

## Description of a new species of *Aglycyderes* (Coleoptera: Belidae: Oxycoryninae)

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**Abstract.** A new species of *Aglycyderes* Westwood, 1864 from Socotra Island (Yemen), United Arab Emirates and Pakistan is described. Comparison with other related species and differential diagnosis are provided. Whereas the other two known species of the genus are endemic to Canary Islands and Morocco respectively, the newly described species seems to be more widespread in South-west Asia.

**Key words.** Belidae, Oxycoryninae, *Aglycyderes*, new species, Yemen, Socotra, United Arab Emirates, Pakistan, Palaearctic Region

### Introduction

The genus *Aglycyderes* Westwood, 1864 is recently placed within the tribe Aglycyderini of the subfamily Oxycoryninae and family Belidae (Curculionoidea) (MARVALDI et al. 2006). It contains two species, *A. setifer* Westwood, 1864 from Canary Islands and *A. tavakiliani* Menier, 1974 from Morocco. Both these species are endemic in their regions and occur in *Euphorbia* L. plants (Euphorbiaceae). They are rather rare in museum material. *Aglycyderes* lives under the bark of dead and dry branches of *Euphorbia* spp. (e.g. *E. canariense* L., author's unpublished data). Generally they do not move after the bark is removed and can thus easily be overlooked by collectors. In addition to the two species mentioned above, SHARP (1876) described *Aglycyderes wollastoni* Sharp, 1876 from New Zealand, but this species was transferred to the genus *Aralius* Kuschel, 1990 by KUSCHEL (1990), and is, together with *A. olivieri* (Montrouzier, 1861), *A. gemellus* Kuschel, 2008 and *A. dispar* Kuschel, 2008 from New Caledonia (MONTROUZIER 1861, KUSCHEL 2008), closely morphologically related to *Aglycyderes*. The third related genus, *Proterhinus* Sharp, 1878, contains about 170 species occurring in the Pacific Region (LEGALOV 2009). A key to these genera, with a list of all included species, was published by LEGALOV (2009). The higher classification of Coleoptera

and Curculionoidea respectively, including these genera, was published by LAWRENCE & NEWTON (1995), KUSCHEL (1990, 1995, 2003) and BOUCHARD et al. (2011). *Aglycyderes* remains the only representative genus of the tribe Aglycyderini in the Palaearctic Region (ALONZO-ZARAZAGA 2011). The newly described species has a wider geographic range than other members of the tribe.

## Material and Methods

Specimens of newly discovered species were compared to the representatives of all known genera within the tribe Aglycyderini. Basic information about the particular species within the genera was taken from the literature cited above, and particularly from the original descriptions of the species and genera (MONTROUZIER 1861, WESTWOOD 1864, SHARP 1876, MENIER 1974). Specimens were studied by binocular microscope under magnification up to 100×. Body length, because of the prognathous head type, was measured between the very anterior margin of the head (closed mandibles) and the elytral apex. Body proportions are given of the smallest and the longest specimens, plus ten randomly chosen specimens, of each sex. Intraspecific variability is shown within the description of the new species. Internal characters except male and female genitalia were not studied.

Exact label data are cited for the type and other material; a forward slash (/) separates different lines and a double slash (//) different labels of data. Holotype, allotype and 105 paratypes are deposited in the collection of Národní muzeum, Prague (Czech Republic), 20 paratypes in the author's collection, 10 paratypes in Faculty of Forestry, Czech University of Life Sciences, Prague (Czech Republic); 2 paratypes in Naturhistorisches Museum Wien (Austria), 2 paratypes in Muséum d'histoire naturelle, Genève (Switzerland), 2 paratypes in Staatliches Museum für Naturkunde, Stuttgart (Germany), 2 paratypes in Natural History Museum, London (UK), 2 paratypes in the United Arab Emirates Invertebrate Collection, and 2 paratypes in the collection of Rudolph Schuh, Vienna (Austria).

