

BOOK REVIEW

by Margaret Davies

Tadpoles and Frogs of Australia by Marion Anstis

New Holland, Sydney, 2013: 831 pp. ISBN 9781921517310, \$125
(\$145 for the limited edition, ISBN 9781921517167, signed, individually numbered.)

To any Australian herpetologist, or indeed any herpetologist full stop, as well as to anyone interested in natural history, this extraordinary volume is a true gem. Marion Anstis has provided to the scientific community the most amazing resource, and all within one (albeit extremely heavy - about 4 kg) volume. The book well deserves the descriptor of being a tome. Its publication is the result of an amazing journey of an extraordinary woman. A music teacher by training and profession with a passion for tadpoles, Marion has travelled the continent to find, identify, rear and describe that most enigmatic of life histories – from mating, to egg laying, to larval stage, followed by metamorphosis to fully formed frogs – a journey begun in 2001, culminating in a PhD thesis and this massive publication.

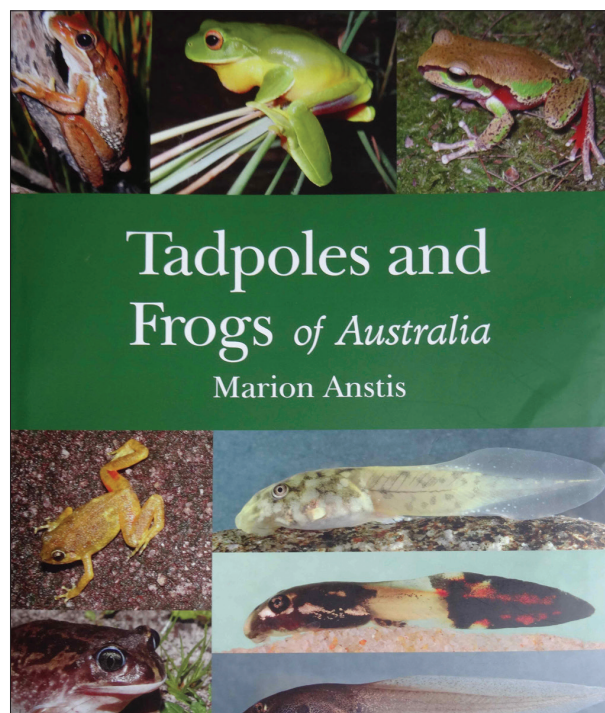
As a former tadpole nurturer, I can attest to the hours of care, the frustrations and the pleasures of success, but Marion has exceeded anything that has ever gone before. With a mobile laboratory in her van, she has intrepidly gone where few have ventured, and the result is this extraordinary wealth of knowledge brought together in this volume.

Marion has developed methods of photographing tadpoles that give accurate and diverse views of these so difficult to identify life history stages. These methods are generously shared in the book, as are all sorts of tips on rearing tadpoles.

The book is divided into three sections. Part I provides useful background to frog classification, to the recognisable stages in the development of free-swimming tadpoles, beautifully illustrated with line drawings, followed by information on collecting and raising tadpoles, notes (accompanied by extraordinary photographs) on predators and a discussion of conservation issues.

Part 2 is chock full of great information on the parts and features of tadpoles useful for identification. Anstis defines 23 different tadpole types, then describes oral disc structure and defines 20 individual types. All this information is lavishly illustrated with line drawings. A key to the genera of tadpoles and of direct developing frogs follows. As anyone who has constructed keys will know, this is no mean feat. In fact the entire book is punctuated by keys to tadpoles and eggs of individual genera – a mammoth undertaking, and of massive value to any field biologist.

The book is not only about developmental stages, adults, too, get a guernsey, so a page of adult features is followed by discussion of eggs and embryos, together with



beautiful photographs of different kinds of egg masses. All this information is then used to provide the 722 pages of species information about the 241 species recognised when the book was published.

Species are treated by family and genus and accounts include descriptions of adults, notes on their distribution and breeding, verbal descriptions of call, followed by descriptions of egg clutches, embryos, tadpoles, the oral disc, metamorphosis, behaviour together with comparisons with similar tadpoles. Each account is supplemented with superb photographs and line drawings of appropriate larval stages, or features, if necessary, together with a distribution map.

Keys to tadpoles and or eggs for appropriate genera are provided. The keys rely on knowledge of where the specimens have come from, as there are insufficient differences in larval features for all-encompassing keys to be workable. This is not a failing, as specimens without collection data are of little use in understanding their value.

It would be extraordinary if a work of this scale did not have some imperfections. Yes, there are missing parentheses

in authority designation (e.g., *Limnodynastes lignarius* (Tyler, Martin & Davies, 1979)); yes, the distribution data for species are not always accurate (e.g., five species missing from Victoria); yes, the odd key feature use for separating adults is missing (such as the continuous dark stripe on the anterior tibia of *Litoria tornieri*), but these cannot detract from what is an amazing piece of work.

Marion Anstis and those organisations that have supported her throughout this enterprise, together with those who have supplemented her own illustrations with other photographs, can only be congratulated on the production of a book that will probably never be matched anywhere on the planet.

I can only be in awe at Marion's contribution to herpetology, to science and to natural history. What a wonderful legacy!

Margaret Davies OAM is a herpetologist who retired in 2002 from the University of Adelaide after 30 years where she spent 28 years researching the Australo/Papuan frog fauna. She has discovered and named 35 species of frog and authored/co-authored/edited or coedited over 120 publications, including tadpole descriptions. She has undertaken field work in remote parts of the country and has a huge empathy for all that Marion Anstis has achieved.