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**A revision of *Amarochara* THOMSON of the Holarctic region V.  
A new species from China, a new combination,  
the male of *A. caeca* ASSING, and additional records  
(Coleoptera: Staphylinidae: Aleocharinae: Aleocharini)**

Volker ASSING

**Abstract:** *Amarochara daweiiana* nov.sp. (China: Yunnan) is described and illustrated. Additional records of species of *Amarochara* THOMSON, 1858 are reported from the Palaearctic region, among them several first records from China and Laos. The previously unknown male sexual characters of *A. caeca* ASSING, 2002 are described and illustrated. A new combination is established: *Ocalea nepalica* (PACE, 2013) nov.comb. (ex *Amarochara*). The genus is now represented in the Holarctic region by 31 species.

**Key words:** Coleoptera, Staphylinidae, Aleocharinae, Aleocharini, *Amarochara*, Holarctic region, Palaearctic region, China, taxonomy, new species, new combination, new records.

### Introduction

According to a recent revision (ASSING 2002a, 2002b, 2007, 2010), the genus *Amarochara* THOMSON, 1858 was previously represented in the Holarctic region by 30 valid species, three of them of doubtful status and identity. Twelve of these species (two doubtful) are confined to the West Palaearctic, thirteen (one doubtful) to the East Palaearctic, one has a trans-Palaearctic distribution, and four are distributed in the Nearctic region. An updated key to the species of the Holarctic region was provided by ASSING (2010). In the meantime, an additional species from Nepal was described by PACE (2013). Moreover, based on molecular evidence, *Amarochara* was recently moved from the Oxypodini to the Aleocharini (OSSWALD et al. 2013).

Since the latest contribution to the revision (ASSING 2010), more material of *Amarochara* has been examined from the Palaearctic region, which, aside from several new country records, also included the previously unknown male of *A. caeca* ASSING, 2002 and an undescribed species from China.

## Material, methods, and measurements

The material treated in this study is deposited in the following collections:

NHMB ..... Naturhistorisches Museum Basel (M. Geiser, I. Zürcher)

cAss..... author's private collection

cSch..... private collection Michael Schülke, Berlin

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). The images of the forebody, the antenna, and the abdomen were created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software. A digital camera (Nikon Coolpix 995) was used for the remaining photographs. The maps were created using MapCreator 2.0 (primap) software.

Body length was measured from the mandibles to the apex of the abdomen, the length of the forebody from the mandibles to the posterior margin of the elytra, the length of the elytra along the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the median lobe of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

## Additional records and descriptions

### *Amarochara cribripennis* (MULSANT & REY, 1875)

**Material examined:** Italy: 1♀, Sardegna, Nuoro, Montarbu, 39°50'N, 9°22'E, 1020 m, 28.III.2013, leg. Meybohm (cAss).

**Comment:** This species is endemic to Corsica and Sardinia (ASSING 2002a).

### *Amarochara siculifera* ASSING, 2002

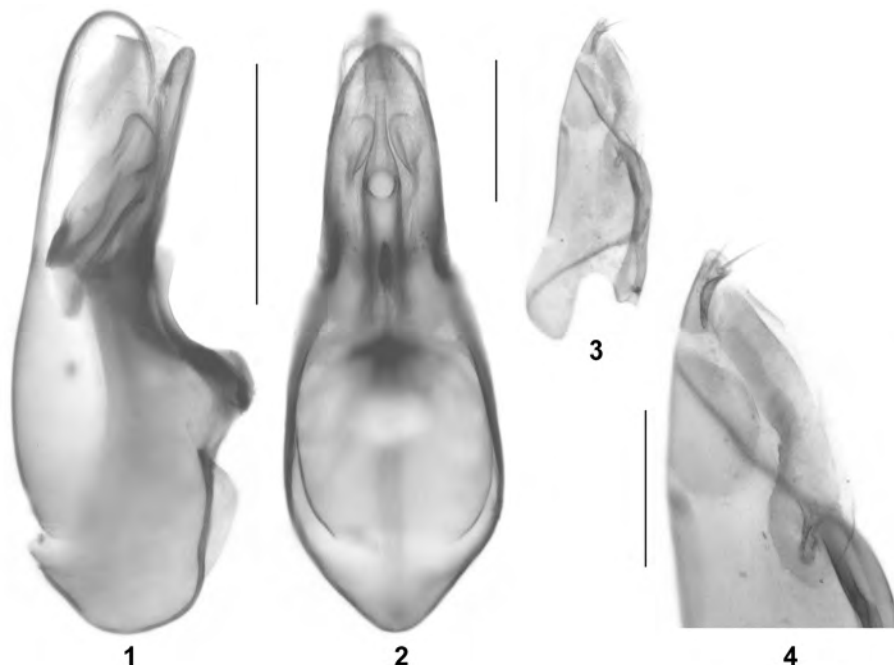
**Material examined:** Turkey: 1♂, Adana, Seyhan Dam lake, 18.IV.2013, leg. Rossi (cAss).

