

Adhesive organs are widespread structures among vertebrate larvae. They allow the larvae to attach to a substrate, so that the time for the development of mouth or motoric apparatus could be prolonged. Similar structures in ascidians, larvaceans and lancelets are known too. Thus, it might be hypothesized that the presence of some type of adhesive gland could indeed represent the ancestral state for chordate larvae. Interestingly, however, whilst in most species these glands take their developmental origin in ectodermal layer, in bichir, a member of a primitive actinopterygian lineage, their origin was suggested to be endodermal already at the beginning of 20th century. Since then, however, the former study has become almost forgotten and even recent analyses do not come with new findings on this topic. Because of the essential importance of study of bichir cement glands for understanding the relationship between these structures among chordates, I have decided to focus on this subject. To obtain appropriate comparative data *Xenopus*, Weather loach and Ribbed newt embryos were included in this study as well. By using combination of immunohistochemical and histological techniques the endodermal origin of cement glands in bichir was proven and their morphogenesis was described into considerable details. The results also reveal similarities within the developmental context in bichir and *xenopus* cement glands, despite of their dissimilar embryonic origin. On the other hand, similarities between developmental morphogenesis of bichir cement gland and of pharyngeal pouches is conspicuous. It is clear that in order to establish levels of homology of these organs to other types of adhesive glands more data will be necessary. Yet the essential contribution of detailed knowledge of comparative morphogenesis of cement glands for homology level assessment seems to be obvious.