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# Continuous record of the evolution of lacustrine cardiid bivalves in the late Miocene Pannonian Lake

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A biometric study was performed on populations of lacustrine cardiid bivalves in stratigraphically ordered samples from the deposits of a late Miocene lake, which are exposed close to Lake Balaton in Hungary. The lineage can be subdivided into several chronospecies: it starts from *Lyrnnocardium decorum ponticurn* and leads to the genus *Prosodacnomya* which is considered to belong to another subfamily than *Lymnocardium*. The evolutionary process was gradual, microevolutionary, anagenetic, and possibly peramorphic. Certain populations displayed ecophenotypic changes that were similar in their nature to the observed evolutionary ones. The shells exhibit a gradual fusion of the central ribs, resulting in a smooth central zone in late populations. The process could be an adaptation to conditions present in shallow regions of an endorheic lake with frequently displaced shoreline where ploughing was more important than digging. The smooth central zone leads to decreased friction during ploughing. The estimated time span of the evolution is between one and three million years.

**Key words:** gradual evolution, anagenesis, Miocene, Pannonian Lake, cardiid bivalves.