

Buchbesprechungen

17. Atema, J., Fay, R. R., Popper, A. N. & W. N. Tavolga (editors): Sensory Biology of aquatic animals. – Springer Verlag New York, 1988. 936 pages, 210 figures, cloth-bound.

This volume constitutes a series of invited chapters resumed on papers read at a five-day International conference on Sensory Biology of Aquatic Animals held in 1985 at the Mote Marine Laboratory in Sarasota, Florida. Investigators of sensory biology are, due to mental and technical specialisation in one sensory system, in restricted stimulus controls, in a small range of animal models stroken with myopy catching further existing modalities of an animal which uses other senses, too, to recept the real world as well. This multisensory conference thus allowed the different senses to show not only their individual strength but also their limitations and their inherent interrelatedness as they appear in the aquatic environment. The long-range purpose of the conference was to create a compendium as a conceptual framework for further investigations of the aquatic „Umwelt“ and the intricate methods used by animals to utilize all information of the aquatic stimulus world. Ultimately all sensory processing stands in the service of making behavioral decisions affecting competitive fitness. Most chapters of this volume deal with comparison of solutions to similiar sensory problems found by different species up to levels of orders or classes; for instance the common signal extraction of vertebrates as against invertebrates, imaging the method for spatial and temporal sampling of the odor enviroment by „sniffing“. Cost-benefit ratios, a pervasive concept in much of today's biology, comprise sensory processes at molecular, cellular and behaviorial plane – this economical constraint is implicate throughout the book. Necessary sensory systems like magnetic, thermal and hydrostatic pressure reception are not dealt with. Only best studied sensory modalities have a base of information that allows conceptual development. But each of the sensory subsections includes a chapter on central processing as far as it involves principles of sensory neurobiology specifically aquatic.

In addition to the usual author and subject indices an animal index is included which shows how few and selective the animals are studied in detail. Four parts (e. g. Mechanoreception) consist of thirty four chapters in total (e. g. How to be unseen: an essay in obscurity). This volume dedicated between others to Karl von Frisch, Erich von Holst and Jacob von Uexküll, is of topical interest and inspite of its outstanding prize a must for any modern biologist.

E. Popp

18. Holcik, J., Hensel, K., Nieslanik, J. & L. Skacel: The Eurasian huchen. *Hucho hucho*, largest salmon of the world. – Perspectives in vertebrate science, 5. – Dr. W. Junk Publishers, Dordrecht, Boston & Lancaster, 1988. 239 pp., 29 pls., 34 figs. ISBN 90-6193-643-8.

The genus *Hucho* comprises 4 species of salmonid fishes. *Hucho hucho*, the biggest know salmonid, reaches over 2 m; it ist considered as constituted of two subspecies, the Danubian *H. b. hucho* and the Siberian *H. b. taimen*. This monograph is the first to gather up all available informations of these fishes. Before, these informations were scattered in number of articles in a wide variety of East European languages; as a result, they were hardly usable by Western scientists working with introduced populations of this fish. Informations provided range from taxonomy to ecology, parasitology, diseases, protection, management and breeding. Part 1 on taxonomy, systematics and evolution ist sorrily very unsatisfactory. Most of the data are of limited or no interest (e. g. the ‚classification‘ on p. 2); the presentation of the morphometric data (pp. 9–19) and the too numerous abbreviations make them almost impossible to use; additionnally, this seems to be merely a juxtaposition of data published in at least 15 papers between 1899 and 1980 and it seems doubtfull that the methods were standardized so that to allow such a comparison. The authors state that the two subspecies cannot be separated on the basis of morphometric and meristic characters and they state that the major differences are in the colouration. However, their figures 6 and 7 show distinct cranial osteology. There ist no true demonstration that the two forms occupying two very distinct and not contiguous areas are conspecific. And in contradiction to the conclusion of the authors, their fig. 6 shows a cladogram where *taimen* forms a monophyletic lineage with *H. perryi* and *H. ishikawai*, this lineage forming an unresolved trichotomy with

©Zoo. *H. bucho* and *H. bleekeri*; *H. bucho* as understood by the authors would then be polyphyletic. *Hucho bleekeri* is known from the Yangtze basin only, but the map on fig. 17 shows it as occurring only in the Yellow River.

This 239 page book printed (and composed) in Czechoslovakia is sold at the excessive price of Dfl. 225.—, a price which cannot be justified by the costs or by the presentation. The 29 plates (8 in colour) are not a justification; most of the plates are of very limited use (pl 4: the chromosomes are reproduced too small to be of very use, pls. 5–8, 12–15 [angling, etc.], 22, 25 bring almost nothing). Among the 8 colour plates, there is not even a good colour picture showing a lateral view of a whole *H. bucho*; the one of *H. taimen* is not good (at least in my copy). The only good colour picture of a whole fish is pl. 24.2 showing... *Brachymystax lenok*!

