

In this volume, Graham Proudlove (Department of Zoology, Manchester Museum) has compiled a comprehensive listing of the subterranean (hypogean) fishes so far described. The author's aims are to not only make available a complete listing of subterranean fishes, but also to summarize key features of their biology and provide a complete bibliography of this taxonomically diverse group.

The volume comprises an introductory section, with a full taxonomic listing of subterranean fishes, their geographical distribution (both global and local), and the coexistence of subterranean species. There is also information on the conservation status of subterranean fishes and consideration of populations of fishes that occupy subterranean habitats, but which are normally associated with an epigeal (surface) environment. The following section makes up the main bulk of the volume and consists of detailed species accounts, which include taxonomic details along with information on distribution, habitat, conservation status, details of museum holdings of specimens and a list of relevant references. In most cases, there is also a line figure. At least one page is devoted to each species, though in some cases information is sparse – evidence that the biology of some of these species remains poorly understood.

The taxonomic range of subterranean species is noteworthy, 104 species in 19 families being listed. As expected, the siluriform catfishes are well represented, along with well-known examples from other groups, such as the blind cave tetra, *Astyanax jordani* (Characidae), but examples also include gobiid, cottid and a number of cyprinid fishes among others.

The bibliography is comprehensive and complete, referencing papers and anecdotal reports on these fishes from as far back as 1541 and up to 2004. As the author notes, a book of this sort is never 'finished', since research is ongoing and new species will undoubtedly be discovered and described in the future, but this volume represents a timely stocktake of what is out there. The volume is completed with a series of appendices, which include a listing of abbreviations and institution acronyms, a handy glossary, a listing of 'troglo-morphic' fishes – species that are blind or depigmented, but which are neither abyssal species or derived from subterranean habitats, and a listing of useful contact addresses. The volume is completed with 20 high-quality colour plates of subterranean and troglomorphic species.

This is clearly quite a specialist volume, but an extremely welcome one. While questions on the evolutionary mechanisms responsible for eye degeneration in subterranean animals, either through neutral mutation or natural selection, have yet to be resolved; further research in this area ultimately hinges on the availability of up-to-date and accurate information of the sort set out in this excellent book.

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**THE BORNEO SUCKERS. REVISION OF THE TORRENT LOACHES OF BORNEO (BALITORIDAE: GASTROMYZON, NEOGASTROMYZON).** By Tan Heok Hui. 245 pp. Published by Natural History Publications (Borneo), Kota Kinabalu, 2006. Price US\$55.00. ISBN 983-812-105-3.

Taxonomic information on the rich, endemic fish fauna of Borneo is largely compiled in regional studies, such as Inger & Chin's classic treatise on the freshwater fishes of the Malaysian state of Sabah [1962, *Fieldiana (Zoology)*, 45: 1–268, reprinted 1990, Sabah Zoological Society], Roberts' (1989) monograph on the freshwater fishes of Indonesian Kalimantan Barat (*Mem. Calif. Acad. Sci.*, 14: xii+210), and Parenti and Lim's 2005 account of the fish fauna of the Rajang Basin, Sarawak (*Raffles Bull. Zool.*, Suppl. 13: 175–208).

In contrast, the present taxonomic monograph focuses on three genera of gastromyzontine suckers or torrent loaches that are endemic to Borneo. The three, not two of the title, genera treated here are *Gastromyzon* (36 species, of which 15 are described as new), *Neogastromyzon* (six species, of which four are new) and *Hypergastromyzon* (two species). These fish are dorso-ventrally flattened with large heads and are called 'suckers' because of their

broadly expanded pectoral and pelvic fins that effectively form a suction-cup used to position on rocky substrates in freshwater runs or riffles, suggesting the common name of torrent loaches. They are often described as looking and behaving more like tadpoles than fish. They display a high degree of endemism – 19 of the 36 *Gastromyzon* species each live in a single, small river basin, making them ideal candidates for future historical biogeographic analyses of Borneo.

This monograph is largely taken from the PhD dissertation of Tan Heok Hui, a young natural historian whose enthusiasm for fishes, their diversity, habits and habitats, is refreshing. Topics such as biogeography, ecology and economic importance of Borneo suckers, some of which are popular in the aquarium hobby, are each covered in brief introductory chapters. An artificial key to all 44 species is provided. Species accounts follow a standard format: species name and authority, synonymy, material examined, diagnosis, description, colour in life, colour in alcohol, remarks (largely comparative statements of characters), comments (various notes on types, previous taxonomic treatments), distribution, etymology and field notes. A uniform style was chosen over variety: a single basemap, illustrating the approximate length and location of Borneo's drainage systems, is used to plot distributions, whether a taxon is known from one locality (Map 13, *Gastromyzon auronigrus*, endemic to Sungai Kinarom in northern Sabah) or 26 localities (Map 8, *Gastromyzon lepidogaster* group, broadly distributed throughout Sabah, Brunei and the central highlands), for example. Inexplicably, the designated holotypes of more than two dozen species described in this monograph, or previously, are listed as uncatalogued, or were not given a unique catalogue or register number when removed from lots, the remaining specimens of which were designated as paratypes. Identification of the holotypes of these species may, therefore, be dubious.

Tan is an accomplished photographer and his many colour photographs, especially those of live suckers, are stunning. Species are typically illustrated by black and white photographs of well-preserved, representative specimens, in dorsal, lateral and ventral view. Over two dozen species are illustrated by colour photographs of live or recently preserved specimens, forming a set of plates. Sketches of the ventral portion of the head, including mouth, and juvenile pigmentation pattern are provided for most species, and repeated in a pattern on the inside back and front covers and flyleaves. The head of a brilliant green *Gastromyzon lepidogaster* on a white background makes an attractive cover.

Publication of such an extensive, detailed and richly illustrated taxonomic revision, made obtainable at a low cost, is rare these days. Natural History Publications (Borneo) is to be commended for its role in publishing an array of such books on the natural history of Borneo, its flora and its fauna. *Borneo Suckers*, the most complete treatment to date of Bornean gastromyzontine taxonomy, is a welcome addition to their catalogue; it is available through [www.nhborneo.com](http://www.nhborneo.com)

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