**Comment:** The original description is based on few specimens from central southern Anatolia and Lebanon (ASSING 2002a).

### *Amarochara caeca* ASSING, 2002 (Figs 1-4)

**Material examined:** Tunisia: 1♂, Tunisia, Béja, mountain pass 11 km WNW Teboursuk, 36°30'N, 9°10'E, 700 m, under stone, 1.III.2012, leg. Hetzel (cAss).

**Comment:** The original description is based on two females from Tunisia, one from Ain Draham and one from Le Kef (ASSING 2002a). The previously unknown male sexual characters are as follows: sternite VIII strongly convex posteriorly, not pointed; median lobe of aedeagus (Figs 1-2) 0.5 mm long, base of ventral process with conspicuous short median lamella, crista proximalis pronounced; paramere (Figs 3-4) with short and apically somewhat truncate apical lobe.



**Figs 1-4:** *Amarochara caeca* ASSING: (1-2) median lobe of aedeagus in lateral and in ventral view; (3) paramere; (4) apical lobe of paramere. Scale bars: 1-3: 0.2 mm; 4: 0.1 mm.

#### *Amarochara sororcula* CAMERON, 1939

**Comment:** The confirmed distribution of this species is confined to North India. It was recently reported also from China (Shaanxi) based on one female by PACE (2012). However, a reliable identification of *A. sororcula* is possible only based on the male sexual characters, so that the identity of the female is uncertain. The record most likely refers to *A. wrasei*.

#### *Amarochara heterogaster* CAMERON, 1939

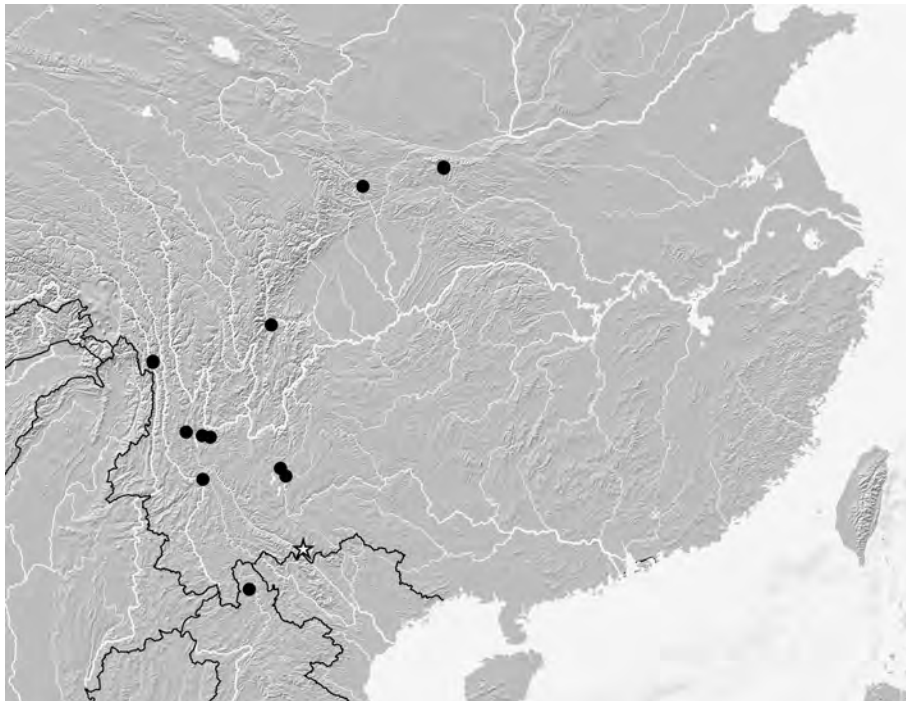
**Comment:** The confirmed distribution of *A. heterogaster* is confined to the Himalaya (North India, Nepal). It was recently reported also from Taiwan by PACE (2010), but these records require revision. It does not seem unlikely that they in fact refer to *A. megalops*.

