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# OVERVIEW OF EFFECTS OF ENDOCRINE-DISRUPTING CHEMICALS (EDCS) ON THE MORPHOPHYSIOLOGY OF THE THYROID GLAND IN REPTILES: EVIDENCE FROM LACERTIDE PODARCIS SICULUS

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Endocrine-disrupting chemicals (EDCs) have emerged as a significant threat to hormonal homeostasis in vertebrates, interfering with the synthesis, secretion, and metabolism of thyroid hormones (TH). Since these compounds are ubiquitously distributed across all environmental matrices, this review aims to consolidate current knowledge regarding their impact on the thyroid gland in reptiles, with a specific focus on the lizard Podarcis sicula as a sentinel species for ecotoxicological assessment.

Exposure to EDCs, including resorcinol, nonylphenol, octylphenol, and polychlorinated biphenyls (PCBs), has been shown to induce marked morphological and functional alterations within the thyroid gland. Observed effects include changes in the follicular epithelium and colloid content, coupled with significant fluctuations in plasma levels of T3, T4, TSH, and TRH. Furthermore, as the liver plays a pivotal role in thyroid homeostasis by serving as the primary site for the peripheral activation of T4 into T3, EDCs can further disrupt this balance by altering hepatic 5′-ORD activity and modifying the intrahepatic T3 and T4 content.

Together, these findings demonstrate a profound disruption of the hypothalamic–pituitary–thyroid (HPT) axis and peripheral metabolism. Overall, the data confirm the high sensitivity of the thyroid system to chemical stressors and validate P. sicula as a robust model for comparative ecotoxicology.

Kew words: Endocrine-Disrupting Chemicals; Ecotoxicology; Thyroid gland; Hypothalamic–Pituitary–Thyroid axis; Reptiles.