## Systematics

### *Aglycyderes ornatus* sp. nov.

(Figs. 1–7; 10–13)

**Type locality.** Yemen, Socotra Island, wadi Ayhaft, 12°36'38"N, 53°58'49"E, 190 m a.s.l.

**Type material.** HOLOTYPE: ♂, glued on mounting board, with labels as follows: Yemen, Soqotra Is. / 24-26.xi.2003 / WADI AYHAFT, 190m / N12°36'38"E53°58'49" / [GPS], David Král lgt. // YEMEN – SOQOTRA 2003 / Expedition / Jan Farkač, / Petr Kabátek & David Král. ALLOTYPE: ♀, same data as holotype. PARATYPES (147 specimens): same data as holotype, 11 ♂♂ 18 ♀♀; same data, but Jan Farkač lgt., 2 ♀♀; YEMEN: SOKOTRA / Hadibo 100-300m / Leg. Petr Zábanský I.'93, 2 ♂♂ 2 ♀♀; Yemen, Soqotra Is. / 6.-7.xii.2003 / Noked plain: WADI IREEH / N 12°23'11" E 53°59'47" / 95 m [GPS] / Jan Farkač lgt. // YEMEN – SOQOTRA 2003 / Expedition / Jan Farkač, / Petr Kabátek & David Král, 1 ♂; Yemen, Soqotra Is., HOMHIL / protected area, 28.–29.xi.2003 / N 12°34'27" E 54°18'32", 364 / m [GPS], leg.P.Kabátek // YEMEN – SOQOTRA 2003 / Expedition / Jan Farkač, / Petr Kabátek & David Král, 7 ♂♂ 4 ♀♀; Yemen, Soqotra Is., 10km W / HADIBOH, 23.xi.,11.xii.2003 / ca 10-70 m [GPS] / leg.P.Kabátek, ex larve // YEMEN – SOQOTRA 2003 / Expedition / Jan Farkač, / Petr Kabátek & David Král, 2 ♂♂ 6 ♀♀; YEMEN, SOCOTRA / Aloove area, HASSAN vill. / env. 221 m / 12°31,2'N, 54°07,4'E/ 9- / 10.xi.2010 P. Hlaváč, 21 ♂♂, 33 ♀♀; YEMEN, SOCOTRA Island / Aloove area, HASSAN vill. env. / 12°31.2'N, 54°07.4'E, 221 m

/ Jiří Hájek leg. 9-10.xi.2010, 8 ♂♂ 13 ♀♀; YEMEN, SOCOTRA Island / wadi Ayhaft / 12°36,5'N, 53°58,9'E, 200 m / 7-8.xi.2010 L. Purchart lgt., 6 ♂♂ 8 ♀♀; YEMEN, SOCOTRA / wadi Ayhaft / 12°36,5'N, 53°58,9'E / 200 m, 7-8.xi.2010 / P. Hlaváč lgt., 2 ♂♂ 1 ♀.

**Additional non-type material examined.** S Pakistan, W Sind / KARCHAT, 25.2.-4.3. / Kirthar N.P. 1995 / D.Hauck & L.Čížek, 1 ♂ (in the author's collection); UA EMIRATES Wadi Maidaq, 23.03.2010, hand-collected, leg. K. Mahmood, 1 ♀ (in the United Arab Emirates Invertebrate Collection); UA EMIRATES Wadi / Safad, 31.I.-21.II.2006 / leg. AvH, Nr. 5910, 2 ♂♂ (1 ♂ in the author's collection, 1 ♂ in Staatliches Museum für Naturkunde, Stuttgart); UA EMIRATES Wadi / Safad, 115.-22.IV.2006 / leg. AvH, Nr. 8246, 1 ♀ (in Staatliches Museum für Naturkunde, Stuttgart).

**Note.** These additional specimens from Pakistan and the United Arab Emirates are not included in the type material for practical reasons. They correspond well with the specimens from Socotra in morphology and fall within the intraspecific variability of *A. ornatius* sp. nov. However, mainly because only few specimens are available, the geographic distribution of the species is not adequately known, and the future, e.g. genetic study, can reveal differences between populations, I prefer not to include them within the type material.

**Description. Male** (Figs. 1, 3–7): Body length 2.4–3.6 mm (3.4 mm in holotype), 2.70–2.89 times longer than wide (2.89 in holotype). Colour dark brown to black.

