

Koleopterologische Rundschau	80	25–42	Wien, September 2010
------------------------------	----	-------	----------------------

New species and new records of *Allopachria* ZIMMERMANN (Coleoptera: Dytiscidae)

G. WEWALKA

Abstract

Eight new species of the genus *Allopachria* ZIMMERMANN, 1924 (Coleoptera: Dytiscidae) are described from China and Borneo: *A. biana* sp.n., *A. guangdongensis* sp.n., *A. hajeki* sp.n., *A. jirii* sp.n., *A. komareki* sp.n., *A. manfredi* sp.n., *A. miaowangi* sp.n. and *A. paolomazzoldii* sp.n.

Key words: Coleoptera, Dytiscidae, *Allopachria*, new species, distributional records, taxonomy.

Introduction

Allopachria ZIMMERMANN is a speciose genus with members occurring throughout southeastern Asia (Nepal, southern China, Thailand, Laos, Vietnam, southern Japan, Taiwan, Malaysia, Indonesia). The genus was revised by WEWALKA (2000) comprising 32 species and the following two species were mentioned. The status of *A. umbrosa* ZIMMERMANN is still unclear and *A. ullrichi* BALKE & HENDRICH has been transferred to the genus *Anginopachria* by WEWALKA, BALKE & HENDRICH (2001). Both species have been listed under *Allopachria* by NILSSON (2001). Recently two new species were added by BIAN & JI (2010) raising the number of species definitely belonging to *Allopachria* to 34.

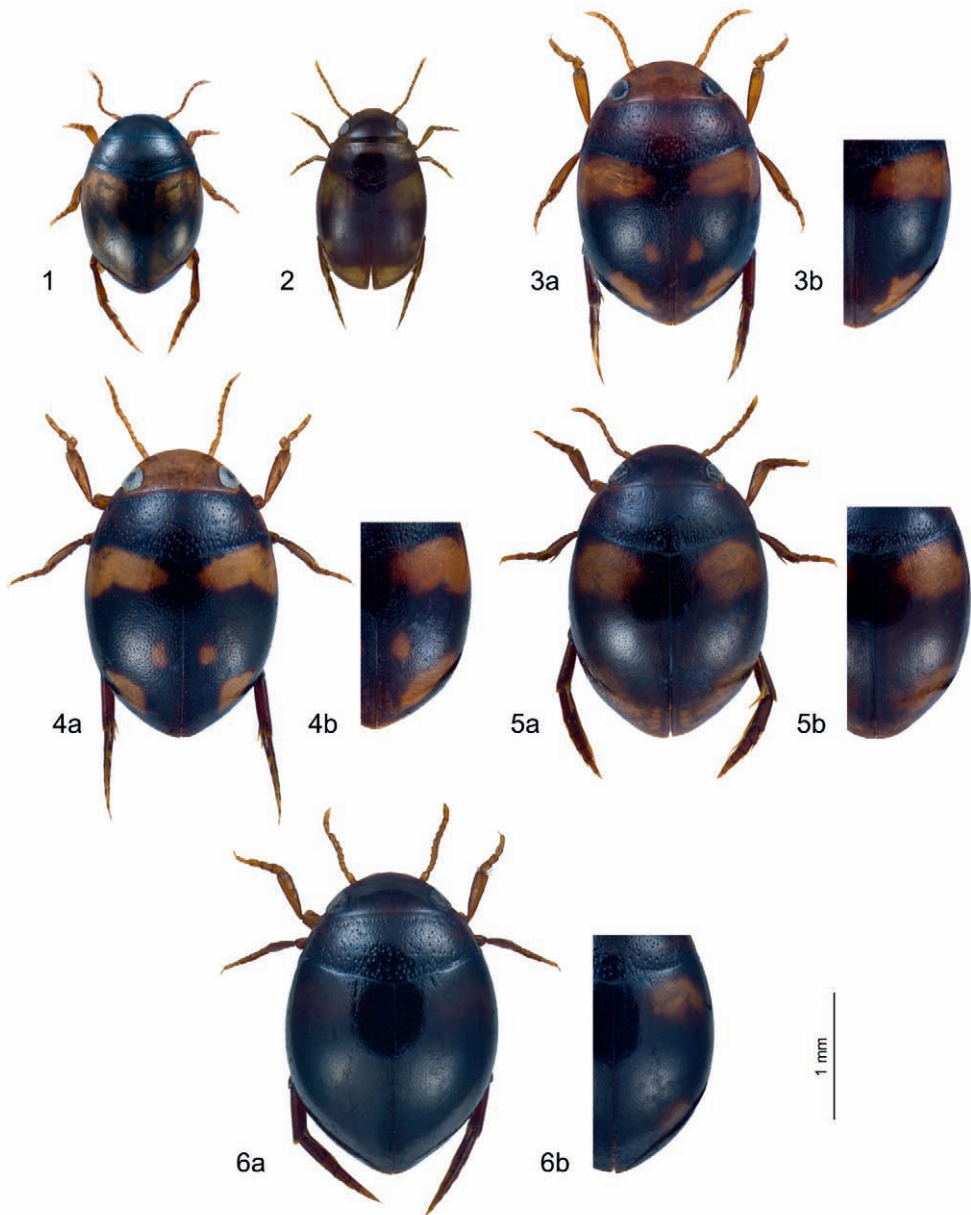
NILSSON (2007) changed some names of species of *Allopachria* derived from personal names, but this emendation is not followed according to DUBOIS (2007). NILSSON (2010) himself redeemed the emendations.

Since his revision the author saw some new material of the genus *Allopachria* resulting in the description of eight new species and new records presented below.

Material and methods

Since 2000 further hydro-entomological expeditions to China by the China Water Beetle Survey (CWBS) of the Natural History Museum Vienna (by Dr. Manfred A. Jäch, Dr. Heinrich Schönmann, Dr. Albrecht Komarek and Miao Wang) yielded most of the study material. Additional material came from the Museum of Natural History, Prague (Dr. Jiří Hájek), Natural History Museum, Basel (Dr. Michel Brancucci) and Paolo Mazzoldi. The study material consists of 149 specimens and is located in the following institutions and private collections:

CASS	Chinese Academy of Sciences, Institute of Applied Ecology, Shenyang, China
CMB	Coll. Paolo Mazzoldi, Brescia, Italy
CWW	Coll. Günther Wewalka, Vienna, Austria
NMB	Naturhistorisches Museum, Basel, Switzerland
NMP	National Museum, Museum of Natural History, Prague, Czech Republic
NMW	Naturhistorisches Museum Wien, Vienna, Austria



Figs. 1–6: Dorsal habitus (a) and variation of colour patterns (b): 1) *Allopachria jirii*, 2) *A. paolomazzoldii*, 3) *A. miaowangi*, 4) *A. guangdongensis*, 5) *A. bianaе*, 6) *A. hajeki*.

Multilayer photographs were generated by using a stereomicroscope (Leica MZ16) connected to a camera (DFC490) and were processed and edited applying AutoMontage Pro and Adobe Photoshop 7.0. The beetles were studied with a Wild M3 binocular at 6.4–80 x. Male genitalia were studied in dry condition and drawn with the help of a drawing tube, Wild # 308700. The terminology to denote the orientation of the genitalia follows MILLER & NILSSON (2003).



