

# New perleidiforms from the Triassic of the Southern Alps and the revision of *Serrolepis* from the Triassic of Württemberg (Germany)

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## Abstract

A new actinopterygian genus, *Felberia* gen. nov., is described on the basis of a few, well-preserved specimens from the Ladinian Kalkschieferzone of Meride (Canton Ticino, Switzerland), and of some fragmentary remains from the Carnian localities of Oltre il Colle (BG) and Raibl-Cave del Predil (UD). The new genus, belonging to Perleidiformes, is characterized by a deep body covered with narrow and high, strongly ornamented, but thin scales. The head is deep as well. It shows a preoperculum with equal-sized dorsal and ventral regions, an operculum larger than the suboperculum, and a small gape with teeth that are long, pencil-like and protruding on the oral margin, and stout and acuminate on the palatal bones. The fins are long and delicate. Dorsal and anal fins are located close to the tail, which is characterized by seven epaxial rays and a ventral lobe slightly larger than the dorsal. The morphology of the new genus, with its deep, laterally compressed body and its peculiar dentition, suggests a specialized feeding habit, such as preying on small crustaceans on a rough bottom: the prey could have been seized with the marginal protruding teeth and then crushed by the strong palatal ones.

The systematic position of the genus *Serrolepis* QUENSTEDT from the Lettenkohle of Württemberg, is also discussed, based on comparisons of part of the original material with these new well-preserved specimens. Due to the morphology of both scales and palatal teeth, *Serrolepis* is moved from the order Semionotiformes to the order Perleidiformes.

## Introduction

The richness and good preservation of the material found in the Meride levels improved our knowledge of the Triassic ichthyofaunas, resulting in the identification of new taxa. In particular, some interesting finds add new insights into the group of the subholosteans, which constitutes a large portion of the Middle Triassic fish faunas. In fact, Peltopleuriformes and Perleidiformes are widely spread in the Kalkschieferzone, but they show the greatest specific variability in the Meride levels (LOMBARDO 1999, LOMBARDO et al. 1999).

The new perleidiform shows some peculiar characters which were never reported in any other taxon of this group, confirming once more the importance of the Monte San Giorgio area for understanding the evolution of this group of fishes. The discovery of specimens of new deep-bodied perleidiform fishes in the late Ladinian of Monte San Giorgio (well after 150 years from the beginning of paleontological excavations in this area!) showing very high and well ornamented flank scales, prompted us to expand the researches for similar forms in the Middle-Late Triassic. *Serrolepis* DAMES, 1888, "*Dipteronotus*" *ornatus* BÜRGIN, 1992, and *Polzbergia* GRIFFITH, 1977 where the only known genera, although their characters did not match exactly those of the new specimens described here. Furthermore, additional new material is present in the collections of a few Museums (MFSN, PIMUZ) and it shows that these deep-bodied perleidiform fishes were well differentiated in size, body and tooth shape, as well as in scale ornamentation (LOMBARDO pers. obser.).

A new genus with its type species is thus erected on the basis of the very well-preserved material from the late Ladinian (Middle Triassic) of Monte San Giorgio (Canton Ticino, Switzerland) (Fig. 1), while some

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