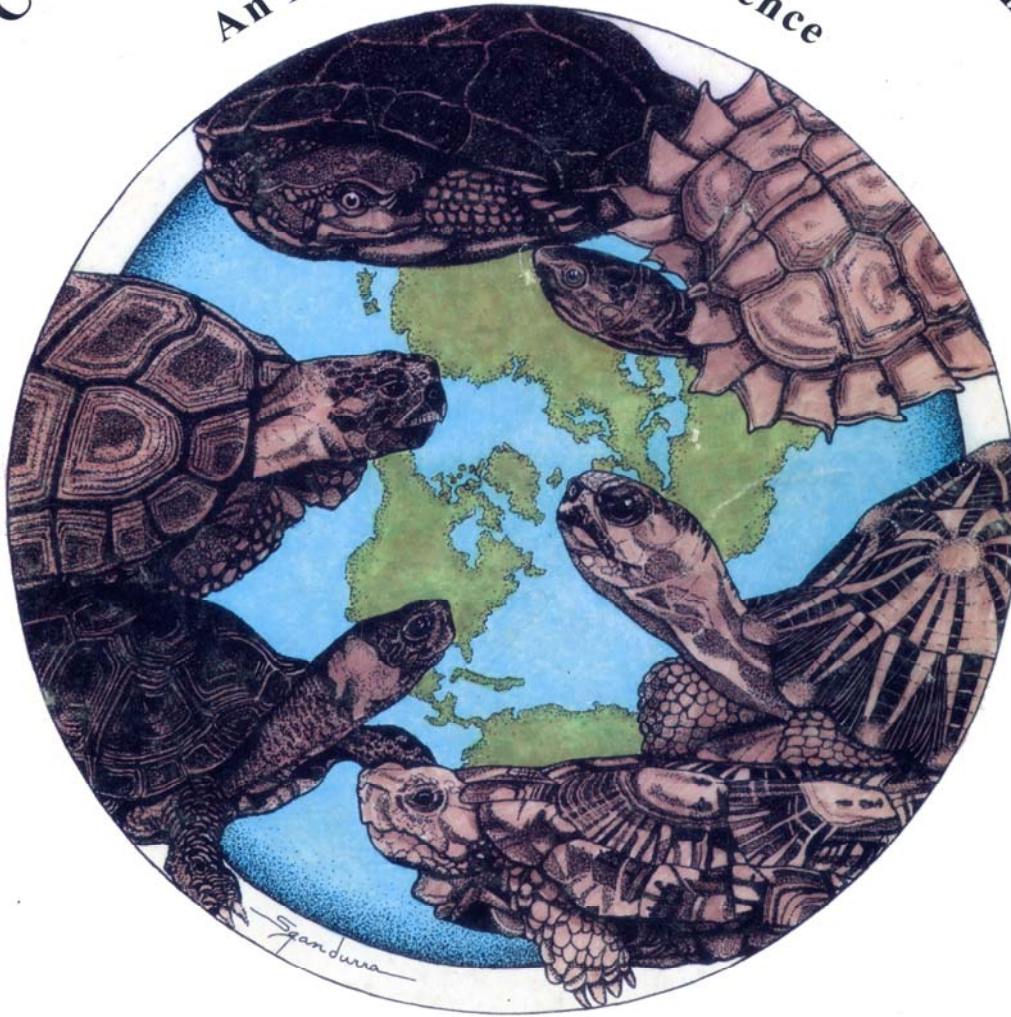


Proceedings:
Conservation, Restoration, and Management
of Tortoises and Turtles
An International Conference



Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles—An International Conference

11–16 July 1993
State University of New York
Purchase, New York, USA

Jim Van Abbema
Editor

Peter C. H. Pritchard
Consulting Editor

Suzanne Dohm
Production

Michael W. Klemens
Conference Chair

Kristin H. Berry, Michael W. Klemens, Peter C. H. Pritchard
Editorial Advisory Board

A Joint Publication of the
New York Turtle and Tortoise Society
and the
WCS Turtle Recovery Program
1997

