

Illustrating Fishes: Why was the Series on Techniques of Making Fish Illustrations Run in an International Scientific Journal?

EUGENE K. BALON

Editor-in-Chief
Environmental Biology of Fishes
Department of Zoology
University of Guelph
Guelph, Ontario, Canada

It all started for two main reasons. In my early professional days I tried to produce my own illustrations and learned to appreciate the craft; I remained in search of the best illustrations and illustrators ever since (Fig. 1). In perpetual admiration of the old masters -- who had to use engravings, often watercolored by hand as, for example, in the illustrations for Bloch (1790) or who, like G.H. Ford, working for Günther at the British Museum in the 1860s, achieved even better results using the lithographic

*I hear, and I forget.
I see, and I remember.
I do, and I understand.*

*Ten thousand words
are not worth one seeing.*

Proverbs from Joseph Needham's
Science and Civilization in China
(1962)

method -- I could not help noticing the decline in the craft in modern times. Obviously, not all professional colleagues shared the same feelings, and allowed their works to appear with rather poor illustrations in spite of all the modern techniques which make it all cheaper and easier.

The second reason was my constant annoyance with the blank pages appearing in every issue of *Environmental Biology of Fishes* at the end of articles which conclude on an uneven page. It occurred to me that using these pages for a series on illustration techniques will give the reader an unexpected bonus and at the same time convey my appeal for better illustrations. When the senior scientific illustrator of the Field Museum of Natural History in Chicago, Zbigniew Jastrzębski, joined my enthusiasm and agreed to organize the series, the last obstacle was removed. We expected to fill nearly all blank pages, but how wrong we were! It soon became obvious that illustrators prefer to draw or paint rather than to write. Notwithstanding, within the four years the series was run, enough appeared to form a useful sample of the modern performance in this field.

The series opened in 1984 with an Invited Editorial by Casimir C. Lindsey

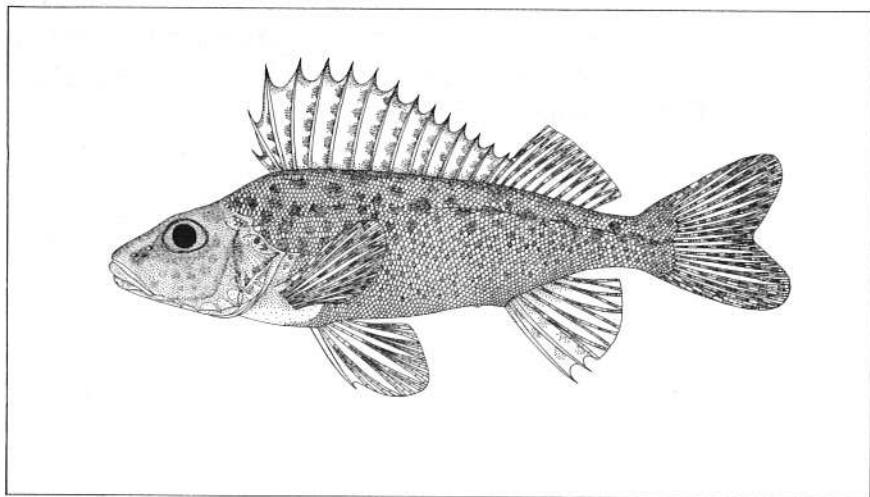


Fig. 1. A line-drawing of *Gymnocephalus cernuus* from the Danube River -- incidentally, probably the most recent invader of the American Great Lakes from Europe, seemingly via Soviet grain tankers -- done by my (former) best illustrator, Miriam Baradlai.

