

Progress in cestode systematics & phylogeny since PBI monograph (2017): Basal groups from teleosts (Caryophyllidea, Spathebothriidea & Haplobothriidea)

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The results of studies on the taxonomy, classification and phylogeny of the tapeworms of the orders Caryophyllidea, Spathebothriidea, and Haplobothriidea since 2017 are briefly summarised. An analysis of the papers published in the last seven years shows that there has been virtually no progress in the small orders (Spathebothriidea and Haplobothriidea), while considerable progress has been made in the study of the monozoic tapeworms of the order Caryophyllidea. Special attention has been given to the revision of genera and the description of new species. Most of the studies dealt with Nearctic tapeworms. The most important achievement is a new phylogenetic hypothesis on the relationships among the Caryophyllidea and their new classification. The previous classification, which was based on the position of the inner longitudinal muscles in relation to the genital organs (testes and vitelline fol-

licles), should be abandoned as artificial. Instead, a molecular phylogenetic analysis of the order reveals a strong zoogeographic and host-related pattern. A new family-level classification has been proposed, with members of the Lytocestidae occurring almost exclusively in catfishes (Siluriformes) in the Afrotropical and Oriental regions, species of the rearranged Caryophyllaeidae of minnows and loaches (Cyprinoidei and Cobitoidei) endemic to the Palaearctic region, and members of the newly circumscribed Capingentidae occurring almost exclusively in suckers (Catostomidae) and few minnows (Leuciscidae) in the Nearctic region. Examples of some recent studies from all regions except the Nearctic are presented. The results of research on caryophyllideans in North America will be presented in a separate paper (Oros *et al.*, 2023).