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***Orthotylus attali* sp. nov. –  
a new plant bug from Turkey**  
(Heteroptera: Miridae: Orthotylinae: Orthotylini)

Carsten MORDEL & Denise WYNIER

**Abstract**

*Orthotylus attali*, a new species is described from the Western Taurus Mountains of Turkey (Asia Minor). Morphological documentation is provided in the form of colour habitus images, scanning electron micrographs, and drawings of male genitalia. Judging from the peculiar male genital structure, *O. attali* has only a remote relationship with any known congeners.

**Introduction**

The plant bug genus *Orthotylus* FIEBER, 1858 is distributed worldwide and includes approximately 300 species (SCHUH 2008). Within the Palaearctic region *Orthotylus* is represented by 130 species (KERZHNER & JOSIFOV 1999, YASUNAGA 1999).

Parts of Turkey belong to the Mediterranean Basin which is located at the intersection of two major landmasses, Eurasia and Africa. The Mediterranean Basin is known as one of the Earth's biodiversity hotspots (MYERS et al. 2000). Concordantly, several investigations in Turkey have shown that the Heteroptera fauna is remarkably species-rich and supports many endemic species of true bugs (AUKEMA & RIEGER 1995, 1996, 1999, 2001, 2006). So far 23 *Orthotylus* species are recorded from Turkey, ten of which are known from the European part and 22 from the Asian part (KERZHNER & JOSIFOV 1999, ÖNDER et al. 2006). Two species, *O. dumosus* and *O. junipericola terminalis* are endemic to Asian Turkey (KERZHNER & JOSIFOV 1999). During a 1999 collecting trip to southwestern mediterranean Turkey the first author discovered a new species of *Orthotylus*, which we describe in the present paper.

**Material and Methods**

Specimens examined are dry-mounted on cards and deposited in the collection of the Zoologische Staatssammlung München (ZSM), Germany, and in the first author's private collection, Beverungen, Germany (CMCB). The material was collected by beating *Quercus* sp. All measurements are in millimeters.

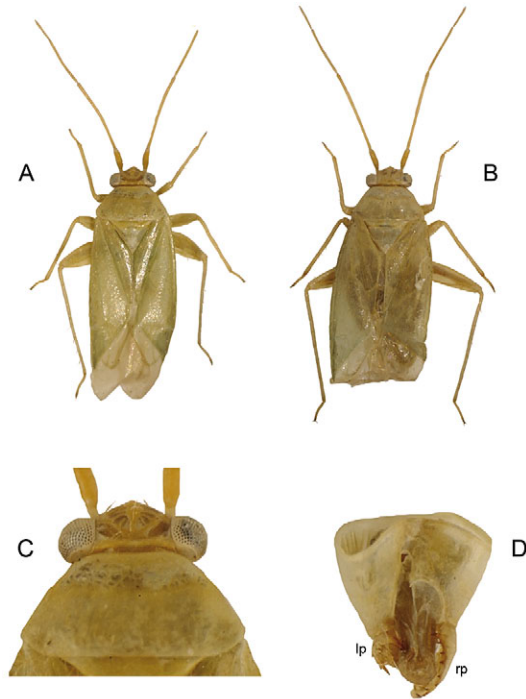
***Orthotylus* (s. str.) *attali* sp. nov.**  
(Figs. 1-3)

**Holotype** ♂: Turkey, Western Taurus Mountain Range (Bali Toroslar), Antalya province, Akseki-Beyşehir, 13 km N of Cevizli, 1000 m, 37°17'03"N, 31°44'38"E, 1.VII.1999, C. MORDEL leg. (ZSM).

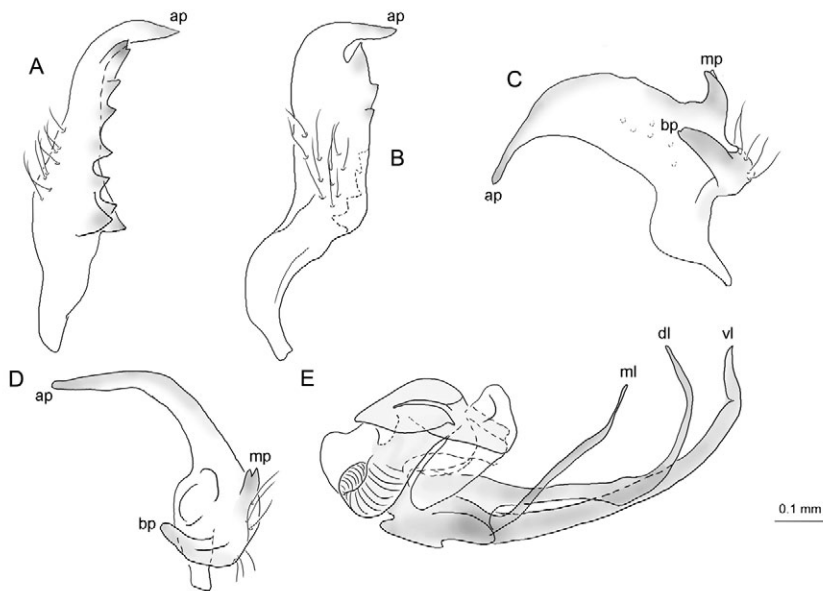
**Paratypes**: 4 ♂♂, 5 ♀♀, same data as holotype (CMCB).