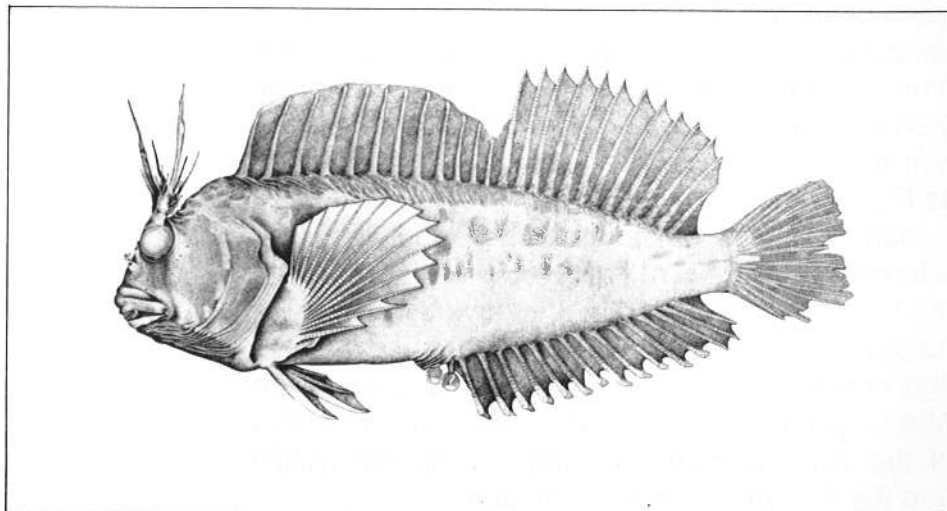


Fig. 2. Pen and ink rendering of *Hycleurochilus aequipinnis* from Belize by Zbigniew T. Jastrzębski, second in the series.

on history, types and reasons for fish illustrations, followed in the same issue by an introduction to the one-page series on techniques and its first two samples by Z. Jastrzębski (Fig. 2). Even if the time coincided with the completion and publication of his textbook (Scientific Illustration, A Guide for the Beginning Artist. 1985. Prentice-Hall, Englewood Cliffs. 319 p.), Z. Jastrzębski wrote alone over half of the techniques published in our series.

The 29 "Techniques of making fish illustration" were numbered in their sequence of appearance and did not at all end up to be only one page in length. The most complex one -- on the carbon dust technique, 12th in the series, by Patricia Drukker Brammall -- had to continue in four parts and the one on gytaku by Christopher M. Dewees and Jill Grover, 25th in the series (slightly off-tune with the initial idea), took five pages. Some others took two pages of print.

In general, a finished illustration of the fish's left side, but in two or more cases also from above, appeared with a caption like that in Fig. 3, followed by text explaining the "Preparation of specimen for drawing", "Sketching", "Rendering" and "Other matters", or modifications of these. Although the pen-and-ink technique prevailed, other methods were also published: graphite dust on video-media paper, pen and ink combined with carbon dust masked by acrylic paint (Fig. 4), print of carbon dust original, the direct print gytaku, smudged charcoal pencil and dilute ink on bristol board, pencil and graphite on paper, stippling, transparent watercolor and hand colored carbon dust print.

In the meantime, some full papers in the journal presented examples of good illustration (e.g., 1983, Vol. 9, p. 225; 1985, Vol. 14, p. 115; 1986, Vol. 15, p. 243 and Vol. 16, p. 9 bottom, p. 228; 1987, Vol. 18, p. 176) so that by the time

the series had to end for lack of further contributions (December 1987) the intended sample was representative if far from complete. Of course, the cause of photography was constantly present and repeatedly addressed.

To be fair, it all started much earlier than with the actual appearance of the technique series. In 1978 Peter J. Whitehead of the British Museum (Natural History) (who also has an article in this issue; see p. 3-4) was asked to write for the Environmental Biology of Fishes how, in search of old fish illustrations, he discovered original scores by Mozart, Beethoven, Mendelssohn and Bach, long considered lost. His "Invited Editorial" (Vol. 3, p. 153) was the first to address the "cultural environment of fishes".

Summing up, high quality illustrations were produced in the past by much more laborious techniques than those available today, and there is no excuse to accept anything less now, when easier and better techniques are at hand. Our series appeared in time to close, so to speak, the manual era of scientific illustration.