M. Kottelat

19. Herrmann, H.-J.: Die Buntbarsche der Alten Welt, Tanganjikasee. — Edition Kernen, distributed by Verlag Eugen Ulmer, Stuttgart, 1987. 240 pp., 161 colour and 63 bw figs. ISBN 3-8001-7905-9.

Stawikowski, R. & U. Werner: Die Buntbarsche der Neuen Welt, Mittelamerika. — Edition Kernen, distributed by Verlag Eugen Ulmer, Stuttgart, 1985. 271 pp., 177 colour and 57 bw figs. ISBN 3-8001-7904-0.

Stawikowski, R. & U. Werner: Die Buntbarsche der Neuen Welt, Südamerika. — Edition Kernen, distributed by Verlag Eugen Ulmer, Stuttgart, 1988. 288 pp., 176 colour and 105 bw figs. ISBN 3-8001-7932-6.

Koslowski, I.: Die Buntbarsche der Neuen Welt, Zwergcichliden. — Edition Kernen, distributed by Verlag Eugen Ulmer, Stuttgart, 1985. 192 pp., 126 colour and 56 bw figs. ISBN 3-8001-7903-2.

Among aquarium fishes, members of the family Cichlidae have been very popular since the beginning of the century and their popularity greatly increased in the last ten years. During this period, their systematic has been much changed and a large number of new species have been described. At the same time, many species have been introduced in the aquarium hobby and have been bred; observations on captive specimens resulted in a great number of publications in aquarium journals, contributing many important discoveries on their behaviour. Most cichlids are colourful and have very interesting and peculiar reproductive behaviour, including parental care, mouthbreeding, etc. This series of books presents and summarizes most of the available data about the species which have been kept in aquarium, presents colour illustrations, informations on habitat and aquarium care. The variety and the quality of the colour illustrations is particularly appreciated. The systematic usually follows the most recent available informations at the time of publications. The first of the neotropical volumes is dealing with the Central American species, and two other volumes are dealing with South American Species. South American Species have been divided into dwarf and large species. The numerous *Apistogramma* and the smaller genera *Taeniacara*, *Apistogrammoides*, *Biotoecus*, *Crenicara*, *Papiliochromis* and *Nannacara* are treated in the 'dwarf species' volume. The genera treated in the volume on large South American species include the well known *Pterophyllum* and *Symphysodon*, various genera formerly placed in the catch all genera *Aequidens* and *Cichlasoma*, and various other genera like *Crenicichla*, *Geophagus*, etc. The volume on Lake Tanganika cichlids is dealing mainly with those colourful species which have been imported as aquarium fishes. It again provides a nicely illustrated summary of the available informations on the aquarium care and breeding of these ethologically very interesting fishes.

M. Kottelat

20. Poll, M.: Classification des Cichlidae du lac Tanganika. Tribus, genres et espèces. — Mémoires de la Classe des Sciences, Académie royale de Belgique, Bruxelles, 45 (2), 1986. 163 pp., 58 figs. ISBN 2-8031-0057-6.

In 1946 and 1956 the author published two major works on the fishes of Lake Tanganika. This lake is very well known for its endemic cichlid fish fauna of which 143 species were known in 1956. Since that time, many species have been collected and our knowledges of these fishes and their systematics have much change. With the present work, M. Poll present us a summary of present day knowledges of the systematics of the cichlids of Lake Tanganika. This is not a revision but a up-dating of the classification. Poll recognizes 173 valid species in 56 genera (six new) which are distributing in twelve tribus. Each genus is diagnosed and one species per genus is illustrated, usually with details of dentition. The species are not described, but some are discussed. The autor no longer recognizes former subspecies and give most of them a specific status, recognizing that most of them are species which very slightly differ biometrically, but have very distinct colour patterns.

M. Kottelat

21. Coad, B. & L. al-Hassan. A bibliography of the fishes of the Tigris-Euphrates basin. — Max Kasperek Verlag, Heidelberg, 1988. 54 pp.

A bibliography of 618 titels (43 pages) of papers dealing with all aspects of biology of the fishes occurring in the Tigris-Euphrates basin or dealing with topics related to the fish fauna of this basin (in a few instances, very distantly related!). A 7 pages systematic index completes this publication.

M. Kottelat

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