**Etymology**: King Attalos II Philadelphos of Pergamon (\* 220 BC; † 138 BC) founded the ancient city of Attaleia (Antalya).

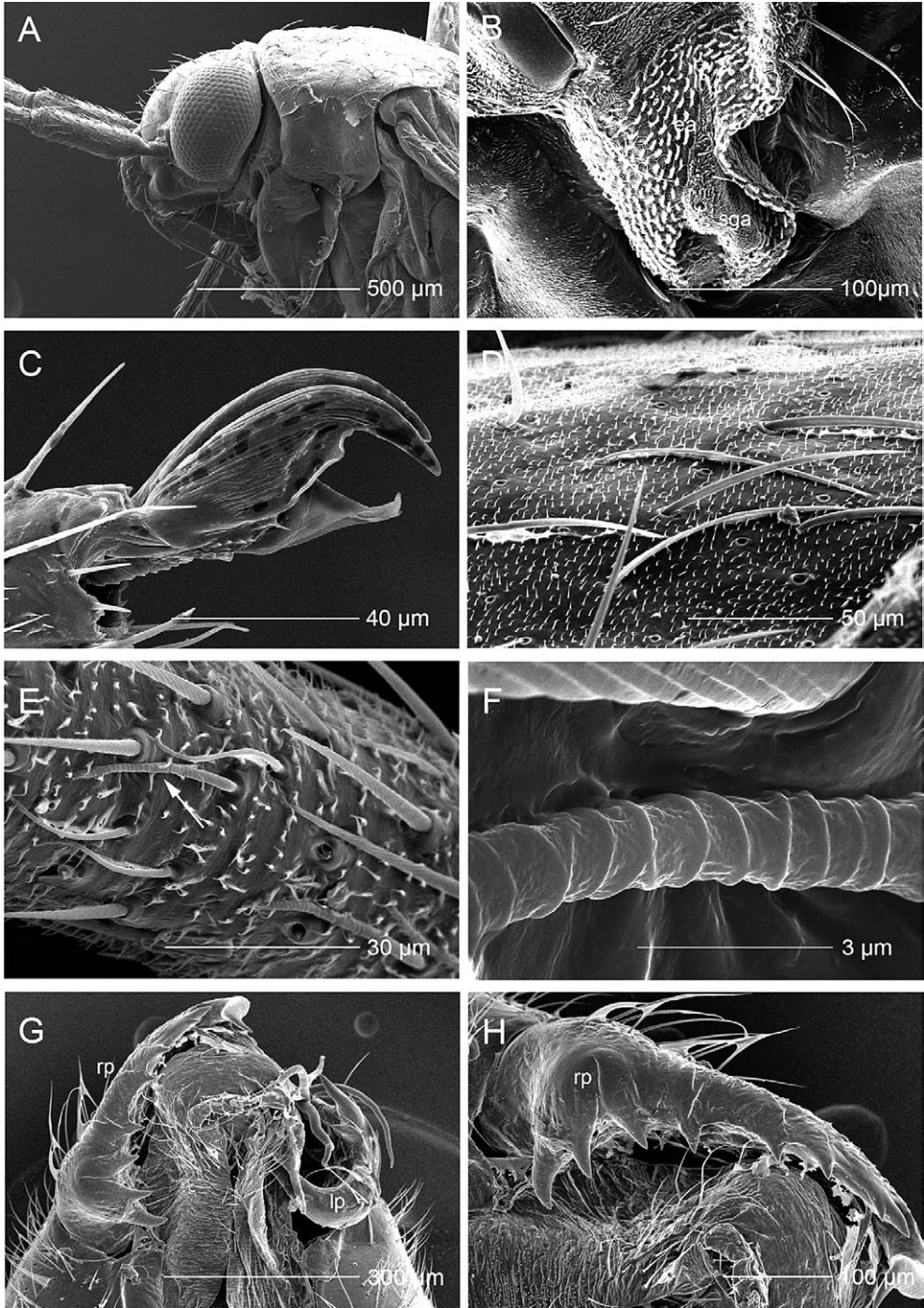
**Diagnosis**: Recognized by the suboval body, generally pale yellowish green colouration of the male (Fig. 1A, C) and female (Fig. 1B), by the male genitalia with right paramere distinctly denticulate and apical process distinctly hooklike (Fig. 1D, Fig. 2A, B), left paramere sickle-shaped with bifid medial process dorsally (Fig. 2C, D), apical process extended (Fig. 2C), basal process slightly extended and blunt apically (Fig. 2C, D), and endosomal spicule with three smooth, narrow lobes (Fig. 2E).



**Figure 1.** *Orthotylus attali* sp. n. A. ♂. B. ♀. C. Head and pronotum, ♂. D. ♂ genital capsule with left (lp) and right paramere (rp). A. – D. Dorsal view.