#### *Amarochara wrasei* ASSING, 2002 (Map 1)

**Material examined:** China: Gansu: 2♀♀, mountains 38 km SE Longnan, 33°11'N, 105°14'E, 2030 m, N-slope with scree, moss, fern roots, and litter sifted, 31.VII.2012, leg. Schülke (cSch). Shaanxi: 1♀, Qinling Shan, 52 km SSW Zhouzhi, 33°44'N, 107°58'E, 1900 m, stream valley with mixed forest, litter and soil sifted, 25.VII.2012, leg. Wrase (cAss). Yunnan: 1♂, E Kunming, Xiaobailong Forest Park, 24°56'N, 103°05'E, 2110 m, secondary pine forest, pine litter and litter at trail margin sifted, 10.VIII.2014, leg. Schülke (cAss); 1♀, NE

Kunming, 25°09'N, 102°54'E, 2280 m, secondary pine forest with scattered old alder, litter sifted, 11.VIII.2014, leg. Assing (cAss); 2 ♀ ♀, NE Kunming, 25°09'N, 102°54'E, 2320 m, mixed forest with alder, oak, and pine, litter and mushrooms sifted, 13.VIII.2014, leg. Assing & Schülke (cAss, cSch). Laos: 3 exs., Phongsaly province, Phongsaly env., 21°41'N, 102°06'E, ca. 1500 m, 6.-17.V.2004, leg. Kubáň (NHMB, cAss); 4 exs., same data, but 21°41'-42'N, 102°06'-08'E, 28.V.-20.VI.2003 (NHMB, cAss).

**C o m m e n t :** *Amarochara wrasei* was previously known from the Chinese provinces Shaanxi, Sichuan, and Yunnan (ASSING 2002a, 2010), where it is evidently the most common species of the genus. The above specimens from Laos represent a new country record. The currently known distribution is illustrated in Map 1.

