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European Journal of Zoological Research, 2019, 7 (1): 8-9

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ISSN: 2278–7356

ISSN:2278-7356

Freshwater Fish-with Four Centuries of Natural-historical Illustrations

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OPINION

In addition to his official occupations as state council secretary for the Archduchy of Lower Austria and later as the state council minute taker for the imperial-royal Landrechte of Lower Austria under the Austrian Empire, the Austrian scholar Karl von Meidinger (1750-1820) researched and published works on diverse areas of natural science. Among more than 60 articles of primarily practice-related physical, chemical, mercantile and botanical content, there is also the Icones Piscium Austriae, published at his own expense between 1785 and 1794, in which 42 species of fish and a number of varieties from the Donau drainage basin, in Austria, are reproduced on 50 hand-colored folio copper plates, compiled in five leaflets. The small print run, high selling price, and the sparse Latin text, unfortunately, prevented a wide circulation of this now essentially forgotten work.

Thomas Sterba certainly deserves recognition for rediscovering Karl von Meidinger's *Icones Piscium Austriae*, for restoring it in terms of quality, and for presenting it to a broad audience with the book introduced here. A volume less bulky than this one praised in the foreword, as a masterpiece would surely have sufficed. Yet by placing Meidinger's fish depictions in a larger context, the author significantly increases the value of his thorough work: based on the presentation and evaluation of Meidinger's fish depictions, Sterba draws a comparison with the similarly elaborately illustrated *Oeconomischen Naturgeschichte der Fische Deutschlands* (Ecological Natural History of Germany's Fish) by Meidinger's contemporary, the Berlin doctor and ichthyologist Dr. Marcus Elieser Bloch [1-3]. Published between 1782 and 1784, it was the first part of Bloch's *Allgemeinen Naturgeschichte der Fische* (General Natural History of the Fish), which was later expanded to include the natural history of foreign fish species. It was a work that, despite some errors, made Bloch into one of the most prominent ichthyologists of the early post-Linnaeus period.

The author's third objective consisted in exemplifying the historic development of illustrations and knowledge regarding the fish shown in Karl von Meidinger's plate work. To this end he stretches the time scale from the early 16th century up to the beginning of the 20th and includes fish depictions from over 80 further authors in his critical evaluation, wherein, alongside zoological and artistic perspectives, he also takes into account general aspects concerning the relationship between man and fish.

The main body of the work, the historical comparison of Meidinger's fish plates, is preceded by an introduction, the chapters "The Ichthyological Illustration", "The Fish Phenomenon and its Taxonomy", Karl von Meidinger's biography etc., and a guide to using the book. The comprehensive appendices include an index of figures, a bibliography, two species registers-in German and Latin-, and an index of persons. The Basilisken-Presse at the Natur+Text publishing house in Rangsdorf must be credited for enabling such an extensive subject to be brought to life, opulently adorned with a host of beautiful illustrations. The publishing house has thus demonstrated their skill for such projects.

Meidinger's pictures of the species or variants are far superior to Bloch's in 32 of 50 cases, while a further nine are more or less inferior to Bloch's; in nine other cases, Meidinger copied Bloch's pictures without referencing their origin. Indeed, many of the illustrations in Icones Piscium Austriae are certainly realistic and at times also more accurate than Bloch's, who was highly-acclaimed in his time, although the reviewer was not always successful in following the author's arguments. This specific issue is, however, not truly decisive when it comes to the high "practical value" of the book. The detailed and methodically collected plethora of information is of far greater importance, which reveals itself to the reader in the chapters regarding the development of the fish depictions, the ichthyological methodology, and, above all, the subsequent discussions about the various species in question.

Who needs a book like this? Well, anyone who takes a more profound interest in the multitudinous relationships between man and fish and their identification. This includes, for example, ichthyologists, fishery experts, anglers, ecologists, faunists, environmentalists, and hydrologists focusing specifically on central European freshwater fauna, as well as, committed aquarists who wish to go beyond their particular area of interest and scientific historians who desire to follow the development of natural science illustrations or zoological research using fish as an example. It is possible to expand the number of potential target groups to include relevant universities and colleges, libraries, and natural history museums, to whom the acquisition of this book is recommended, not least so as to provide access to those interested who, for whatever reason, cannot or do not want to procure the book themselves.

Some misinterpretations were noticed, which cannot be completely avoided in such extensive work. On page 49 the author mentions the later transfer of the Eurasian ruffe from the genus *Perca linnaeus*, 1758 into the genus *Gymnocephalus bloch*, 1793, whose "nominal form" it represents. The official term "nominal type (=type)" could be meant by the imprecise term "nominal form". According to the definition by P. Bleeker, [4], the nominal type for the genus *Gymnocephalus* is the schraetzer, or striped ruffe (for which, among others, the genus was once created by Bloch), and not the Eurasian ruffe. The taxa regarding the white bream mentioned on page 95 (*Cyprinus Buggenhagii* [5] Bloch, *Abramis Leuckartii* Heckel [6] and *Abramis Heckelii* Selys-Longchamps [7] have nothing to do with the white bream since each refer to bastards of common roach and common bream, which, as the author also mentions, was first realized by Siebold, [8]. The quoted taxon *Leuciscus Heckelii Nordmann* used simply as a synonym for common roach on pages 315/316 is, according to Kottelat and Freyhof, [9] a clearly definable and valid species as *Rutilus heckelii*. These are just a couple of critical comments in order to, alongside the appraisal of a great literary feat, likewise fulfill the obligations of a reviewer.

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