Figs. 7–8: Dorsal habitus (a), variation of colour patterns (b) and lateral view of right elytron (c): 7) *Allopachria komareki*, 8) *A. manfredi*.

Allopachria jirii sp.n.

TYPE LOCALITY: Laos, Attapeu prov., Annam Highlands Mts.

TYPE MATERIAL: **Holotype** ♂ (NMP): “LAOS, ATTAPEU prov. Annam Highlands Mts. Dong Amphan NBCA, ca. 1160m Nong Fa [crater lake] env. 15°05.9'N, 107°25.6'E Jiří Hájek leg. 30.iv.-6.v.2010”, “♂”, HOLOTYPE

Allopachria jirii sp.n. Wewalka 2010" [red printed label]. **Paratypes:** 1 ♂, 7 ♀♀, with same data as holotype (CWW, NMP). The specimens are provided with red paratype labels.

AFFINITIES: *Allopachria jirii* resembles a typical *Microdytes* species in habitus and size. By the absence of a small angulate process near the base of the prosternal process and the male genitalia it can be allocated to *Allopachria*. From all known small species of *Allopachria* it can be distinguished by the distinctly convex and broader-oval body.

DESCRIPTION: Habitus: body broad-oval, distinctly convex (Fig. 1).

Length of body: 1.39–1.42 mm, width: 0.95–0.98 mm.

Head: almost completely blackish-brown, paler at clypeal margin; clypeal margin regularly rounded, without bead medially; very sparsely and very finely punctured; completely and distinctly microreticulate. Antennae yellowish-red, moderately long and slender.

Pronotum: almost completely blackish-brown, somewhat paler at lateral margins; lateral margins finely bordered; irregularly and sparsely punctured, denser along anterior margin and with coarse punctures along posterior margin; without microreticulation.

Elytron: predominantly yellowish-brown, blackish-brown along base and suture, with a vague brown transverse band in anterior half with extensions backwards and forwards (Fig. 1); punctures fine and moderately sparse, almost regular, without longitudinal rows of stronger punctures; highly polished and shining; without microreticulation.

Ventral side: head and pronotum yellowish-brown, epipleura and rest of ventral side dark reddish-brown; few fine and very sparse punctures on metaventricle, metacoxae, some coarser punctures on first abdominal segment, rest of abdomen without punctures; without microreticulation.

Legs: reddish-brown.

Male: aedeagus; median lobe (Fig. 9a–b); lateral lobe (Fig. 17); antennae not modified; first pro- and mesotarsal segments slightly enlarged; postero-distal angle of metafemur greatly produced backwards, shovel-shaped, like in males of species of *Anginopachria* (Fig. 30).

Female: colour and surface sculpture as in male, pro- and mesotarsal segments and metafemur not modified.

HABITAT: Small stream, ca. 40 cm wide, completely shaded, with clay bottom and decaying leaves. The species was collected together with *Microdytes schoenmanni* WEWALKA, *Lacconectus* sp., *Platynectes major* NILSSON and *Platambus* sp. of the *P. princeps* complex (Fig. 31).

DISTRIBUTION: South Laos.

ETYMOLOGY: This species is dedicated to Dr. Jiří Hájek, Prague, Czech Republic who collected the new species.

Allopachria paolomazzoldii sp.n.

TYPE LOCALITY: Indonesia, Borneo, East Kalimantan, west of Malinau.

TYPE MATERIAL: **Holotype** ♂ (NMW): "INDONESIA: Kalimantan E Malinau, 4.8.1999 Sg. Mentarang, upstr. Paking leg. P. Mazzoldi (8)", "♂", "HOLOTYPE *Allopachria paolomazzoldii* sp.n. Wewalka 2010" [red printed label].

AFFINITIES: *Allopachria paolomazzoldii* resembles *A. abnormipenis* WEWALKA, *A. zetteli* WEWALKA and *A. kodadai* WEWALKA in habitus and microsculpture. It can be separated from these species by colouration and male genitalia.

DESCRIPTION: Habitus: body oblong-oval, slightly convex (Fig. 2).

Length of body: 1.48 mm, width: 1.07 mm.

Head: brown, paler at clypeal margin; clypeal margin regularly rounded, without bead medially; almost without punctures but with distinct rows of punctures along eyes; completely and finely microreticulate. Antennae yellowish-red, moderately long and slender.

Pronotum: brown, paler at anterior margin; lateral margins very finely bordered; finely, irregularly and sparsely punctured, slightly denser along anterior margin and with very coarse punctures along posterior margin; traces of microreticulation near lateral margins.

Elytron: brown with three vague yellowish spots: one basal, one subapical not reaching suture and lateral margin, and a small oval spot behind middle near lateral margin (Fig. 2); punctures very fine, slightly irregular in size and very sparse, one longitudinal row of stronger punctures distinct; highly polished and shining; without microreticulation.

Ventral side: head and pronotum yellowish-brown, epipleura and rest of ventral side reddish-brown; fine and sparse punctures on metaventricle, metacoxae and on abdomen; some irregular wrinkles on metacoxae; fine microreticulation on last four abdominal segments.

Legs: reddish-brown.

Male: aedeagus asymmetric; median lobe consisting of two parts (Fig. 10a–b); right and left lateral lobes different (Fig. 18a–b); antennae not modified; pro- and mesotarsal segments slightly enlarged.

Female: unknown.

HABITAT: Very small tributary in disturbed primary forest on steep slope, with pools and small waterfalls.

DISTRIBUTION: Indonesia: Borneo (northern part of East Kalimantan).

ETYMOLOGY: This species is dedicated to Paolo Mazzoldi, Brescia, Italy who collected the type specimen.

Allopachria miaowangi sp.n.

Allopachria dieterlei WEWALKA 2000: 117 (partim).

TYPE LOCALITY: China, Jiangxi Province, Jing'an County. CWBS loc. 513 (see JÄCH & JI 2003).

TYPE MATERIAL: **Holotype** ♂ (CASS): "CHINA: Jiangxi, 27.3.2003 ca. 50 km NE Jing'an Town 115°10'13"E 28°57'51"N ca. 350 m, leg. Schönmann, Komarek & Wang (CWBS 513)", "♂", HOLOTYPUS *Allopachria miaowangi* sp.n. Wewalka 2010" [red printed label]. **Paratypes:** 1 ♂, same data as holotype (CWW); 1 ♂, "CHINA: Jiangxi, 23.3.2003 30 km NW Xiushui, Huangmengyuan 114°24'30"E 29°15'12"N ca. 250 m, leg. Schönmann, Komarek & Wang (CWBS 507)" (NMW); 1 ♀, "CHINA: Jiangxi, 28.3.2003 ca. 10 km SW Tongu Town 114°27'39"E 28°31'05"N ca. 450 m, leg. Schönmann, Komarek & Wang (CWBS 515)" (NMW). All specimens are provided with red paratype labels.