The future of fish illustration, and visual arts as a whole, will be profoundly affected by developments in the field of computer graphics. The ability to transform a visual image of a fish to a file of digitized points (pixels) allows the illustrator to import a complex and technically accurate representation of the subject. Standard techniques of image processing will allow characters of interest to be emphasized or deleted from the image. In this way, illustrations may be rendered and altered with the flexibility and speed which have made computers indispensable to our society. ●

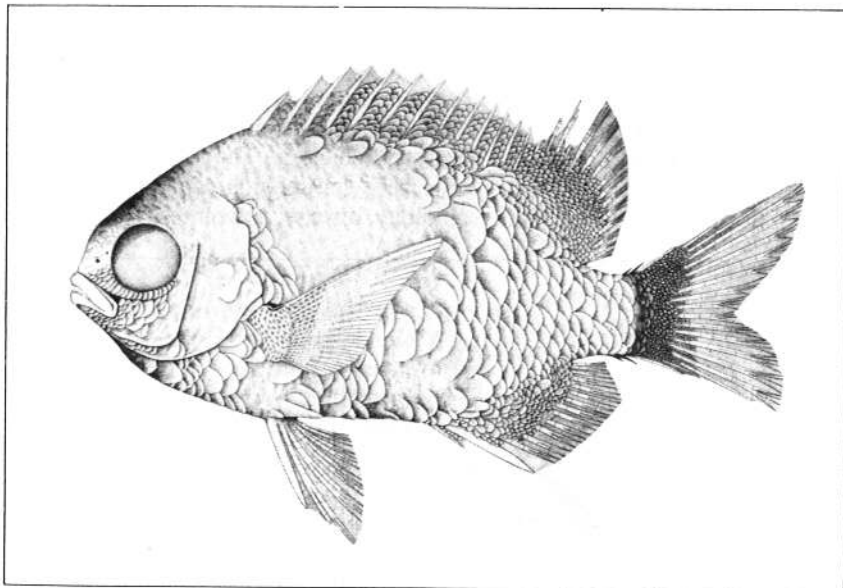


Fig. 3. *Chromis axillaris*, Somalia Coast. Drawing by Zbigniew T. Jastrzębski for John Clay Bruner and Steven Amam (published in Fieldiana, Zoology, 73(3):56, 1979). Size of the specimen: 91.5 mm SL; size of the original illustration: 63 x 44 cm; technique: pen and ink. Reproduced as halftone.

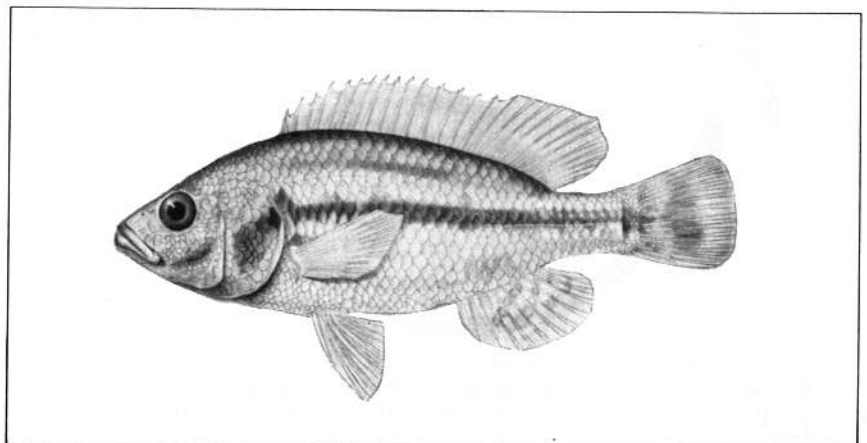


Fig. 4. Pen, ink, carbon dust and acrylic paint combined drawing of *Chetia mola* from the Luongo River, Zambia, by Marlene Werner, 13th in the series.