

Amphibian Biology Volume 10. Conservation and Decline of Amphibians: Ecological Aspects. Effect of Humans, and Management

By Harold Heatwole and John W. Wilkinson (editors). 2012. Surrey Beatty & Sons, Baulkham Hills, New South Wales, Australia. xii + pages 3291–3727. 295.00 USD.

Amphibians were often lightly regarded by naturalists long before the father of systematics, Carolus Linnaeus, Latinized his own name and those of every animal and plant known at the time. In his 10th edition of *Systema Naturae* in 1758 he dismissed amphibians which he lumped together with reptiles, lampreys and some fish, as so foul and disgusting that their Creator had not made many of them. Over the subsequent years wider exploration of the continents and the modern advances in distinguishing species though DNA, there are now over 6300 named species of amphibians, now restricted to include only the frogs, salamanders, and

caecilians. And there is general agreement that many more exist that are yet to be discovered and described.

Amphibian Biology is a multi-volume series began in 1994, projected to provide detailed reviews of research on all aspects of the group, complimentary to those that the late Carl Gans and co-editors had provided for reptiles in *The Biology of the Reptilia*. The latter ran for 22 volumes between 1969 and 2010. This volume, the tenth in the amphibian series, like previous ones, contains compilations of a staggering amount of information from an impressive number of studies around the world.

Reviews of three previous volumes in the *Amphibian Biology* series, have appeared in *The Canadian Field-Naturalist*: Volumes 1: The Integument and 2: Social Behaviour in 111(4): 687–689, and Volume 8: Decline: Diseases, Parasites, Maladies and Pollution in 123(4): 378. Other volumes in the series (not reviewed in this journal) have been 3: Sensory Perception; 4: Paleontology; 5: Otolaryngology; 6: Endocrinology; 7: Systematics; 9, Part 1: Status of Decline, Western Hemisphere – Paraguay, Chile, and Argentina; 9, Part 2: Status of Decline, Western Hemisphere – Uruguay, Brazil, Columbia, and Ecuador. Volume 11 will cover Status of Decline in the Eastern Hemisphere.

In the present volume (10) on conservation and decline of amphibians the emphasis is on the impact of human attitudes and the activities which have reduced or destroyed amphibian habitats, including of modifications of the landscapes, expansion of human constructs: buildings, roads, and drainage and other agriculture or industrial projects. Also covered are the negative consequences of introductions. Emphasis is placed on extensive compilations on human reaction to amphibians, and their study and management. Its world-wide scope is attested to by the contributions being from 22 authors from 13 countries: Australia (2), Brazil, Canada, Fiji, Hungary, Malaysia, Indonesia, Romania, Russia, Sweden, United Arab Emirates (2), United Kingdom (3), and USA(6). Stephen J. Hecnar, Lakehead University, Thunder Bay, Ontario, is the sole Canadian contributor, despite the growing activity here in assessing the local status and conservation of Canadian populations.

The book opens with a preface to the series followed by one to the volume, a dedication to Trevor Beebee (one of the pioneers in the United Kingdom in herpetological conservation efforts), contents, and a list of contributors. Fifteen chapters follow:

1. Destruction, loss and modification of habit.
2. Ecological impacts and non-native species.
3. Man meets frog: perceptions, use and conservation of amphibians by indigenous people.
4. Harvesting of amphibians for food.
5. International trade in amphibians.
6. Road kills.
7. Declines and extinction in amphibians. An evolutionary and ecological perspective.

8. Phylogenetic correlates of population decline and extinction risk in amphibians.

9. Geographic correlates of extinction risk in amphibians.

10. Life history correlates of extinction risk in amphibians.

11. Monitoring amphibian populations.

12. Habitat protection: refuges and reserves.

13. Guidelines of the International Union for the Conservation of Nature for re-introductions and their application to amphibians.

14. Captive breeding of amphibians for conservation.

15. Integrated procedures: where do we go from here?

A cautious approach has been taken to the lack of consensus among contributing authors on recent wholesale changes in amphibian nomenclature and subsequent continuing revisions. The editors have left the use of names up to the choice of individual authors, leading to an inconsistent mixture of usages of past and present scientific names.

An example of the improvement in public attitudes toward amphibians is demonstrated by the revision of the well-known fable of the princes and the frog where, in the current version, a kiss leads to the breaking of a spell and the conversion of the amphibian into a handsome prince. In its original German version by the brothers Grimm in 1812 the spell was broken when the disgusted princess throws the frog against a wall.

That there is also a growing public interest and appreciation of the variety of amphibians is reflected in the growth of ecotourism particularly in Central America specifically to see the colourful forms in their natural habitats.

Any concerned naturalist, and all amphibian researchers, will find this volume a treasury of reference literature and of guidance for further studies. Even this attention may not halt, in the view of some conservationists, the seeming inevitable coming of silent nights bereft of frog choruses while the mute salamanders vanish unnoted by the public. A sobering point stresses that many of the factors in amphibian declines are not remedied by simply changing our attitudes but those that are should be addressed while there is still time.

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