, snake venoms, and antivenoms and holds four patents for medical procedures. Among his 23 master's students, six of them worked on reptiles.

Disi's earliest herpetological publications, beginning in 1983, were on the reptiles of Jordan and in particular the venomous snakes, which are of significant practical and medical importance. He often collaborated with his junior colleague, Zuhair S. Amr, who is now at the Jordan University of Science and Technology in Irbid. Disi soon branched out to document the detailed in-country distribution of Jordanian amphibians and reptiles for the first time, based on personal collections made throughout the Kingdom. His studies focused on the environmental factors that influence distribution, ecology, and food habits. He and his team discovered several species new to the fauna of Jordan, including a new species of agamid lizard, Pseudotrapelus aqabensis, which he named in collaboration with Natalia Ananjeva and several other Russian colleagues (2012). Beginning with a paper co-authored with Wolfgang Böhme on the zoogeography of the herpetofauna of Syria in 1996, many of his recent publications have dealt with amphibians. The known amphibian fauna of Jordan consists of one species of salamander and four frog taxa. Disi, often in collaboration with Amr, has studied the natural history of all of them, including a summary of their morphometrics, distribution, and ecology (2010).

Disi has authored two comprehensive books on the Jordanian herpetofauna: the first, an outstanding field guide by a commercial publisher in Frankfurt am Main (2001), co-authored by two Czech herpetologists, David Modry and Petr Necas, and Lina Rifai, a Jordanian biologist; and

the second, issued in Amman under the sponsorship of the United Nations Environment Programme (2002). Both are extensively illustrated with line drawings and colored photographs and have detailed spot-distribution maps. These books represent the major synthetic works on the amphibians and reptiles of Jordan. He is also the co-author of a book on the fishes of the Gulf of Aqaba (2002) and books on general zoology, Jordanian birds, and a field guide to the biota of Petra.

*Disi often visits Europe and the United States for scientific meetings and collaborative research, where his interactive personality is highly appreciated by his international colleagues. He has been awarded many honors for his scientific work, and two vertebrates have been named in his honor: a lacertid, *Acanthodactylus ahmaddisii* (2004), named by the Israeli herpetologist, Yehudah L. Werner, and a perciform fish, *Symphysanodon disii* (2008), named by his biology department colleague, Maroof A. Khalaf, and a German ichthyologist, Friedhelm Krupp. Disi served as president of the Arab Union of Biologists from 1978 to 1984) and was awarded the Gold Medal by the Kuwait Foundation for the Advancement of Science in 1982.*

*Kraig Adler
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10 September 2023*

Preface

The series *Amphibian Biology* is now approaching its thirteenth volume. Each volume from 1 to 7 reviews a different aspect of the biology of amphibians on a topical basis. Volumes 8, 10, and 12 deal with the status of amphibians' conservation and decline in general: Volume 8 (*Amphibian Decline: Diseases, Parasites, Maladies, and Pollution*); Volume 10 (*Conservation and Decline of Amphibians: Ecological Aspects, Effect of Humans, and Management*); and Volume 12 (*Reproductive Technologies and Biobanking for the Conservation of Amphibians*).

Volume 9 (*Western Hemisphere*) and Volume 11 (*Eastern Hemisphere*) assess the status of decline and conservation of amphibians on a country-by-country basis. These two volumes are issued in several parts, each much like the individual issues of a volume of a scientific journal, although some of the parts are full-length, hard-backed volumes in their own right.

Volume 9, Parts 1–4, covering all of South America, and Part 5, treating the islands of the Caribbean, have been published, while Part 6 deals with Central America and currently is in progress.

Seven parts of Volume 11 have been published: Part 1 (Asia); Part 2 (North Africa); Parts 3–5 (countries of Europe plus Turkey); Part 6 (Australia, New Zealand, and the Pacific Islands); and Part 7 (all countries of Sub-Saharan Africa and some of the Atlantic islands and those of the western Indian Ocean, including Madagascar).

Two regions, (1) Central America and (2) Canada and the United States, are now being written. The countries of the Middle East are the subject of the present issue (Volume 11, Part 8). Thus, chapters for all regions of the world either have been published or are underway, including one remaining volume that will pick up the remaining untreated countries of the world and update earlier chapters from various volumes in a capstone issue (Volume 13).

Despite sustained and widespread civil unrest and military conflict disrupting academic research in the Middle East, dedicated scientists from various countries have collaborated in assessing the current state of knowledge about the amphibians of the region and in producing this Part 8 of Volume 11. To them we are deeply indebted. Perhaps a tiny ray of optimism in a deeply despairing world can be gleaned from the realization that in even the darkest hours, some minor good may accrue from even the most savage of circumstances. The intensive bombardment of parts of Laos during the Viet-Nam war left the countryside riddled with myriads of bomb

craters (20–40 m in diameter and 3–5 m deep); these collected water and formed pools that attracted four species of frogs that used them for breeding. Local people harvest frogs from these craters for food (Stuart and Davidson 1999).

Reference

Stuart B, Davidson P. Use of bomb crater ponds by frogs in Laos. *Herpetol Rev* 1999;30:72.

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10 February 2024

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