ACTA PALAEONTOLOGICA POLONICA

The Late Cretaceous lizard *Pleurodontagama* and the origin of tooth permanency in Lepidosauria

Magdalena Borsuk-Białynicka
Acta Palaeontologica Polonica 41 (3), 1996: 231-252

The sinuous double-row dentition of *Pleurodontagama aenigmatodes*, the Late Cretaceous Mongolian relative of the Acrodonta is a possible initial stage of evolution of tooth permanency in the Acrodonta. The reconstructed ontogenetic development of this dentition is considered as a model of evolutionary events that resulted in tooth permanency. The acceleration of the posteriad growth of jaws, that occurred at the origin of the Acrodonta, was probably followed by both peripheral and interstitial growth of the dental lamina. Created by the interstitial growth, the interdental spaces were not large enough to allow for the inclusion of the subsequently developed teeth into the main (labial) tooth row. Their blockage resulted in the eventual total blockage of tooth replacement. The requirements of the precise occlusion resulted in a reduction of the redundant lingual tooth row of the *Pleurodontagama* type. The dentition subsequently changed into a one-row permanent type increasing by a sequential addition of teeth. The patterns of dentition in the sphenodontidans and the varanoids may also result from evolutionary changes of skull proportions via the differential growth of jaws and consequent adjustment of the dental lamina.

Key words: *Pleurodontagama*, Squamata, Lepidosauria, tooth replacement.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Full text (561.8 kB)