Ultrastructural differentiation of the thyroid gland during embryogenesis in sand lizard *Lacerta agilis* L. (Reptilia, Lacertidae) embryos

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The thyroid is structurally conserved in all vertebrate species and is the first endocrine structure to become recognizable during an animal's development. Only a few reports have described the ultrastructure of reptilian thyroid gland during ontogenesis (Rupik, 2011). The eggs of the sand lizard were incubated in the constant temperature at 30°C. The age of embryos was calculated using the table of species development. Throughout 21^{th}–23^{th} developmental stages, the undifferentiated thyroid primordium contained cellular cords, and the plasma membranes of adjacent cells formed junctional complexes. Subsequently at the 25^{th} developmental stage the first follicular lumens started to form. The follicular lumen in sand lizard embryos was differentiated by cavitation. It was of extracellular origin, as in grass snake species (Rupik, 2012). In the middle of embryogenesis (stage 30^{th}) the follicular cells frequently showed apocrine secretion into follicular lumen. The Golgi complex and the rough endoplasmic reticulum (RER) developed gradually and cilia were formed (stages 32^{th} – 37^{th}). In the differentiating thyrocytes of sand lizard embryos similarly as in embryos of grass snake one cilium per cell was found (Rupik, 2013). These cilia lacked central fibres and therefore they had a 9 + 0 formula that suggested that they were immotile.

All specimens used in experiment were captured according to Polish legal regulations concerned with wild species protection (Dz.U. nr 2 poz. 11 z 1984 r., Dz.U. nr 114 poz. 492 z 1991 r.). Department of Histology and Embryology obtained approval of Polish Ministry of Environment Protection and Forestry for performing studies on protected species (DOPog-4201-02-94/05/aj). The sand lizard *Lacerta agilis* L. is not included in Washington Convention of 1973, ratified by Poland in 1991(Dz.U. nr 27 poz.112).

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