

环境工程 地理学

## 三丁基锡对非洲爪蟾甲状腺组织结构的影响

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**摘要** 幼龄非洲爪蟾 (*Xenopus laevis*) 暴露于低浓度三丁基锡 (25 ng&#8226;L<sup>-1</sup>TBTC1) 中2个月, 运用组织学切片的方法观测甲状腺组织结构的变化. 结果表明, TBT暴露1个月能引起爪蟾甲状腺滤泡胶质减少甚至空泡化, 暴露2个月后, 甲状腺滤泡的变形率也显著增加, 相对甲状腺横截面积和滤泡面积仅为平行对照的35.3%和45.6%, 而滤泡数目没有明显变化. 空白组和暴露组均未观察到明显的滤泡上皮增厚或肥大等现象. 由此可见, 甲状腺萎缩是由于滤泡面积减小而不是滤泡数目减少所引起的; 滤泡中胶质的减少和变形等与常见的滤泡上皮代偿性增生或肥大无关. 所用低浓度的TBT能对爪蟾甲状腺组织结构造成严重损伤, TBT可以被认定为一种环境甲状腺激素干扰物.

**关键词** [三丁基锡](#); [甲状腺激素干扰物](#); [组织学](#); [非洲爪蟾](#)

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## Effects of tributyltin on thyroid histology of *Xenopus laevis* (English)

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### Abstract

Larval African clawed frogs (*Xenopus laevis*) were exposed to a low dose of tributyltin (25 ng&#8226;L<sup>-1</sup>TBTC1) for 2 months for thyroid histology observation. For one month after exposure, TBT could induce the depletion of colloid and vacuolation. And for two months after exposure, the incidence of follicle malformation also significantly increased, the relative transverse thyroid gland area and follicle area decreased sharply, and the number of follicle did not show any significant changes. Neither hypertrophy nor hyperplasia was observed between exposure groups and control ones. Therefore, the shrink of thyroid gland was arisen from the reduction of follicle area but not follicle number, and the depletion of colloid and follicle malformation was nothing with hypertrophy or hyperplasia. This study indicates that the low concentration of TBT can heavily damage thyroid histology of *X. laevis*, and TBT can be regarded as one of thyroid disrupting chemicals (TDCs).

**Key words** [tributyltin \(TBT\)](#) [thyroid disrupting chemicals \(TDCs\)](#) [histology](#) [Xenopus laevis](#)

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