

➤ **Morphology, function and systematic distribution of a carpenter plane-like tool in the mandibles of termite workers (Insecta Isoptera)**

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The workers' mandibles are commonly used for the systematic description of termite species and for the study of their phylogenetic relationships. They also show morphological adaptations to the species' diet. Despite the mandibles' systematic interest and functional importance, only the external outline of their upper side is generally described and represented.

Through a more complete study of workers mandibles we have discovered that all 60 observed genera of termites exhibit a "premolar tooth", which had so far only been described in the soldierless genera of Apicotermitinae (Sands, 1972).

In the most ancient families (Mastotermitidae, Kalotermitidae, Termopsidae, Hodotermitidae, Rhinotermitidae), whose diet mainly consists in wood, this premolar tooth takes the form of a sharp blade, at the underside of the left mandible. While chewing, the worker progressively crosses its mandibles. The left mandible slides over the right one and bits of ingested wood are held tight between the two mandibles. Due to its position, the premolar blade can thus cut a superficial slide of this food as the chisel of a carpenter plane cuts shavings out a piece of wood.

In higher termites (Termitidae), the xylophagous genera have retained such a "premolar plane", while in most genera with a supposed humivorous diet the premolar tooth takes a different position (along the internal side of the mandible), a more rounded form and a different function.

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◆ **First evidence for progenesis in *Triturus***

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Paedomorphosis is defined as the retention of subadult morphology in reproductive adults. Two main processes can produce this heterochronic pattern: neoteny and progenesis, but progenesis has not been yet demonstrated in newts. Distinction between them can be obtained from the determination of age at first reproduction using the skeletochronological method. In this study, we sampled more than 300 *Triturus alpestris* newts in two populations: one in a French lake and the other in an Italian pond. Results show that paedomorphs from the Italian pond are mature earlier and at a smaller size than metamorphs (Progenesis) whereas paedomorphic and metamorphic newts from the French population do not differ in size and age (Neoteny). Adaptive significance of Paedomorphosis is discussed in relation to the stability of the aquatic habitat.

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**ABSTRACT BOOK**