**Head.** Dorso-ventrally flattened, chisel-shaped; frons longitudinally and transversely flattened from epistoma margin to vertex and through whole width between eyes, wider than long, in middle (below eye level) with broad but shallow depression; lateral margins between the epistoma and anterior edge of eyes strongly produced into broadly rounded thin dorso-ventrally flattened projections, hooked backward (horns), the length of these projections differing among specimens, reaching anterior edge of eyes in less developed specimens (Fig. 3) or exceeding the posterior edge of eyes in well developed specimens (up to well behind eyes in extreme cases) (Fig. 4), their apex rounded, lateral margins of these projections acutely elevated forming sharp costa; flattened area of vertex developed into posteriad projections with strongly convex margins extending over the anterior margin of the pronotum, these projections longitudinally parallel and slightly convergent in apexes, their lateral margins acutely elevated into sharp costa; middle third of vertex (between horns) not developed; whole surface of frons including both anterior and posterior projections smooth, uniformly finely shagreened and very densely finely punctate, matt or semi-shining; vestiture consists of longitudinal scale-like setae, very sparsely distributed on flattened area of frons except lower part of shallow depression, setae becoming longer and more conspicuous in lower part of frons, and very dense on sharp costal edges of anterior and posterior projections; eyes protruding, hemispherical, displaced latero-ventrally due to flattened frons, coarsely faceted and with conspicuous scale-like setae. Antennae dark brown, straight, rather short, slightly exceeding base of elytra when turned backward, with 11 antennomeres, inserted laterally in excavation below flattened anterior projections, scape slightly longer than three following antennomeres together, exceeding lateral edge of anterior projection, antennomeres of antennal funicle of similar length and shape (including pedicel), longitudinally oval, antennal club not marked or specially developed, all antennomeres bearing sparse long scale-like setae, becoming slender and more hair-like on distal antennomeres (apical three or four antennomeres).

**Pronotum** 0.78–0.87 times longer than wide (0.78 in holotype), widest in midlength, weakly convex longitudinally from lateral view, central area marked by rather deep longitudinal depression on its whole length except short interruption approximately in middle, shallow lateral depressions near antero-lateral pronotal angles, anterior margin straight and transverse,

partly covered by posterior head projections, lateral margins broadly rounded, very slightly undulating, constricted anteriorly, posterior margin convex, not ornamented, straight in the middle part; whole surface rather strongly punctato-granulate, semi-shining; vestiture of two kinds, sparse long scale-like erected setae, becoming conspicuous on lateral margins, and fine hair-like adjacent setae.

*Scutellum* visible, semi-shining, small, flat, deeply sparsely punctuate, slightly depressed from elytral surface.

