

THE CANE TOAD. THE HISTORY AND ECOLOGY OF A SUCCESSFUL COLONIST
by Christopher Lever.

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Described as the most widely distributed terrestrial vertebrate in the Pacific and Caribbean regions, the cane or marine toad (*Bufo marinus*) is the sole subject of this substantial volume. My own introduction to the species happened one rainy night, a decade ago, in the paddy fields of Los Banos, in the Philippines. I could find no other amphibians, but this! On a recent trip, I was therefore pleased to see cane toad leather coin purses on sale at a duty-free shop in Ninoy Aquino International Airport, Manila.

Christopher Lever is an authority on naturalised animals of the world, and has written works covering the introduced animals of the British Isles, on the naturalised invertebrates, birds and fishes of the world, the Mandarin Duck, and on several other topics. This is his maiden herpetological title, dealing with the amphibian world's equivalent of a cockroach. The source of the work not only includes published works, but also correspondence from a vast network of specialists and many other knowledgeable individuals (listed in the 'Acknowledgements', which, amusingly, also contains a long list of people who did not respond to the author's request for information!).

The work commences with a sentence from Zug and Zug (1979), "Marine toads have few admirers and are usually described as looking like mobile cow patties". Nonetheless, after sifting through the over 250 pages of text, one cannot but admire the persistence of these 'villains' of the herpetological world. For despite the often extreme measures taken for their eradication in some areas where they have been naturalised, humans have failed. Map 13 on p. 105 dramatically shows how some isolated founder population (from Hawai'i), spread along the west coast of Queensland from 1939 to 1980 and Map 15 on p. 111 shows the current distribution of the species, which covers much of north-eastern Australia, including parts of the Northern Territory, Queensland and New South Wales.

The work is divided into a general introduction, a review of the natural history of the cane toad, a separate section on the status of naturalised populations of the species (from Japan, Philippines, Taiwan, Thailand, Egypt, the Chagos Archipelago, Mauritius, Bermuda, the southern states of the U.S.A., Central and South America, Australasia and Oceania), a chapter devoted to the impact of the species in Australia, and one on the biological control in the same island nation. The two last chapters

deal with evolutionary experiments and on declining amphibian populations. This last chapter includes information on both the IUCN Declining Amphibian Populations Task Force, its origins and mission, as well as enumeration of characters of amphibians that render them perhaps more sensitive than other organisms to environmental change. About four pages of appendix provide details of introductions, including dates, sources and primary authorities. Interestingly, most introductions predate World War II; in Japan, one was as late as 1978. A glossary lists mostly biological terms (not really necessary in a work of this nature, in my personal opinion), and 30 pages of references, including virtually everything ever written on the cane toad. The volume concludes with two indices, the first on parasites, pathogens and diseases, the second, of names of animals and plants.

Cane toads have been described as 'a hopping cocktail of cardio-active substances' (p. 29) and much remains to be learnt of the toxic secretions of this and other species of bufonids. Lever remarks how the species is perceived in different parts of its range. In some, it is protected, in (many) others, it is treated as a pest of major proportions, and huge sums of money are spent annually to exterminate these introduced populations!

A wonderful summary of the biology of a remarkable animal!

Indraneil Das, Institute of Biodiversity and
Environmental Conservation, Universiti
Malaysia Sarawak, 94300, Kota Samarahan,
Sarawak, Malaysia.

Email: idasibec.unimas.my.