

## Structure and ultrastructure of ovaries in two lizard species – slow worm *Anguis fragilis* L. and sand lizard *Lacerta agilis* L.\*

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Ovarian follicular growth in reptilian species, as in all vertebrates is a crucial reproductive process of females. Thus, the identification and definition of morphological changes in the reptilian oocyte, and its peripheral structures during the female reproductive cycle are important for understanding the evolution of oogenesis. During annual cycles ovaries of reptiles change dramatically in shape and size according to the stage of the reproductive cycle, and the number and sequence of developmental stages of follicles. The aim of this study was to investigate structure and ultrastructure of ovaries after eggs laying in two national species of lizard – slow worm *Anguis fragilis* L. and sand lizard *Lacerta agilis* L. In this research standard methods for light and electron microscopy were used. The results of this study showed that the follicular epithelium surrounding oocytes maintains a polymorphic and multilayered organization. Ovaries of both

species show the following architecture of three types of cells: intermediate, small and pyriform one. The small cells of the granulosa are cuboidal and show no obvious specializations. They have more or less oval nucleus containing numerous nuclear bodies with fibrous shells. Chromatin is condensed at the nuclear envelope and around the fibrilo-granular nucleolus. Intermediate cells are round and much larger than the small ones. They contain spherical nucleus with diffused chromatin and few nuclear bodies. The pyriform cells are the largest cells from granulosa. They can be recognized by an elongated apex contacting with the oocyte through bridges in zona pellucida. They are regularly distributed between small and intermediate cells, inside the multilayered follicular epithelium. Pyriform cells possess large spherical nucleus with diffused chromatin and prominent nucleolus very rich in granules.

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\*All specimens used in experiment were captured according to Polish legal regulations concerning wild species protection (Dz.U. nr 2 poz. 11 z 1984 r., Dz.U. nr 114 poz. 492 z 1991 r.). Approvals for performing studies on protected species were obtained from the Regional Directorate of Environmental Protection in Katowice (WPN.6401.72.2014.MS) and Wrocław (WPN.6401.99.2014.MK). The slow worm *Anguis fragilis* L. and sand lizard *Lacerta agilis* L. are not included in Washington Convention of 1973, ratified by Poland in 1991.