ADDITIONAL MATERIAL: 3 ♀♀, "CHINA Jiangxi W JINGGANG SHAN Ciping env. 2-14.VI.1994", "*Allopachia dieterlei* Wewalka det. Wewalka 2000" [white printed label], "*Allopachria miaowangi* Wew. det Wewalka 2010" [white printed label] (CWW, NMW); 2 ♀♀, "CHINA: Hunan, 19.3.2003 ca. 25 km N Pingjiang City 113°37'26"E 28°50'52"N ca. 200 m, leg. Schönmann, Komarek & Wang (CWBS 498)", "*Allopachria dieterlei*

Wew. det. Wewalka 2007” [white printed label], “*Allopachria miaowangi* Wew. det. Wewalka 2010” [white printed label] (NMW).

AFFINITIES: *Allopachria miaowangi* is very similar to *A. dieterlei* WEWALKA from which it can be separated by the subapical elytral spot more extended to the suture and by the male genitalia. *Allopachria miaowangi* resembles also *A. guangdongensis* (described below) from which it can be distinguished by finer and more irregular elytral punctation and male genitalia. From *A. ernsti* WEWALKA and *A. sausiai* WEWALKA it can be separated by the clypeal margin without a distinct bead.

Female specimens from Jiangxi (W Jinggang Shan) and Hunan originally determined as *A. dieterlei* most probably belong to *A. miaowangi* but are not designated as paratypes.

DESCRIPTION: Habitus: body regularly oval, moderately convex (Fig. 3).

Length of body: 2.10–2.25 mm, width: 1.45–1.51 mm.

Head: yellowish-red; clypeal margin regularly rounded, without a bead medially; sparsely and irregularly punctured, more distinct on vertex; anterior half finely but distinctly microreticulate medially. Antennae yellowish-red, moderately long and slender.

Pronotum: blackish-brown to dark reddish-brown, somewhat darker along anterior and posterior margins; lateral margins distinctly bordered; punctures irregular in size and distribution, partly coarse and navel-like especially in the posterior half; without microreticulation.

Elytron: blackish-brown with often three yellowish-red spots: one basal, one subapical not reaching suture but coming near to it and often a small oval spot in the middle near suture (Fig. 3a–b); punctures moderately fine, slightly irregular in size, relatively sparse, longitudinal rows of stronger punctures rudimentary; highly polished and shining; without microreticulation.

Ventral side: epipleura and rest of ventral side reddish-brown; fine and sparse punctures on epipleura, metaventricle, metacoxae and on abdomen; some irregular wrinkles on metacoxae; without microreticulation.

Legs: reddish-brown.

Male: aedeagus very similar to that of *A. ernsti* and *A. sausiai*; median lobe (Fig. 11a–b); lateral lobe (Fig. 19); antennal segments 5–10 slightly enlarged; first protarsal segment distinctly modified (Fig. 25).

Female: colour and surface sculpture as in male; antennae and protarsal segments not modified.

HABITAT: Steep forest streams, ca. 1–2 m wide, gravel ground and flood debris, surrounded by *Cunninghamia* forest (Fig. 33).

DISTRIBUTION: China: Jiangxi, Hunan.

ETYMOLOGY: This species is dedicated to Miao Wang, Shenyang, China, who was involved in collecting the type specimens.

Allopachria guangdongensis sp.n.

Allopachria dieterlei WEWALKA 2000: 117 (partim).

TYPE LOCALITY: China, Guangdong Province, Fengkai County.

TYPE MATERIAL: **Holotype** ♂ (CASS): “CHINA: Guangdong Prov. 50 km E Fengkai 23°27'04"N 111°53'53"E 1.11.2001, ca. 300 – 400 m Jäch & Komarek (CWBS 456)”, “♂”, “HOLOTYPUS *Allopachria guangdongensis* sp.n. Wewalka 2010” [red printed label]. **Paratypes:** 3 ♂♂, 2 ♀♀, with same data as holotype (CWW, NMW); 1 ♀, “CHINA: Guangdong Prov. 60 km E Fengkai 23°26'36"N 111°58'10"E 1.11.2001, ca. 230 m Jäch & Komarek

(CWBS 458)" (NMW); 1 ♂, 2 ♀♀, "CHINA, SE-Guangxi Distr. Yulin Liuwan Mts. SW Yulin", "16.11.1993 350-400m, leg. Schönmann (20)", "PARATYPUS *Allopachria dieterlei* sp.n. Wewalka 2000" [red printed label] (NMW); 1 ♀, CHINA, SE-Guangxi Distr. Yulin Liuwan Mts. SW Yulin", "17.11.1993 600-700m leg. Schilhammer (21)", "PARATYPUS *Allopachria dieterlei* sp.n. Wewalka 2000" [red printed label] (NMW). All specimens are provided with red paratype labels.

AFFINITIES: *Allopachria guangdongensis* is very similar to *A. dieterlei* and *A. miaowangi* from which it can be distinguished by slightly stronger and more regular elytral punctation and male genitalia. *Allopachria guangdongensis* is also closely related to *A. ernsti* and *A. sausai* from which it can be separated by the clypeal margin without a distinct bead.

The specimens from Guangxi originally designated as paratypes of *A. dieterlei* are transferred to *A. guangdongensis*.

DESCRIPTION (in comparison with *A. miaowangi*): Habitus slightly more oblong-oval (Fig. 4).

Length of body: 2.21–2.41 mm, width: 1.45–1.54 mm.

Head: very similar to *A. miaowangi*.

Pronotum: almost completely blackish-brown, sometimes paler at lateral margins; punctation very similar to that of *A. miaowangi*.

Elytron: markings very similar to *A. miaowangi*. The subapical spot slightly more standing off from suture (Fig. 4a–b); punctation slightly stronger and more regular.

Ventral side: colour distinctly darker; punctation slightly stronger than in *A. miaowangi*.

Male: aedeagus similar to that of *A. dieterlei* but median lobe with the tip curved in lateral view (Fig. 12a–b); lateral lobe (Fig. 20); antennal segments 5–10 minimally enlarged; first protarsal segment distinctly modified (Fig. 26).

Female: colour and surface sculpture as in male; antennae and protarsal segments not modified.

HABITAT: Streams, ca. 1–2 m wide, flowing through dense primary forest (JÄCH & Ji 2003: 10, 18, Fig. 25).

DISTRIBUTION: China: Guangdong, Guangxi.

ETYMOLOGY: This species is named after the Chinese province of Guangdong where the holotype was collected.

Allopachria bianae sp.n.

TYPE LOCALITY: China, Guangdong Province, Zhaoqing County.

TYPE MATERIAL: **Holotype** ♂ (CASS): "CHINA: Guangdong Prov. Dinghu Nat. Res. 28.10.2001, ca. 250 m Jäch & Komarek (CWBS 449)", "♂", "HOLOTYPUS *Allopachria bianae* sp.n. Wewalka 2010" [red printed label].

Paratypes: 11 ♂♂, 14 ♀♀, with same data as holotype (NMW, CWW, CASS). All specimens are provided with red paratype labels.

AFFINITIES: *Allopachria bianae* is similar to *A. weinbergeri* WEWALKA by having slightly pronounced shoulders, two big vague yellowish-red elytral spots, and similar external sculpture but it can be distinguished by bigger size, finer and sparser elytral punctation and male genitalia. It is also related to *A. vietnamica* (SATÔ), from which it can be separated by smaller size and the clypeal margin without a distinct bead.

DESCRIPTION: Habitus: body regularly oval, shoulders slightly pronounced; distinctly convex (Fig. 5).

