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*Aspidiphorus lareyniei* JACQUELIN DU VAL, 1859  
(Coleoptera: Sphindidae) – a beetle species new  
to Greece and Poland

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**Abstract:** *Aspidiphorus lareyniei* JACQUELIN DU VAL, 1859 (Coleoptera: Sphindidae) is a species of beetle new to the fauna of Greece and Poland. *Aspidiphorus lareyniei* was collected for the first time in Greece (Macedonia) and north-eastern Poland (Podlasie Lowland). An identification key to the three European species of the genus *Aspidiphorus* – *A. lareyniei*, *A. confusus* (REITTER, 1902) and *A. orbiculatus* (GYLLENHAL, 1808) – is provided.

**Key words:** Coleoptera, Cucujoidea, Sphindinae, *Aspidiphorus lareyniei*, new records, key, Greece, Poland.

## INTRODUCTION

Sphindidae JACQUELIN DU VAL, 1860 is a small family of beetles with ca 69 species in 9 genera, grouped in 4 subfamilies. The genus *Aspidiphorus* ZIEGLER in DEJEAN, 1821 belongs to the subfamily Sphindinae JACQUELIN DU VAL, 1860. It contains 24 species, 10 of which are known from the Palearctic (FORRESTER & MCHUGH 2010). Three of these species occur in the Western Palearctic (including the Caucasus): *A. confusus* (REITTER, 1902), *A. lareyniei* JACQUELIN DU VAL, 1859 and *A. orbiculatus* (GYLLENHAL, 1808). *A. orbiculatus* is widespread throughout the Palearctic, and has been reported from almost the whole of Europe, as well as from North Africa (Algeria) and the Far East. *A. lareyniei* has so far been found at a small number of sites in southern, central and western Europe and in the Caucasus. Until recently, it was reported from Austria, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Czechia, France, Italy, Romania, Russia, Slovakia and Slovenia (SMETANA 2007). Later it was also found in Spain (VIÑOLAS *et al.* 2012) and in Ukraine (MATELESHKO 2009). *A. confusus* is known from Armenia and Azerbaijan (SMETANA 2007). Another 5 species listed among the Palearctic fauna inhabit northern India and Bhutan (SMETANA 2007, HALLAN 2010). The two other Palearctic species occur in the Far East, including Japan and Korea (KIM *et al.* 2010).

## RESULTS

Below are given the first localities of *Aspidiphorus lareyniei* in Greece and Poland:

**Greece:** Macedonia, Pangeon Mts., 21 km W of Kavala 40°55'N/24°09'E, 1215 m a.s.l., 20.05.2009, 1 ex., leg. et coll. R. Królik.

**Poland:** Podlasie Lowland, Knyszyn Forest, the “Stara Dębina” woodland nature reserve (UTM: FE61), 19.06.2020, 5 exx., sieved from decaying wood and fungi growing on dead deciduous trees, leg. et coll. R. Królik et A. Lasoń.

Additional material examined:

*A. confusus*

**Azerbaijan:** Yardımlı rayonu, 17 km NE of Yardımlı, 38°57'N/48°26'E, 368 m a.s.l., 28-31.05.2010, 4 exx., leg. R. Królik, coll. R. Królik et A. Lasoń.

*A. orbiculatus*

**Poland:** Podlasie Lowland, Knyszyn Forest, the “Stara Dębina” woodland nature reserve (UTM: FE61), 19.06.2020, 16 exx., sieved from decaying wood and fungi growing on dead deciduous trees, leg. et coll. R. Królik et A. Lasoń.

In view of the hitherto known range of *A. lareyniei*, this new locality in NE Poland may come as a surprise. However, it is highly likely that this species is more widely distributed in Poland, and the fact that it has not been found before could be due to confusion with *A. orbiculatus*. A review of the voucher specimens in coleopterological collections may therefore provide further information on the occurrence of this species in Poland.

Not much is known about the biology of this species possibly, like most sphindids, it develops on slime moulds (Myxomycota) (FORRESTER & McHUGH 2010, JELÍNEK 2014). Presumably, it develops in much the same way as the common *A. orbiculatus*, the biology of which was described by BURAKOWSKI and ŚLIPÍŃSKI (1987).

The key in REITTER (1902) is useful for identifying all the European species. However, we have discovered a great many additional characters distinguishing the various species and have incorporated them in the key below, which should be used in conjunction with the appended photographs.

Photographs were taken using a Nikon D7500 camera and the Nikon M Plan 10 lens. The images were stacked, aligned and combined using Helicon Focus 7 (the first author is the license holder).

### Key to the identification of the Western Palearctic species from the genus *Aspidiphorus*

1. Distinct grooves on either side of the frons, close to the proximal margins of the eyes, antennal club dark (Fig. 1); anterior pronotal angles broadly rounded, scutellar shield oval (Fig. 4); rows of punctures on elytra regular (Fig. 7); in male, no external characters of sexual dimorphism on abdominal sternites (Fig. 10); hind tarsi with four tarsomeres; aedeagus and terminal abdominal segments as in Fig. 13; on average the smallest of the three species: 1.2–1.5 mm. Distribution: Palearctic. .... *A. orbiculatus* (GYLL.)

–. No longitudinal grooves on frons, antenna nearly unicolor (Figs. 2, 3); anterior pronotal angles pointed, scutellar shield incised at base and along sides (Figs. 5, 6); rows of punctures on elytra regular (Fig. 8) or irregular (Fig. 9); in male, a transverse tubercle in the centre of the posterior margin of the second, visible sternite (Figs. 11, 12); hind tarsi with five tarsomeres (as in female) ..... 2

2. Elytra with 10 regular rows of punctures, dorsal side of body blackish-brown, antennae and legs yellow (Fig. 8); male: ventral side of body as in Fig. 11, aedeagus and terminal abdominal segments as in Fig. 14; on average the largest of the three species: 1.3-2.1 mm. Distribution: southern and central Europe ..... *A. lareyniei* JACQ.

–. Elytra with 10 confused rows of punctures, punctures often are doubled, dorsal side of body brown, antennae and legs yellow (Fig. 9); male: ventral side of body as in Fig. 12, aedeagus and terminal abdominal segments as in Fig. 15; body length: 1.5-1.8 mm. Distribution: Transcaucasia ..... *A. confusus* (REITT.)



Figs. 1–9. 1, 4, 7 *Aspidiphorus orbiculatus* (GYLLENHAL, 1808); 2, 5, 8 *Aspidiphorus lareyniei* JACQUELIN DU VAL, 1859; 3, 6, 9 *Aspidiphorus confusus* (REITTER, 1902); 1-3 head; 4-6 pronotum and scutellar shield; 7-9 latero-dorsal aspect. Scale bars = 1.0 mm.





Figs. 10–15. 10, 13 *Aspidiphorus orbiculatus* (GYLLENHAL, 1808); 11, 14 *Aspidiphorus lareyniei* JACQUELIN DU VAL, 1859; 12, 15 *Aspidiphorus confusus* (REITTER, 1902); 10–12 ventral aspect of males; 13–15 male abdominal terminalia (aedeagus and terminal abdominal segment). Scale bars = 0.2 mm.

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