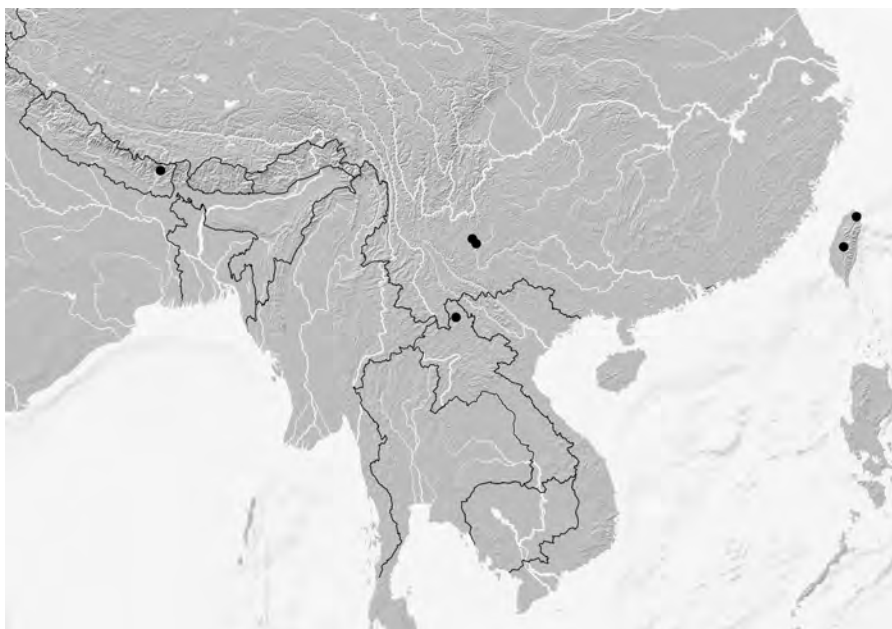


**Map 1:** Distribution of *Amarochara wrasei* (black circles) and *A. daweiiana* (star) in the East Palaearctic region.

#### *Amarochara megalops* ASSING, 2002 (Map 2)

**M a t e r i a l e x a m i n e d :** China: Y u n n a n : 1 ex., E Kunming, Xiaobailong Forest Park, 24°56'N, 103°05'E, 2110 m, secondary pine forest, pine litter and litter at trail margin sifted, 10.VIII.2014, leg. Schülke (cSch); 1 ♂, NE Kunming, 25°09'N, 102°54'E, 2280 m, secondary pine forest with scattered old alder, litter sifted, 11.VIII.2014, leg. Schülke (cAss). Laos: 5 exs., Phongsaly province, Phongsaly env., 21°41'-42'N, 102°06'-08'E, ca. 1500 m, 28.V.-20.VI.2003, leg. Kubáň (NHMB, cAss).

**C o m m e n t :** This species was previously known only from Nepal and Taiwan (ASSING 2002a, 2010). The above specimens represent the first records from China and Laos. Some of them were collected together with *A. wrasei*. The currently known distribution is illustrated in Map 2.



**Map 2:** Distribution of *Amarochara megalops* in the East Palearctic region.

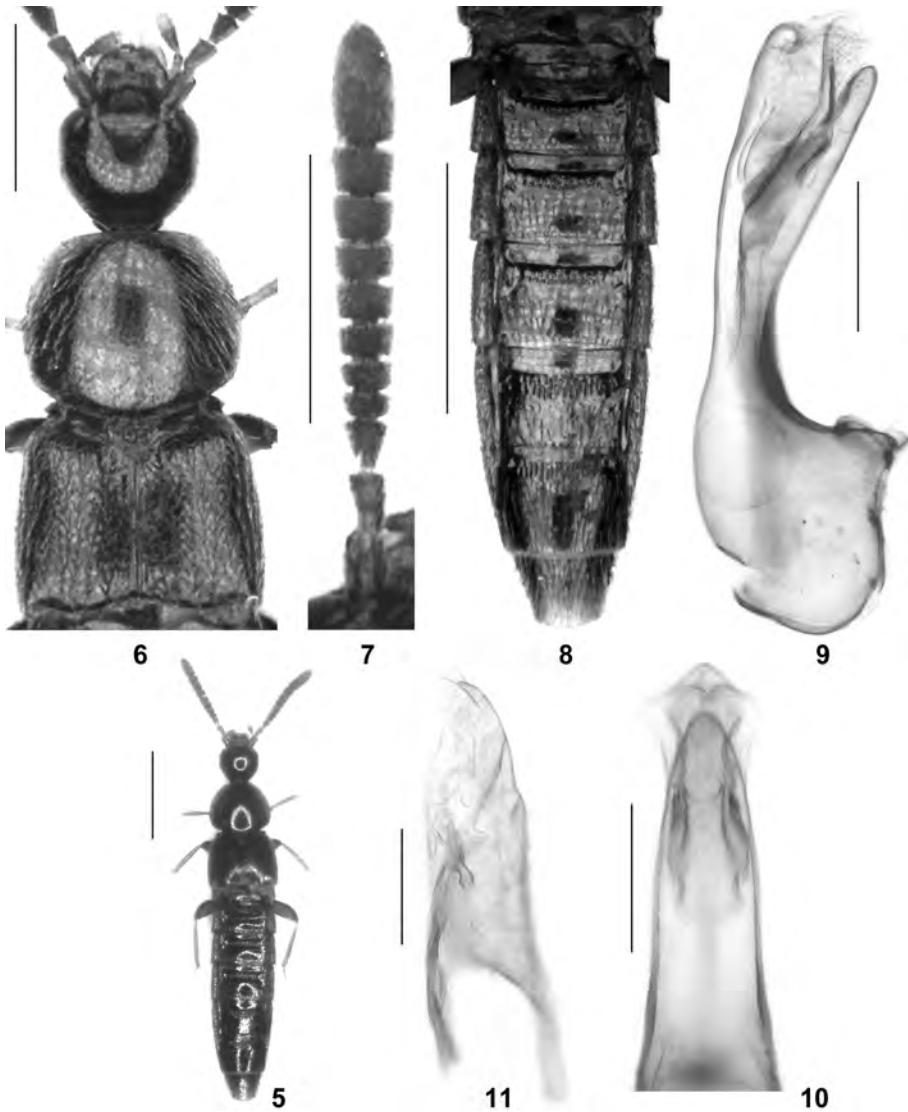
***Amarochara dawei*ana nov.sp.** (Figs 5-11, Map 1)