Length of body: 2.18–2.40 mm, width: 1.42–1.57 mm.

Head: blackish-brown to dark reddish-brown, paler at clypeal margin; clypeal margin almost regularly rounded, without a bead medially; sparsely and irregularly punctate, more distinct on vertex, with a distinct row of punctures along the eyes; anterior half finely but distinctly microreticulate. Antennae yellowish-red, moderately long and slender.

Pronotum: almost completely blackish-brown, sometimes paler at lateral margins; lateral margins distinctly bordered; punctures of two kinds: smaller, quite regular and distinct punctures especially in the anterior part and coarse and sparse navel-like punctures in posterior part; sometimes traces of microreticulation on both sides of the middle.

Elytron: blackish-brown with two big vague yellowish-red spots: one basal, one apical not reaching suture (Fig. 5a–b); punctures moderately fine, regular in size and distribution, longitudinal rows of stronger punctures rudimentary; highly polished and shining; without microreticulation.

Ventral side: epipleura and rest of ventral side dark reddish-brown; punctures on metaventre, metacoxae fine and sparse and on first three abdominal segments stronger, on the rest of the abdomen very fine and sparse; with traces of microreticulation on last abdominal segment.

Legs: reddish-brown.

Male: aedeagus; median lobe (Fig. 13a–b); lateral lobe (Fig. 21); antennae not modified; first protarsal segment minimally enlarged (Fig. 27).

Female: colour and surface sculpture as in male; protarsal segments not modified.

HABITAT: Stream, ca. 1.5–2.0 m wide, flowing through dense primary forest, sandstone bottom (JÄCH & JI 2003: 10, 17, Fig. 20).

DISTRIBUTION: China: Guangdong.

ETYMOLOGY: This species is dedicated to Dongju Bian, Shenyang, China.

Allopachria hajeki sp.n.

TYPE LOCALITY: China, Yunnan Province, Gudong env.

TYPE MATERIAL: **Holotype** ♂ (NMP): “CHINA: Yunnan Province, GUDONG env., 8.VI.2007 FUNFENG SHAN Mt., 25°22.7'N 098°25.4'E, 1825 m, J. Hájek & J. Růžička leg.”, “individually in rapid stream; meadows, groves and margin of mixed forest (with *Pinus*, *Quercus*, *Rhododendron*)”, “♂”, “HOLOTYPUS *Allopachria hajeki* sp.n. Wewalka 2010” [red printed label]. **Paratypes**: 67 exs., with same data as holotype (CWW, NMP, NMW). All specimens are provided with red paratype labels.

AFFINITIES: *Allopachria hajeki* is very closely related to *A. jendeki* WEWALKA from which it can be distinguished mainly by clypeal margin almost regularly rounded without a distinct bead, by slightly finer elytral punctation, much finer punctation of ventral side, the slightly bigger size and by the male genitalia. From all other known species of *Allopachria* it differs by the almost total blackish-brown to black colour.

DESCRIPTION: Habitus: body slightly broad-oval, slightly attenuated to the apex, moderately convex (Fig. 6).

Length of body: 2.28–2.50 mm, width: 1.50–1.69 mm.

Head: dark reddish-brown to blackish-brown, somewhat paler at clypeal margin; clypeal margin almost regularly rounded, without a distinct bead medially; very sparsely, finely and irregularly punctate, with a distinct row of punctures along the eyes; anterior two thirds distinctly microreticulate. Antennae yellowish-red, relatively short and slender.

Pronotum: almost completely blackish-brown to black, sometimes paler at lateral margins; lateral margins distinctly bordered; punctation of two kinds, smaller punctures denser in anterior half and sparse course, navel-like punctures in posterior half; sometimes traces of microreticulation on lateral sides of the middle.

Elytron: often completely blackish-brown to black, sometimes with traces of two reddish-brown spots: one subbasal and one small postmedian near lateral margin (Fig. 6a–b); punctures moderately fine, moderately sparse, regular in size and distribution, longitudinal rows of punctures distinct; highly polished and shining; without microreticulation.

Ventral side: epipleura and rest of ventral side blackish-brown to black; punctures on metaventrite, metacoxae and first three abdominal segments moderately fine and sparse and on the rest of abdomen almost without punctures; without microreticulation.

Legs: reddish-brown.

Male: aedeagus; median lobe (Fig. 14a–b); lateral lobe (Fig. 22); antennae not modified; pro- and mesotarsi not modified.

Female: habitus minimally more broad-oval; colour, surface sculpture, antennae and tarsi as in male.

HABITAT: Rapid stream, ca. 2 m wide, with rocky or gravelly bottom, flowing through mixed forest (Fig. 32).

DISTRIBUTION: China: Yunnan.

ETYMOLOGY: This species is dedicated to Dr. Jiří Hájek, Prague, Czech Republic, who collected most of the type material.

Allopachria komareki sp.n.

TYPE LOCALITY: China, Guangdong Province, Fengkai County.

TYPE MATERIAL: **Holotype** ♂ (CASS): “CHINA: Guangdong Prov. 50 km E Fengkai 23°27'36"N 111°54'36"E 31.10./2.11.2001, ca. 150 m Jäch & Komarek (CWBS 455)”, “♂”, “HOLOTYPUS *Allopachria komareki* sp.n. Wewalka 2010” [red printed label]. **Paratypes**: 1 ♂, with same data as holotype (NMW); 1 ♀, “CHINA: Guangdong Prov. Dinghu Nat. Res. 30.10.2001, ca. 50-150 m Jäch & Komarek (CWBS 454)” (CWW). All specimens are provided with red paratype labels.

AFFINITIES: *Allopachria komareki* is very closely related to *A. manfredi* (described below) from which it can be distinguished mainly by the clypeal margin almost regularly rounded without a distinct bead, by the longitudinal furrow on the lateral margin of elytra deeper and narrower, the slightly bigger size and by the first protarsal segment in male. It is also similar to *A. wangi* WEWALKA & NILSSON and *A. jaechi* WEWALKA in size and by having a longitudinal furrow on the lateral margin of elytra but it can be distinguished by pronotum and elytra without distinct microreticulation.

DESCRIPTION: Habitus: body oblong-oval, attenuated to apex, moderately convex; with an incised narrow longitudinal furrow on lateral margin of elytra (Fig. 7).

Length of body: 2.55–2.87 mm, width: 1.74–1.91 mm.

Head: reddish-brown, somewhat darker along eyes; clypeal margin almost regularly rounded, without a distinct bead medially; very sparsely, finely and irregularly punctured, with a distinct row of punctures along the eyes; completely and distinctly microreticulate. Antennae yellowish-red, moderately long and slender.

Pronotum: almost completely blackish-brown, sometimes paler at lateral margins; lateral margins distinctly bordered; punctures especially in anterior part irregular, smaller, longitudinal, very dense and distinct; punctures in posterior part coarser and less dense; sometimes traces of microreticulation on both sides of middle and along anterior margin.

Elytron: blackish-brown with two or three yellowish-red spots: one basal, one postmedian oblique near the lateral margin and one subapical sometimes missing (Fig. 7a–b); with an incised narrow longitudinal furrow on the lateral margin (Fig. 7c); punctures moderately strong, almost regular in size and distribution, longitudinal rows of punctures rudimentary; highly polished and shining; without microreticulation.

