Comments on the Ph D thesis by Tomáš Přikryl

The thesis included numerous Cenozoic marine fossil fishes from approximately 10 localities in The Czech Republic. They were compared with those of similar age from the nearby European fish localities and some localities in other parts of the world. The systematics, anatomy, and ecology were discussed with an emphasis on feeding habits of various groups of fishes found from the localities. Stratigraphical significance of several fishes was also mentioned, e.g., the restriction of Vinciguerria merklini to the Miocene, and the use of Bregmaceros filamentosus for biostratigraphical division in the Polish Oligo-Miocene sediments. The taxonomic and bathymetric aspects of the study were summarized mainly from the literature. It is also important to point out that there were no cyprinids and freshwater osteoglossomorphs in Europe during the Paleogene. The candidate observed the stomach contents in several specimens of various groups of fishes, such as one specimen of Scopeloides glarisanus with ostracod shells and fragments of fish bones in the body cavity, the other specimen with articulated fish skeleton in the body cavity, and yet another specimen of Anenchelum glarisanum from Switzerland with partially preserved vertebral column and partial remain of skull in the body cavity, etc. Prey orientation was also examined. A trophic diagram showing the feeding relationships between the inhabitants in the water systems were discussed based on the feeding habits of their Recent relatives and the information drawn from the literature. The main differences in quantitative composition of fossil fish assemblages are also mentioned. The thesis is a
comprehensive study of the Cenozoic fossil fishes from The Czech Republic from
taxonomical, ecological (including feeding habits), and stratigraphical aspects. The
work is based on the candidate's own observation on the original specimens and
literature, and some interesting facts were noted for the first time. The work is
informative and would stimulate further investigation on the fish faunas in this area.

In conclusion, I regard the thesis meets the established scientific standards of the
PhD thesis and thus approve the thesis to be defended.

A few suggestions and comments:

1. Most of the materials mentioned here are marine fishes, some are well preserved,
and it would be better if the morphology of the fossils could be studied in more
details. It would be still better if the candidate could have done some fieldwork to
collect fossils and geological information in situ.

2. There seems no strong evidence for the statements such as “Serranus budensis was
choked to death” or “death during vomiting”.

3. Add a few references:

1) Use Nelson’s new edition (2006);

2) Add Greenwood PH (1992) A redescription of the uniquely polychromatic
58:21–36 for explanation of hyperostosis.

3) Add Chang Mee-mann & Chou Jia-jian. 2002. First discovery of fossil pike
(Esox, Pisces, Teleostei) from China. Vertebrata PalAsiatica, 40(1): 1-7 (In
Chinese with English summary), for there is no gonorynchiform in the Bohai
Gulf region. It should actually be *Esox*, mistaken by Chang & Chen (2000) for gonorynchiforms (see p. 56, Table 3 of the thesis)


4. It is hardly reliable to distinguish the soft parts, e.g., liver, gut, anus wall, etc. just based on the pigment shown on the specimens. Please add a figure of the specimen 2007/07 from IGPCChU, in which the esophagus and stomach are preserved, if possible.

5. The English needs to be improved by a native English-speaker or somebody well-versed in English. Some changes I made directly on the thesis might not be in idiomatic English.

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