**Type material:** Holotype ♂: "CHINA [22a] - Yunnan, SE Pingbian, primary forest, 22°54'31"N, 103°41'44"E, 2100 m, 28.VIII.2014, V. Assing / Holotypus ♂ *Amarochara dawei*ana sp.n. det. V. Assing 2014" (cAss). Paratypes: 3 ♂♂: "CHINA: Yunnan, SE Pingbian, 22°54'31"N, 103°41'44"E, 2100 m, primary subtropical broad-leaved forest, litter sifted, 27.VIII.2014, leg. M. Schülke [CH14-22]" (cSch, cAss).

**E t y m o l o g y :** The specific epithet is derived from Dawei Shan, the name of the mountain where the type locality is situated.

**D e s c r i p t i o n :** Body length 3.7-4.3 mm; length of forebody 1.6-1.8 mm. Habitus as in Fig. 5. Coloration: body blackish-brown; legs dark-reddish; antennae blackish-brown, with antennomeres I-III dark reddish-brown.

Head (Fig. 6) posteriorly without distinct neck, approximately as wide as long and of subquadrate shape, lateral contours subparallel in dorsal view; punctuation very fine; interstices with very weak traces of microsculpture; eyes moderately long, shorter than the distance from posterior margin of eye to posterior constriction of head; genal carina fine, in lateral view visible only posteriorly. Maxillary palpus moderately slender, preapical palpomere approximately 2.5 times as long as wide. Antennae massive, approximately 1.1 mm long; antennomere I less than twice as long as wide and with pronounced dorso-apical furrow; II shorter and more slender than I, little more than 1.5 times as long as broad; III shorter than II, distinctly coniform, and approximately 1.5 times as long as wide; IV disc-shaped, approximately 3 times as wide as long; V-X slightly wider than IV, of subequal width, of gradually increasing length, and decreasingly transverse, X less than twice as wide as long; XI of ovoid shape and almost as long as the combined length of VIII-X (Fig. 7).



**Figs 5-11:** *Amarochara daweiiana* nov.sp.: (5) habitus; (6) forebody; (7) antenna; (8) abdomen; (9) median lobe of aedeagus in lateral view; (10) apical portion of median lobe of aedeagus in ventral view; (11) paramere. Scale bars: 5, 8: 1.0 mm; 6-7: 0.5 mm; 9-11: 0.1 mm.

Pronotum (Fig. 6) relatively large, approximately 1.15 times as wide as long and 1.5 times as wide as head, posterior angles weakly marked; lateral margins weakly convex, maximal width approximately in the middle; punctation moderately dense and very fine; interstices with very indistinct traces of microsculpture; pubescence depressed.