Ventral side: epipleura blackish-brown, rest of ventral side reddish-brown to dark-brown; punctures on metaventricle, metacoxae and first two abdominal segments very strong and moderately sparse, on the rest of abdomen very fine and sparse; with traces of microreticulation on metacoxae and first three abdominal segments.

Legs: reddish-brown.

Male: median lobe of aedeagus (Fig. 15a–b) similar to that of *A. flavomaculata* (KAMIYA), *A. wangi* and *A. manfredi*, lateral lobe as in Fig. 23; antennae slightly longer, antennal segments 5–8 slightly extended; first protarsal segment significantly enlarged (Fig. 28), also first mesotarsal segment enlarged.

Female: colour and surface sculpture as in male; antennae, pro- and mesotarsal segments not modified.

HABITAT: River, ca. 10–15 m wide, flowing through deep valley with more or less natural forest, incl. hygroscopic rocks at shore and mouth of small tributary; sandstone bottom (JÄCH & Ji 2003: 10, 18, Fig. 24).

DISTRIBUTION: China: Guangdong.

ETYMOLOGY: This species is dedicated to Dr. Albrecht Komarek, Baden near Vienna, Austria, who collected some of the type specimen.

Allopachria manfredi sp.n.

TYPE LOCALITY: China, Guangdong Province, Shixing County.

TYPE MATERIAL: **Holotype** ♂ (CASS): “CHINA: Guangdong Prov. 25 km SE Shixing 24°50'23"N 114°14'03"E 8.11.2001, ca. 150 m Jäch & Komarek (CWBS 481)”, “♂”, “HOLOTYPE *Allopachria manfredi* sp.n. Wewalka 2010” [red printed label]. **Paratypes**: 2 ♀♀, same data as holotype (CWV, NMW). All specimens are provided with red paratype labels.

AFFINITIES: *Allopachria manfredi* is very closely related to *A. komareki* from which it can be distinguished mainly by clypeal margin truncate, with a distinct bead medially, by the longitudinal furrow on the lateral margin of elytra not incised, broad and flat, by the slightly smaller size and by the first protarsal segment in male. It is also similar to *A. wangi* and *A. jaechi* by having a longitudinal furrow on the lateral margin of elytra but it can be distinguished by pronotum and elytra without distinct microreticulation.

DESCRIPTION: (based on differences from *A. komareki*): Habitus: body slightly more regularly-oval, less attenuated to apex; with narrow longitudinal furrow on lateral margin of elytra not incised, broad and flat (Fig. 8).

Length of body: 2.55–2.75 mm, width: 1.74–1.81 mm.

Head: colour very similar to *A. komareki*; clypeal margin truncate, with a distinct bead medially; punctuation and microreticulation very similar. Antennae very similar.

Pronotum: colour very similar to *A. komareki*; punctures much smaller; microreticulation more extended on both sides of middle.

Elytron: colour and punctuation very similar to *A. komareki* (Fig. 8a–b); longitudinal furrow on lateral margin not incised but broad and flat (Fig. 8c).

Ventral side: very similar to *A. komareki*.

Male: aedeagus very similar to *A. flavomaculata*, *A. wangi* and *A. komareki*; median lobe (Fig. 16a–b); lateral lobe (Fig. 24); antennae slightly longer, antennal segments 5–8 slightly more extended; first protarsal segment differently enlarged (Fig. 29), also first mesotarsal segment enlarged.

Female: colour and surface sculpture as in male; antennae, pro- and mesotarsal segments not modified.

HABITAT: River, ca. 8–15 m wide, flowing through valley with secondary vegetation (JÄCH & Ji 2003: 12).

DISTRIBUTION: China: Guangdong.

ETYMOLOGY: This species is dedicated to Dr. Manfred A. Jäch, Vienna, Austria, who collected this species.

Allopachria balkei WEWALKA

Allopachria balkei WEWALKA 2000: 102; NILSSON 2001: 212.

MATERIAL EXAMINED:

INDONESIA: 1 ♂, Borneo, S-Kalimantan, Loksado River, Sg. Takuhi, 31.XII.2000, leg. Mazzoldi (CMB); 5 ♂♂, 3 ♀♀, Borneo, S-Kalimantan, Loksado River, nr. Loksado, 28.XII.2000, leg. Mazzoldi (CMB, CWW); 9 exs., Indonesia, West Kalimantan, basin of Riv. Melawi, Songia Berang, left tributary of Demu stream in secondary forest, 29.XII.2004, leg. Mazzoldi “4a” (CMB, CWW).

MALAYSIA: 20 exs., Malaysia, Pahang, Kuala, Lipis environment, Kenong Rimba Park, Kesong River, 5.VI.2001 (NMW, CWW); 1 ex., Malaysia, Sabah, ca. 5 km S Sapulut, Saliku River, 16.5.2001 (NMW).

DISTRIBUTION: Malaysia: Malay Peninsula (first record), Sabah; Sarawak; Indonesia: Kalimantan (first record).

Allopachria guidettii WEWALKA

Allopachria guidettii WEWALKA 2000: 105; NILSSON 2001: 213.

MATERIAL EXAMINED:

THAILAND: 1 ♀: Thailand, Nan Prov., Ban Hua Kon env., 27.V.–19.VI.2002, P. Průdek & M. Obořil leg., coll. Jiří Hájek National Museum Prague, Czech Republic (NMP).

DISTRIBUTION: Thailand.

Allopachria hautmanni WEWALKA

Allopachria hautmanni WEWALKA 2000: 108; NILSSON 2001: 213; 2010: 17.

Allopachria hautmannorum: NILSSON 2007: 50 (unjustified emendation); 2010: 17.

MATERIAL EXAMINED:

CHINA: 1 ♂, CHINA: Anhui, Dabieshan, 65 km SW Huoshan, 1400 m, 21.–24.XII.1998, leg. Bolm (NMB).

DISTRIBUTION: China: Anhui.

***Allopachria jilanzhui* WEWALKA**

Allopachria jilanzhui WEWALKA 2000: 109; NILSSON 2001: 213.

MATERIAL EXAMINED:

CHINA: 1 ♂, China, Guizhou, Jiangkou, ca. 50 km SW Jiangkou, nr. Shidu village, 27°32.71'N, 108°36.30'E, tributary of Guanhe River, 1./4.XII.2001, 650–850 m, leg. Schillhammer & Wang (CWBS 445) (NMW); 6 exs., CHINA: Guangdong Prov., 50 km E Fengkai, 23°27'04"N 111°53'53"E, ca. 300–400 m, 1.XI.2001, leg. Jäch & Komarek (CWBS 456) (CWW, NMW).

DISTRIBUTION: China: Hunan, Guangxi, Guangdong (first record), Guizhou (first record).

***Allopachria weinbergeri* WEWALKA**

Allopachria weinbergeri WEWALKA 2000: 112; NILSSON 2001: 214; 2010: 41.

Allopachria weinbergerorum: NILSSON 2007: 50 (unjustified emendation); 2010: 41.

MATERIAL EXAMINED:

CHINA: 1 ♂, CHINA: Guangdong Prov., 50 km E Fengkai, 23°27'04"N 111°33'53"E, 1.XI.2001, ca. 300–400 m, Jäch & Komarek (CWBS 456) (NMW).

