EDITORIAL

Endocrine Disruption in *Rana temporaria* and *Podarcis sicula*

The issue of *Open Zoology Journal* entitled: "Endocrine disruption in *Rana temporaria* and *Podarcis sicula*", focuses on one of the most important problems in our time, the increasing environmental contamination, and the consequent damages to amphibians and reptiles.

Five papers deal with this topic. The first paper by Brande-Lavridsen *et al.* [1] shows that age and size at metamorphosis of tadpoles of the common frog, *Rana temporaria,* can be influenced by two known endocrine disruptors, the estrogenic pharmaceutical 17α-ethinylestradiol and the antiandrogenic/antiestrogenic fungicide prochloraz. In the second paper, by Sciarrillo *et al.* [2], the Authors investigate the effects of nonylphenol, an estrogenic-like compound widespread in the aquatic environment, on the thyroid of the lizard *Podarcis sicula*. The results show a structural and functional disruption of the thyroid gland. The next three papers examine different effects of a heavy metal, cadmium, on the lizard *Podarcis sicula*. The third paper, by De Falco *et al.* [3], investigates the changes in the adrenal gland morphology of the lizard following the exposure to cadmium. This metal impairs the steroidogenic tissue and induces steroidogenic cord hyperplasia, disorganization of steroidogenic parenchyma until necrotic degeneration. It in turn evokes macrophage infiltration. The fourth paper, by Favorito *et al.* [4] shows an alteration of the normal endocrine function of the pituitary gland of the lizard *Podarcis sicula* following an acute exposure to cadmium. The last paper, by Simoniello *et al.* [5] shows that cadmium in *Podarcis sicula* stimulates oogonial proliferation and oocyte recruitment by mimicking gonadotropins activity. The metal also exerts toxic effects on the growing follicles thus reducing fecundity and the reproductive performance.

This issue increases the knowledge of the effects of some environmental pollutants on amphibians and reptiles, two groups of organisms increasingly threatened by pollution, and now at risk of extinction. Moreover, it highlights the risks human health is exposed to.

REFERENCES

[1] Brande-Lavridsen N, Christensen-Dalsgaard J, Korsgaard B. Effects of ethinylestradiol and the fungicide prochloraz on metamorphosis and thyroid gland morphology in *Rana temporaria*. Open Zool J 2010; 3: 7-16.

[2] Sciarrillo R, Capaldo A, Valiante S, Gay F, Sellitti A, Laforgia V, De Falco M. Thyroid hormones as potential early biomarkers of exposure to nonylphenol in adult male lizard (*Podarcis sicula*). Open Zool J 2010; 3: 17-22.

[3] De Falco M, Sciarrillo R, Valiante S, Sellitti A, Valentino B, Gay F, Capaldo A, Laforgia V. A preliminary study of cadmium effects on the adrenal gland of the lizard *Podarcis sicula*. Open Zool J 2010; 3: 23-29.

[4] Favorito R, Grimaldi MC, Coppola M, Ferrandino I. Effects of acute cadmium exposure on the pituitary gland of *P. sicula*. Open Zool J 2010; 3: 30-36.

[5] Simoniello P, Trinchella F, Scudiero R, Filosa S, Motta CM. Cadmium in *Podarcis sicula* disrupt prefollicular oocyte recruitment by mimicking FSH action. Open Zool J 2010; 3: 37-41.

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1874-3366/10 2010 Bentham Open