**Fig. 12:** Type locality of *Amarochara dawei* nov.sp.

Elytra (Fig. 6) approximately 1.15 times as wide and at suture approximately 0.7 times as long as pronotum; posterior margin distinctly sinuate near posterior angles; punctuation moderately dense, moderately fine, as fine as, or slightly more distinct than that of pronotum, and defined; interstices without microsculpture and on average broader than

diameter of punctures; pubescence depressed. Metatarsus approximately 0.75 times as long as metatibia; metatarsomere I elongated, slightly longer than the combined length of II-IV.

Abdominal tergites III-V with moderately deep, densely and coarsely punctate, but not carinate anterior impressions; tergites VI-VII anteriorly with conspicuous coarse and striate punctation; remainder of tergal surfaces with very sparse and fine punctation; all tergites without microsculpture and glossy (Fig. 8).

♂: tergite VIII posteriorly convex; posterior margin of sternite VIII broadly convex and with dense long marginal setae; median lobe of aedeagus (Figs 9-10) slender, 0.39 mm long; ventral process much longer than basal capsule and curved in lateral view; paramere 0.38 mm long, not distinctly modified, apical lobe small, slender, and with four thin setae (Fig. 11).

♀: unknown.

**Comparative notes:** Based on the similar external characters and particularly on the similar morphology of the male sexual characters, *A. daweiana* is most closely related to *A. schuelkei* ASSING, 2010 and *A. effeminata* ASSING, 2010, both known only from Yunnan. Using the key in ASSING (2010), *A. daweiana* would key out at couplet 21, together with *A. schuelkei*, from which it is distinguished by larger body size, the less transverse pronotum (*A. schuelkei*: approximately 1.2 times as broad as long), the smaller eyes (*A. schuelkei*: approximately as long as distance from posterior margin of eye to posterior constriction of head), the longer and more massive antennae with less transverse antennomeres IV-X, the more distinct punctation of the head, the relatively shorter elytra, the more distinctly convex posterior margin of tergite VIII, the smaller (despite larger body size) median lobe of the aedeagus (*A. schuelkei*: 0.45 mm), the different shape of the ventral process particularly in lateral view (*A. schuelkei*: practically straight and with more slender apex), and by the smaller paramere (*A. schuelkei*: 0.42 mm) with a more slender apical lobe. For illustrations of *A. schuelkei*, *A. effeminata*, and other species previously recorded from Yunnan see ASSING (2010).

**Distribution and natural history:** The type locality is situated in the Dawei Shan Virgin Forest Park, to the southeast of Pingbian, southern Yunnan (Map 1). The specimens were sifted from leaf litter in a primary subtropical broad-leaved forest (Fig. 12) at an altitude of 2100 m, together with several other undescribed species of Staphylinidae.

### Species excluded from *Amarochara*

#### *Ocalea nepalica* (PACE, 2013), nov.comb.

*Amarochara nepalica* PACE, 2013: 358 f.

**Comment:** In the original description of *Amarochara nepalica*, PACE (2013) states that the species "è comparabile con *A. umbrosa* (ERICHSON, 1839)" (recte: ERICHSON, 1837) and that it is distinguished from this species by the different shape of the aedeagus. However, as can be inferred from the illustrations provided with the description (habitus, shape of the spermatheca, median lobe of the aedeagus; figures 18, 63-65), this species clearly does not belong to *Amarochara*, but most likely to *Ocalea* ERICHSON, 1837.



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## Zusammenfassung

*Amarochara daweiana* nov.sp. (China: Yunnan) wird beschrieben und abgebildet. Weitere Nachweise von Arten der Gattung *Amarochara* THOMSON, 1858 werden aus der Paläarktis gemeldet, darunter drei Erstnachweise aus China und Laos. Die bisher unbekanntenen männlichen Geschlechtsmerkmale von *A. caeca* ASSING, 2002 werden beschrieben und abgebildet. *Amarochara nepalica* PACE, 2013 wird in die Gattung *Ocalea* ERICHSON, 1837 transferiert. *Amarochara* ist damit in der Holarktis derzeit mit 31 Arten vertreten.

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Author's address:

Dr. Volker ASSING  
Gabelsbergerstr. 2  
D-30163 Hannover, Germany  
E-mail: vassing.hann@t-online.de