DISTRIBUTION: China: Fujian, Guangdong (first record).

***Allopachria jendeki* WEWALKA**

Allopachria jendeki WEWALKA 2000: 116; NILSSON 2001: 213.

MATERIAL EXAMINED:

CHINA: 1 ♂, 3 ♀♀, CHINA: Yunnan Prov., Shanzhi env., Jizu Shan Mt., Zhusheng Si monastery, 25°57.6'N 100°23.2'E, 22.–24.VI.2007, 2280 m, J. Hájek & J. Růžička leg., det. J. Hájek [under stones and on vegetation in stream in dense mixed forest, examined by Jiří Hájek] (NMP); 1 ♀, CHINA: Yunnan Province, Gudong environment, Funfeng Shan Mt., 25°22.7'N 098°25.4'E, 8.VI.2007, 1825 m, J. Hájek & J. Růžička leg., individually in rapid stream; meadows, groves and margin of mixed forest (with *Pinus*, *Quercus*, *Rhododendron*) (NMP).

DISTRIBUTION: China: Yunnan.

***Allopachria dudgeoni* WEWALKA**

Allopachria dudgeoni WEWALKA 2000: 117; NILSSON 2001: 213.

MATERIAL EXAMINED:

CHINA: 1 ♂, 1 ♀, CHINA: Guangdong Prov., Dinghu Nat. Res., 28.X.2001, ca. 250 m, Jäch & Komarek (CWBS 449) (NMW); 1 ♂, CHINA: Guangdong Prov., Dinghu Nat. Res., 23°11'03"N 112°33'06"E, 29.X.2001, ca. 20–30 m, Jäch & Komarek (CWBS 453) (NMW); 3 ♂♂, CHINA: Guangdong Prov., Dinghu Nat. Res., 30.X.2001, ca. 50–150 m, Jäch & Komarek (CWBS 454) (NMW, CWW); 1 ♂, CHINA, Jiangxi, 22.III.2003, 30 km ESE Xiushui, Maozhu Shan, 114°51'20"E 28°50'33"N, ca. 400 m, leg. Schönmann, Komarek & Wang (CWBS 505) (NMW).

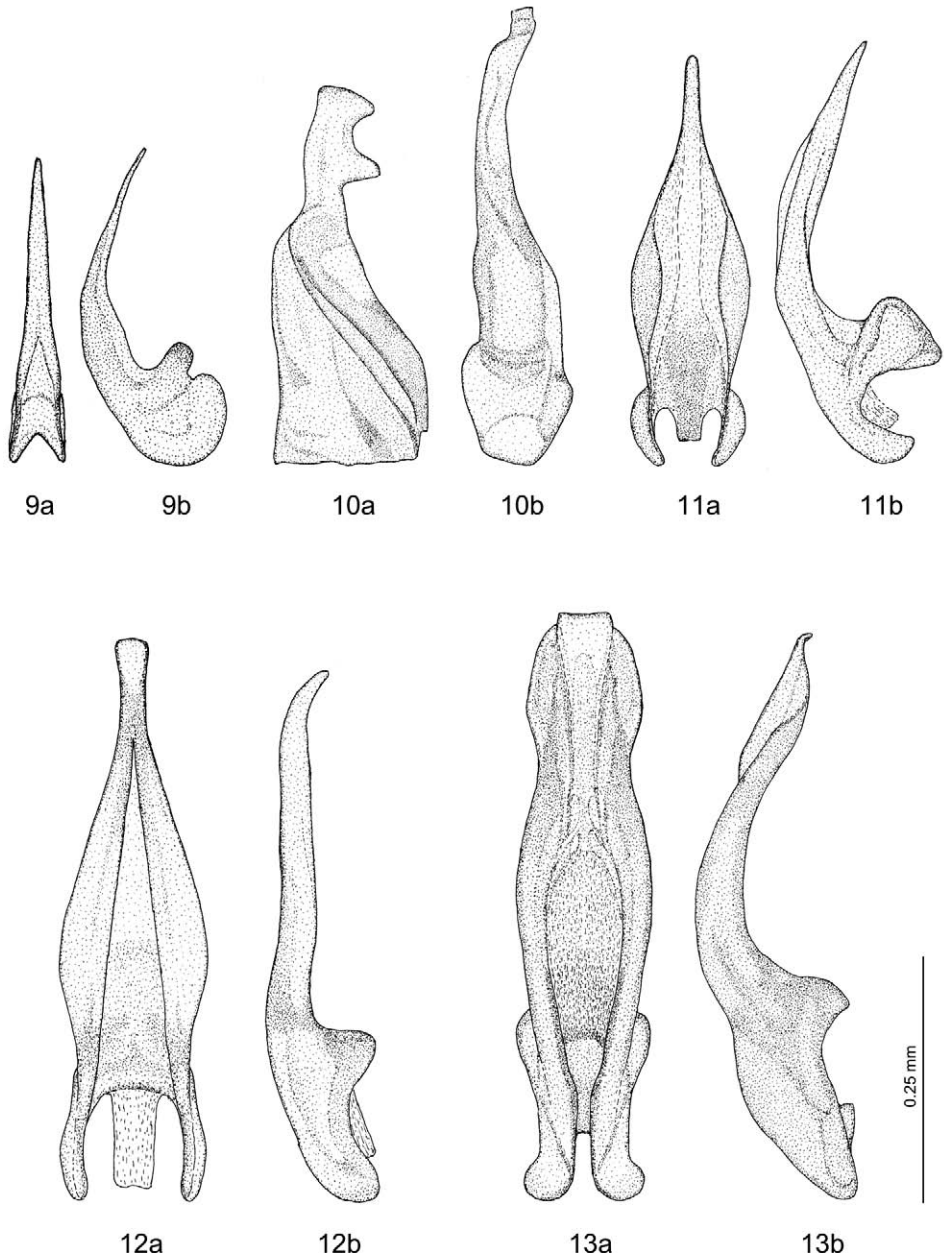
DISTRIBUTION: China: Hong Kong, Guangxi, Jiangxi (first record), Guangdong (first record).