CONTRIBUTORS

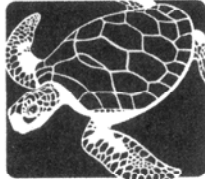


U.S. Bureau of
Land Management

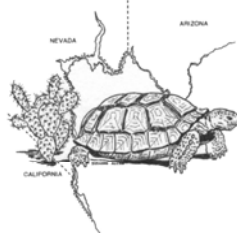


WILDLIFE
CONSERVATION
SOCIETY

Chelonia Institute



THE
DESERT TORTOISE COUNCIL



Walter Allen

Conservation Problems of Tropical Asia's Most-Threatened Turtles

INDRANEIL DAS

Department of Biology, Universiti Brunei Darussalam, Gadong, Bandar Seri Begawan 2028, Brunei Darussalam
Present address: Centre for Herpetology, Madras Crocodile Bank Trust, Mamallapuram, Post Bag 4, Tamil Nadu 603 104, India

ABSTRACT: The ten most-threatened freshwater turtle and tortoise species of the Oriental region include *Aspideretes nigricans*, *Batagur baska*, *Chitra chitra*, *Geochelone platynota*, *Heosemys depressa*, *Heosemys leytenensis*, *Kachuga kachuga*, *Kachuga sylhetensis*, *Manouria emys*, and *Manouria impressa*. The threatened status of these species (except for the recently described *Chitra chitra*) has been generally recognised, although the contributory factors are still poorly understood because data on the biology of most Oriental species is lacking. In general, large riverine species appear affected by overexploitation, although pollution of habitats and river development projects have also had significant effects on populations. On the other hand, many of the small- to medium-sized forest-dwelling turtles and tortoises appear to be declining from destruction and modifications of their forest habitats and from collection for food and the pet trade. Recommended conservation actions include the establishment of sanctuaries in areas that support viable turtle populations, public education about threatened turtle species at the regional level, and increased efforts to collect data on the biology of these species.

The Oriental region, including the Indian Subcontinent, Indo-Malayan region, and the Sunda Islands, is one of the most species-rich for turtles on earth. Sixty-four species of freshwater turtles and land tortoises have been recorded in the region, with up to 17 species of freshwater turtles occurring in a single area, the lower reaches of the Ganges in adjacent regions (Iverson, 1992).

For the reptile fauna in general, the Indian Subcontinent has both high species diversity and high levels of endemism, indicating that the area is a centre of origin and diversification of many groups of reptiles; 39 genera and species are endemic. After correcting for land area, Indo-Malayan elements are present in the fauna of the Indian Subcontinent than vice versa. Turtle genera that are endemic to the Indian Subcontinent include *Aspideretes*, *Geochelone*, and *Hardella*, although a few genera of clearly Indian affinities extend their ranges with peripheral distributions including *Lissemys*, *Kachuga*, and *Melanochelys*. Species of these three genera are found within the Indian Subcontinent (or in an adjacent region, e.g., *Lissemys* *trivittata* and *Kachuga trivittata*) than outside the region. The endemic genera of the Indo-Malayan region include *Callaloosemys*, *Hieremys*, *Notochelys*, and *Siebenrockiella*. All species in the region are point-endemics, known only one or a few sites. These include *Mauremys anisitsi*, *Aspideretes nigricans*, *Chitra chitra*, and *Heosemys leytenensis*. In most cases it is not known how much of the current distribution has been influenced by human-induced changes of the environment. Thus, the Oriental region supports a highly distinctive turtle fauna, both at the regional and specific levels. A few genera are shared with the northern Palearctic, such as *Cuora* and *Pyxidea*.

In this paper, I have attempted to update the information on the conservation status of ten of Asia's most threatened non-marine turtle species and, using these and other threatened species as examples, have tried to determine what factors continue to impede conservation action.

The Most-Threatened Species

The IUCN/SSC Tortoise and Freshwater Turtle Specialist Group Action Plan (1991) lists 39 Oriental species as belonging to one of three threatened categories (Action Plan Ratings, or APR), based on information available at that time. This paper tries to update that list, taking into account new information available either through recent fieldwork undertaken personally, literature search, or unpublished information obtained from colleagues. The second half of the paper is devoted to suggestions I thought appropriate for threatened turtles of tropical Asia in general. The ten most-threatened species of freshwater turtle and land tortoise from the Oriental region include:

Black softshell turtle, *Aspideretes nigricans*. The sacred black softshell turtle is restricted to a single pond attached to a Mohammedan shrine near Chittagong, eastern Bangladesh. While in no immediate danger, this population needs to be monitored as disease could wipe out the entire population. All large individuals are infected with fungus on the head and limbs.

River terrapin, *Batagur baska*. The Oriental species that has rightly received most attention from conservation biologists is the river terrapin. Throughout its range, from India eastward to Sumatra, peninsular Malaysia, and Cambodia, river terrapin populations have shown great declines