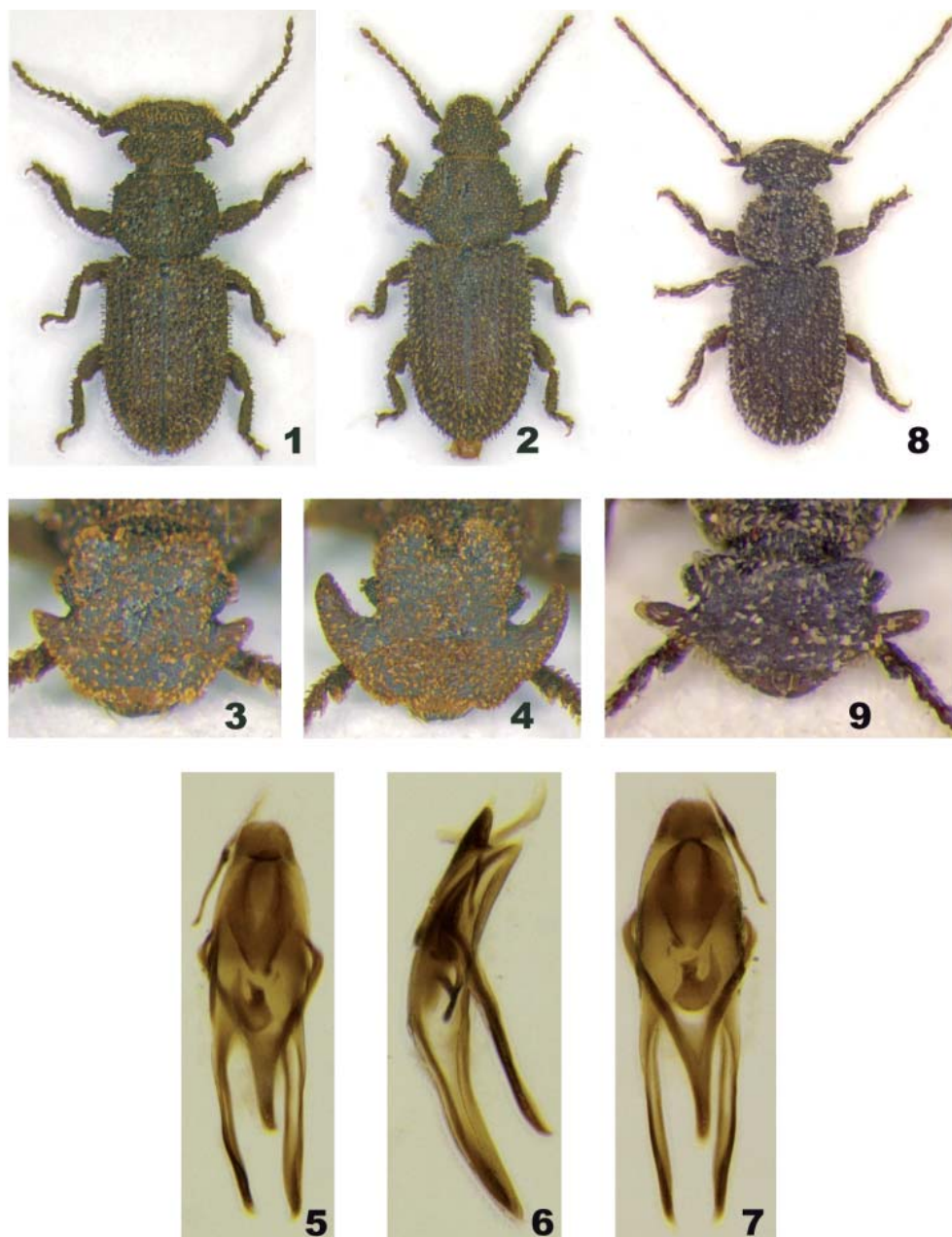
*Elytra* 1.52–1.61 times longer than wide (1.56 in holotype), 2.17–2.45 times longer than pronotum (2.33 in holotype), 1.13–1.26 times wider than pronotum (1.17 in holotype), dark brown, matt, subparallel, slightly converging apicad on basal three-quarters, jointly rounded at apex, basal margin of elytra straight, with conspicuous humeral angles, elytral striae as wide as interstriae, very deeply densely uniseriately punctuate on their whole length, interstriae smooth, transversally convex, shagreened; elytral declivity regularly rounded, lateral margins elevated into costa, which becomes more conspicuous posteriad toward apex; vestiture of very sparse long scale-like setae on sutural interstria and on odd interstriae, microscopic scale-like setae on even interstriae and in-between the other setae.

*Legs*. Dark brown. Procoxae separated more widely than width of scape, mesocoxae and metacoxae separated more than procoxae, approximately double width of scape. Pro- and mesotibiae slightly widened apically, metatibiae slender, more or less cylindrical, all tibiae without any remarkable tubercles. All pairs of legs sparsely ornamented by erect long scale-like setae, becoming more conspicuous on outer lateral edges of pro-, meso- and metatibiae as well as on outer lateral margins of femurs.

*Aedeagus* as on Figs. 5–7.

