

Morphology and postnatal ontogeny of the dentition of *Chthonerpeton indistinctum* (Gymnophiona: Typhlonectidae)

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Abstract. The gross morphology, histology and postnatal ontogeny of the dentition of the viviparous and direct-developing typhlonectid *Chthonerpeton indistinctum* were described and compared with other caecilian species. *C. indistinctum* exhibited the typical pedicellated condition present in lissamphibians, with a conical monocuspid crown. Our histological analysis demonstrated that the tissue joining crown and pedicel was formed by two bands (internal and external), whereas the external band circumvented the complete periphery of the tooth junction. Likely this condition was not described for another gymnophionan species. In viviparous and some oviparous caecilians, dentition changes radically during ontogeny. Thus, there is a foetal dentition arranged in multiple rows of teeth (i.e. tooth patch), which is replaced by single tooth rows in neonate or juvenile individuals. Details of dentition in the lower jaw of neonate specimens are firstly reported for *C. indistinctum* herein, adding another member of Typhlonectidae. In some slightly larger specimens the foetal tooth patch on the lower jaw coexisted with a lingual row of the adult-type teeth, indicating that replacement of foetal dentition in the lower jaw did not take place just after birth. The number of teeth, a character widely employed among caecilian species descriptions, varies during postnatal ontogeny. Hence, we concluded that at least for typhlonectid caecilians, tooth number should not be considered as a character with a strong taxonomic value without considering the intraspecific ontogenetic variation. An extensive survey exploring the relationship between body length and tooth count becomes necessary to test the usefulness of tooth counts in species diagnosis.

Keywords: *Chthonerpeton indistinctum*, histology, postnatal transformations, tooth morphology.

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Supplementary material

Table S1. Specimens used for analyses and their method of preparation.

Collection Number MLP	Body length (mm)	Ontogenetic stage	Method of preparation
A.5611	88	Neonate	Cleared and stained
A.5612	89	Neonate	Cleared and stained
A.5614	90	Neonate	Cleared and stained
A.5615	91	Neonate	Cleared and stained
A.5617	94	Neonate	Cleared and stained
A.5610	95	Neonate	Cleared and stained
A.5613	95	Neonate	Cleared and stained
A.5616	98	Neonate	Cleared and stained
A.5624	110	Juvenile	Cleared and stained
A.5625	117	Juvenile	Cleared and stained
A.5626	139	Juvenile	Cleared and stained
A.5623	193	Adult	Cleared and stained
A.5627	195	Adult	Cleared and stained
A.5622	199	Adult	Cleared and stained
A.5628	214	Adult	Cleared and stained
A.5630	280	Adult	Skeletonized; SEM
A.5631	285	Adult	Skeletonized
A.5632	288	Adult	Skeletonized
A.5633	290	Adult	Skeletonized

A.5634	290	Adult	Skeletonized
A.5635	291	Adult	Skeletonized
A.5629	293	Adult	Skeletonized; SEM
A.5637	295	Adult	Skeletonized
IBIGEO-A 1849	304	Adult	Histological preparation
A.5636	368	Adult	Skeletonized
A.5638	385	Adult	Skeletonized; SEM