**Figure 2.** ♂ genitalia of *Orthotylus attali* sp. n. A. Right paramere with apical process (ap), dorsal view. B. Right paramere with apical process (ap), lateral view. C. Left paramere with basal (bp), medial (mp) and apical process (ap), lateral view. D. Left paramere with basal (bp), medial (mp) and apical process (ap), dorsal view. E. Vesica with dorsal (dl), medial (ml) and ventral lobe (vl), lateral view.



**Figure 3.** Scanning electron micrographs of male *Orthotylus attali* sp. n. **A.** Head and thorax, lateral view. **B.** Metathoracic pleuron with scent-gland auricle (sga) and evaporatory area (ea). **C.** Pretarsus, lateral view. **D.** Setae on hemelytra. **E.** Second antennal segment with vermicular setae (arrow). **F.** Detail of vermicular setae on second antennal segment. **G.** Genital capsule with right (rp) and left paramere (lp), dorsal view. **H.** Detail of right paramere (rp), dorsal view.

### Description:

**Male:** Measurements: Total body length 3.90-4.05; length apex clypeus-cuneus fracture 2.55-2.70; antennal segment I 0.35-0.39, II 1.20-1.30, III 0.80, IV 0.43-0.45; head width 0.77-0.80; vertex width 0.37-0.40; mesal pronotal length 0.58-0.60; basal pronotal width 1.20-1.25.

Colouration: Uniformly pale green (Fig. 1A), except for brownish yellow antenna, and apex of pretarsus slightly darkened.

Structure: Body slightly elongate (Fig. 1A); head higher than long (Fig. 3A), vertex slightly elevated (Fig. 3A); antennal segment I about as long as length of head (Fig. 3A); metathoracic pleuron with evaporatory area folded (Fig. 3B); claws distinctly curved (Fig. 3C); labium reaching to metacoxae.

Surface and vestiture: General aspect shining; head, pronotum, and hemelytra covered with aureate, sub-erect simple setae (Fig. 3D); pronotum slightly punctate; antennal and tibial spines pale brown; antennal segments with vermicular setae (Fig. 3E, F).

Genitalia: Left paramere sickle-shape (Fig. 2D) with bifid medial process dorsally (Fig. 2C, D), apical process extended (Fig. 2C), basal process slightly extended and blunt apically (Fig. 2C, D); right paramere elongate (Fig. 2A, B), with distinct, strong denticles (Fig. 1D, 2A, B, 3G, H), and apical process distinctly hooklike (Fig. 2A, B); endosomal spicule with smooth, narrow dorsal, medial, and ventral lobes (Fig. 2E).

**Female:** Measurements: Total body length 3.85-4.35; length apex clypeus-cuneus fracture 2.90; antennal segment I 0.35-0.39, II 1.31-1.40, III 0.80-0.93, IV 0.43-0.48; head width 0.80-0.82; vertex width 0.40-0.41; mesal pronotal length 0.60-0.61; basal pronotal width 1.25-1.27.

Structure: Body subovate (Fig. 1B); all other structural characters as in male. Colouration, surface and vestiture as in male.

**Distribution:** So far only known from the locus typicus.

**Habitat:** On *Quercus* sp. in a heavily anthropogenic disturbed *Quercus*-forest hillside area located close to a highway.

### Discussion

SOUTHWOOD (1953), WAGNER (1952, 1973) and YASUNAGA (1999) erected several subgenera within *Orthotylus* but without revising the status and definition of the other subgenera. YASUNAGA (1999) suggested that the plant bug genus *Orthotylus* is not monophyletic. According to SOUTHWOOD (1953), WAGNER (1952, 1973) and YASUNAGA (1999) the species described here belongs to the subgenus *Orthotylus* s. str. The material at hand does not fit any of the published descriptions of the known species of the subgenus *Orthotylus* (GHAURI 1972; JOSIFOV 1976, 1992; LINNAVUORI 1953, 1984, 1990, 1994; LINNAVUORI & AL-SAFADI 1993; LINNAVUORI & MODARRES 1999; WAGNER 1952, 1973; WAGNER & WEBER 1978 and YASUNAGA 1999), hence we conclude that it belongs to a new species which we place in the subgenus *Orthotylus*.

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### Zusammenfassung

Aus Kleinasien (Türkei) wird die Weichwanze *Orthotylus attali* sp.n. beschrieben, ihre kennzeichnenden Merkmale werden abgebildet. Die neue Art ist bisher nur vom Locus typicus aus dem Westlichen Taurusgebirge bekannt. Unter Berücksichtigung der spezifischen Ausprägung des männlichen Genitalapparates lassen sich keine Schlüsse hinsichtlich der nächsten Verwandten der Art innerhalb der revisionsbedürftigen Gattung *Orthotylus* ziehen.

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Author's addresses:

Dr. Carsten MORKEL  
Bartholomäusstraße 24  
D-37688 Beverungen, Germany  
[info@umweltgutachten.com](mailto:info@umweltgutachten.com)

Dr. Denise WYNIKER  
Natur-Museum Luzern  
Kasernenplatz 6  
CH-6003 Luzern, Switzerland  
[denise.wyniker@lu.ch](mailto:denise.wyniker@lu.ch)

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