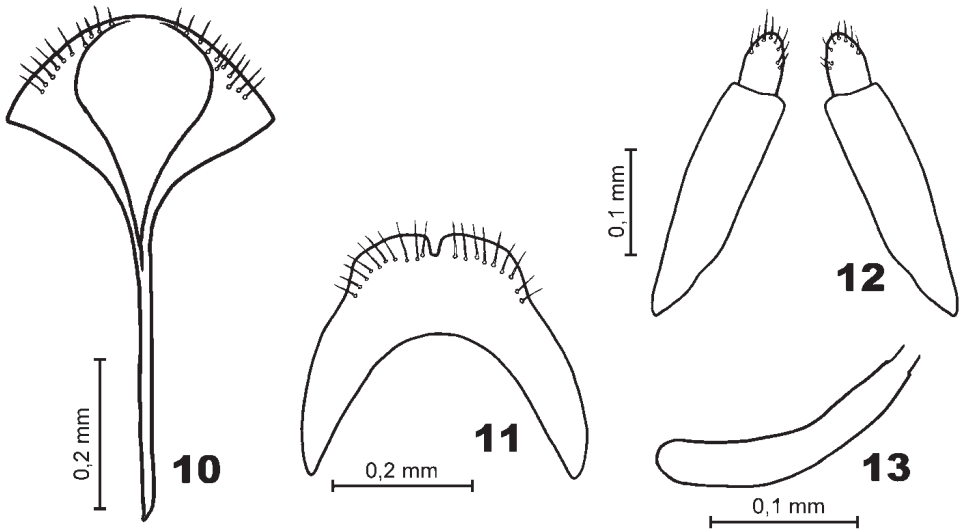
**Female** (Fig. 2). Of same appearance as male in all body parts, except shape of frons. Body length 2.4–3.7 mm (3.3 mm in allotype), 2.77–2.97 times longer than wide (2.90 in allotype). Head with frons longer than wide, lateral margins from epistoma to anterior edges of eyes simply rounded, laterally not well developed, reaching maximally middle of eye width and covering just antennal insertion from dorsal view, vertex not developed into posteriad projections, just slightly developed into closely rounded (not sharp) costa, forming posterior lateral angles of frons, not extending over the anterior margin of the pronotum. Pronotum 0.87–0.94 times longer than wide (0.94 in allotype). Elytra 1.55–1.69 times longer than wide (1.59 in allotype), 1.99–2.34 times longer than pronotum (1.99 in allotype), 1.17–1.29 times wider than pronotum (1.17 in allotype). Female genitalia as on Figs. 10–13.

**Differential diagnosis.** The newly described taxon differs from the other genera of the tribe Aglycyderini by the main generic morphological characters for *Aglycyderes* (e.g. LEGALOV 2009 and others): scape elongated; antennomeres of flagellum of the same or similar shape and length; clavus not developed; ventrites I–IV without impressions or grooves; sides of pronotum with protuberances; rostrum short in both sexes. From the other species of *Aglycyderes* it differs mainly by: the shape of the antennae, which are shorter in the new species, just about 1.5 as long as length of pronotum (nearly twice as long as pronotum in other species); lateral anterior projections of male frons curved backward and not directed simply laterally; posterior projections of male frons much more developed and overlapping the anterior margin of pronotum; lateral margins of pronotum broadly rounded from dorsal view, nearly not undulating (Figs. 1–2, 8–9).



Figs. 1–9. 1–7 – *Aglycyderes ornatus* sp. nov.: 1 – male, dorsal view; 2 – female, dorsal view. 3 – male, head with less developed lateral projections; 4 – male, head with fully developed lateral projections; 5 – male genitalia, dorsal view; 6 – same in lateral view; 7 – same in ventral view. 8–9 – *A. setifer* Westwood, 1864: 8 – male, dorsal view; 9 – male, head.





Figs. 10–13. *Aglycyderes ornatus* sp. nov., female genitalia: 10 – sternite VIII; 11 – tergite VIII; 12 – ovipositor; 13 – spermatheca.



Fig. 14. Habitat of *Aglycyderes ornatus* sp. nov. Socotra Island, Alouee area; broken *Boswellia elongata* tree in the middle (photo: J. Hájek, xi. 2010).

**Etymology.** The name of this new species, *ornatus* (lat.), meaning ornate, but also armed – is derived from the morphology of its male head bearing anterior and posterior “strong” projections.

**Biology.** Type specimens from Socotra Island were collected under the bark of dead and dry stems and branches of the Socotran endemic incense tree *Boswellia elongata* Balf. f. (Burseraceae) (Fig. 14: dead and broken *Boswellia* in the middle of the photo; J. Hájek, pers. comm.). They were mostly under bark and did not move after bark removal. This behaviour corresponds with that observed when collecting *A. setifer* on the Canary Islands (author’s unpublished observation). Larvae of species of *Aglycyderes*, presumably of the whole tribe Aglycyderini, very probably develop under the bark of recently dead trunk and branches of the host plant where adults occur later (MAY 1993).

**Distribution.** So far known from Socotra Island, the United Arab Emirates and southern Pakistan. Compared to other species of the genus, the newly described species appears to have much bigger geographical distribution.

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