***Allopachria dieterlei* WEWALKA**

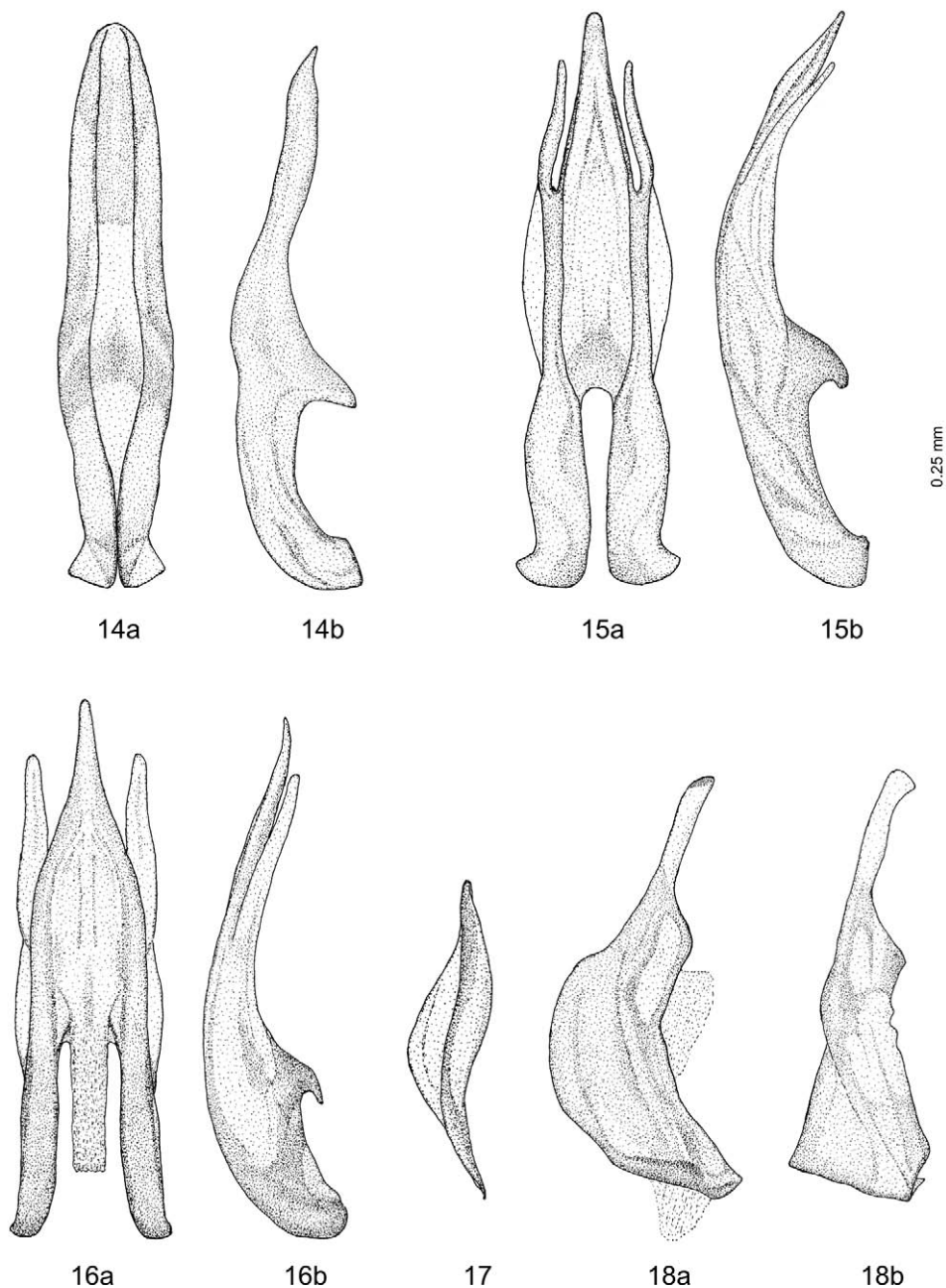
Allopachria dieterlei WEWALKA 2000: 117; NILSSON 2001: 213; 2010: 12.

Allopachria dieterleorum: NILSSON 2007: 50 (unjustified emendation); 2010: 12.

DISTRIBUTION: After transferring specimens originally determined as *A. dieterlei* from Guangxi to *A. guangdongensis* and specimens from Jiangxi to *A. miaowangi*, *A. dieterlei* is only known from China (Hunan).

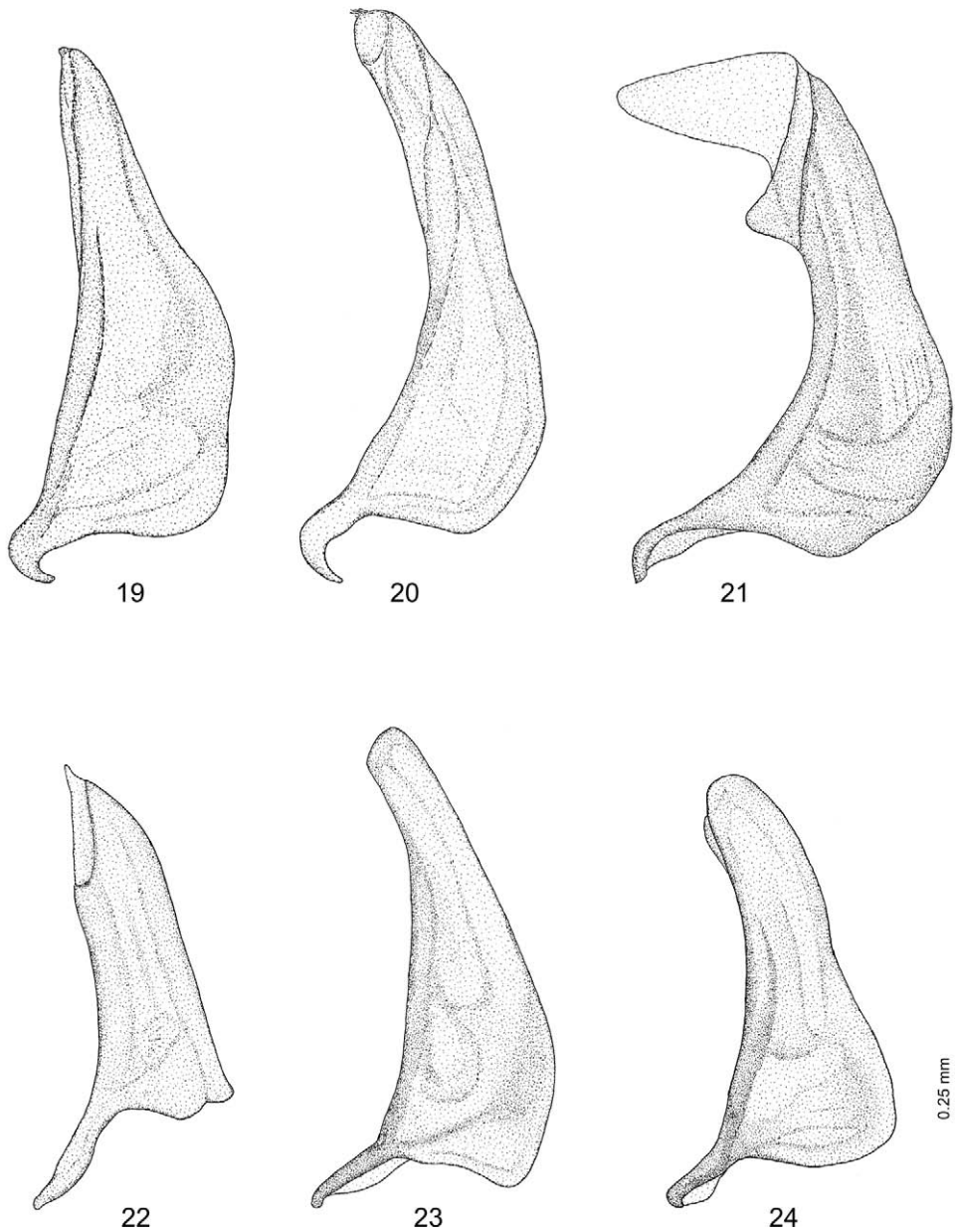


Figs. 9–13: Median lobe of aedeagus: 9) *Allopachria jirii*, dorsal aspect (a), right lateral aspect (b), 10) *A. paolomazzoldii*, lateral aspects of part one (a), part two (b), 11–13) dorsal aspect (a), right lateral aspect (b), 11) *A. miaowangi*, 12) *A. guangdongensis*, 13) *A. bianae*.

