

## Gladius shape variation in coleoid cephalopod *Trachyteuthis* from the Upper Jurassic Nusplingen and Solnhofen Plattenkalks

Dirk Fuchs, Theo Engeser, and Helmut Keupp


*Acta Palaeontologica Polonica* 52 (3), 2007: 575-589

Although the fossil record of coleoid cephalopods is generally poor, the Upper Jurassic Nusplingen and Solnhofen Plattenkalks have provided numerous well-preserved coleoids. *Trachyteuthis hastiformis*, a comparatively large vampyropod coleoid, was previously known to represent the sole species of its genus in Nusplingen and Solnhofen. However, morphological comparisons based on 50 specimens from different museum collections revealed two additional species: *T. nusplingensis* sp. nov. and *T. teudopsiformis* sp. nov. Both species lack the distinct spindle-shaped elevation on the gladius median field typical for *T. hastiformis*. *T. nusplingensis* sp. nov. is clearly characterised by a smooth median field and a more or less regular granulation on the dorsal gladius surface, whereas *T. teudopsiformis* sp. nov. can be easily distinguished by the presence of a *Teudopsis*-like median keel and an extremely narrow granulation. Morphometric analyses have shown that length-width indices are ambiguous characters to differentiate between the three species. Phylogenetically, the keeled and anteriorly pointed *T. teudopsiformis* sp. nov. can be linked with the Early Jurassic genus *Teudopsis* and the Late Cretaceous genus *Glyphiteuthis*.

**Key words:** Cephalopoda, Coleoidea, Vampyropoda, *Trachyteuthis*, gladius, Kimmeridgian, Tithonian.

Dirk Fuchs [drig@zedat.fu-berlin.de](mailto:drig@zedat.fu-berlin.de), Theo Engeser [engeser@zedat.fu-berlin.de](mailto:engeser@zedat.fu-berlin.de), and Helmut Keupp [keupp@zedat.fu-berlin.de](mailto:keupp@zedat.fu-berlin.de), Freie Universität Berlin, Institut für Geologische Wissenschaften, Fachrichtung Paläontologie, Malteserstr. 74-100, D-12249 Berlin, Germany.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see [creativecommons.org](https://creativecommons.org)), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(1,393.9 kB\)](#)