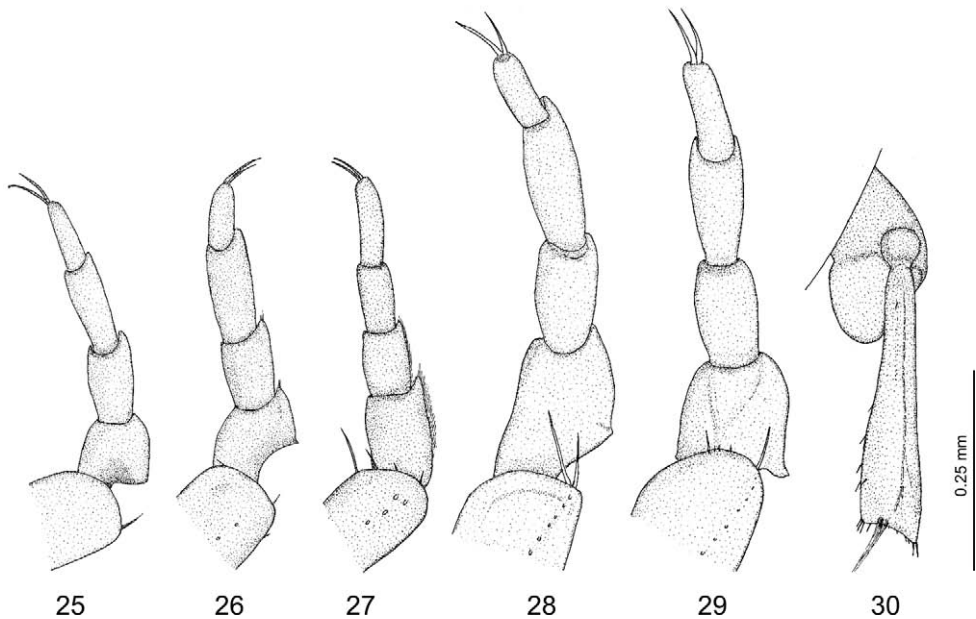


Figs. 14–16: Median lobe of aedeagus: dorsal aspect (a), right lateral aspect (b); 14) *Allopachria hajeki*, 15) *A. komareki*, 16) *A. manfredi*.

Figs. 17–18: Lateral lobes of aedeagus: 17) *Allopachria jirii*, lateral aspect of right lateral lobe, 18) *A. paolomazzoldii*, lateral aspect of right lateral lobe (a), medial aspect of left lateral lobe (b).



Figs. 19–24: Lateral lobes of aedeagus; lateral aspect of left lateral lobe: 19) *Allopachria miaowangi*, 20) *A. guangdongensis*, 21) *A. biana*, 22) *A. hajeki*, 23) *A. komareki*, 24) *A. manfredi*.



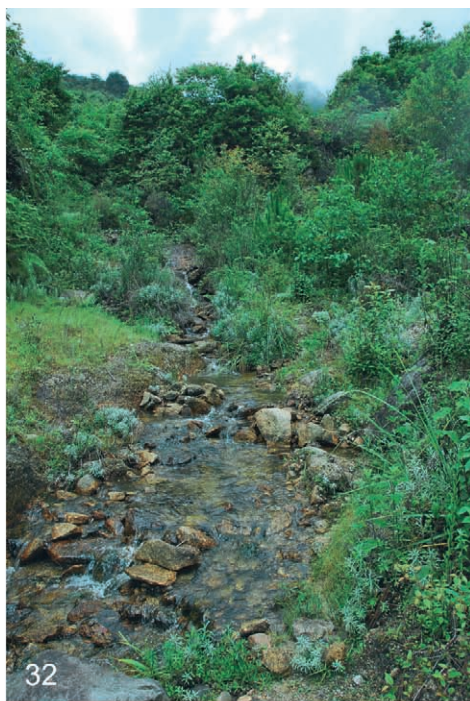
Figs. 25–30: Modified protarsi of male: 25) *Allopachria miaowangi*, 26) *A. guangdongensis*, 27) *A. biana*, 28) *A. komareki*, 29) *A. manfredi*, 30) *A. jirii*, dorsal aspect of right metafemur and metatibia of male.

Acknowledgements

I thank Dr. Manfred A. Jäch (Vienna, Austria), Dr. Jiří Hájek (Prague, Czech Republic), Paolo Mazzoldi (Brescia, Italy) and Dr. Michel Brancucci (Basel, Switzerland) for putting at my disposal interesting study material. I also want to express my gratitude to Mag. Michaela Brojer (Vienna, Austria), who produced the habitus photographs.

References

- BIAN, D. & JI, L. 2010: *Allopachria* Zimmermann, 1924 from Jiangxi, China, with description of two new species (Coleoptera: Dytiscidae). – *Zootaxa* 2350: 59–65.
- DUBOIS, A. 2007: Genitives of species and subspecies nomina derived from personal names should not be emended. – *Zootaxa* 1550: 49–68.
- JÄCH, M.A. & JI, L. 2003: China Water Beetle Survey (1999–2003), pp. 1–20. – In Jäch, M.A. & Ji, L. (eds.): *Water Beetles of China. Vol. III.* – Zoologisch-Botanische Gesellschaft in Österreich und Wiener Coleopterologenverein, VI+572 pp.
- MILLER, K.B. & NILSSON, A.N. 2003: Homology and terminology: Communicating information about rotated structures in water beetles. – *Latissimus* 17: 1–4.
- NILSSON, A.N. 2001: *World Catalogue of Insects, Volume 3. Dytiscidae (Coleoptera).* – Stenstrup: Apollo Books, 395 pp.



Figs. 31–33: Habitat of 31) *Allopachria jirii*, 32) *A. hajeki* [photographs by J. Hájek], and 33) *A. miaowangi* [photograph by A. Komarek].

NILSSON, A.N. 2007: Some necessary corrections of the spelling of species-group names within the family Dytiscidae (Coleoptera). – *Zootaxa* 1615: 49–54.

NILSSON, A.N. 2010: All diving beetle specific and subspecific names explained. – *Skörvnöpparn*, Supplement 1: 1–42.

WEWALKA, G. 2000: Taxonomic revision of *Allopachria* Zimmermann (Coleoptera, Dytiscidae). – Entomological Problems 31 (2): 97–128.

WEWALKA, G., BALKE, M. & HENDRICH, L. 2001: *Anginopachria*, a new genus for an enigmatic species previously assigned to *Allopachria* (Coleoptera, Dytiscidae). – Entomological Problems 32 (1): 91–92.

Prof. Dr. Günther WEWALKA
Starkfriedgasse 16, A – 1190 Wien, Austria (g.wewalka@gmx.at)

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Koleopterologische Rundschau](#)

Jahr/Year: 2010

Band/Volume: [80_2010](#)

Autor(en)/Author(s): Wewalka Günther

Artikel/Article: [New species and new records of *Allopachria* ZIMMERMANN \(Coleoptera: Dytiscidae\). 25-42](#)