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## Three new species of *Pella* STEPHENS from Turkey and Iraq, with a checklist of the species recorded from Turkey (Coleoptera: Staphylinidae: Aleocharinae: Lomechusini)

V. ASSING

**A b s t r a c t :** *Pella discolor* nov.sp. (Turkey), *P. sultanica* nov.sp. (Turkey), both of the *P. excepta* group, and *P. reuteri* nov.sp. (Iraq) of the *P. ruficollis* group are described, illustrated, and distinguished from similar congeners. The distributions of the species of the *P. excepta* group in Turkey are mapped. A checklist of the *Pella* species of Turkey is compiled.

**K e y w o r d s :** Coleoptera, Staphylinidae, Aleocharinae, Lomechusini, *Pella*, Palaearctic region, Turkey, Iraq, taxonomy, new species, catalogue of species.

### Introduction

According to a recent revision (MARUYAMA 2006), the genus *Pella* STEPHENS 1835 is currently represented in the Palaearctic region by 42 species. 14 of them are confined to the Western Palaearctic, 24 to the Eastern Palaearctic including Middle Asia, two distributed in both the Western Palaearctic and Middle Asia, and one has a trans-Palaearctic distribution. Recently, the 43rd species was described from Turkey (ASSING 2007). While a total of 9 species have been recorded from Turkish territory (ASSING 2007; MARUYAMA 2006), the genus was previously unknown from Iraq.

In the present paper, three species of *Pella* are described. Two of them are from Turkey, so that the Turkish *Pella* fauna now comprises eleven species. The third species was recently collected in northern Iraq, despite the risks involved, and represents the first record of the genus from this country.

### Material and methods

The material referred to in this study is deposited in the following public institutions and private collections:

NHMW ..... Naturhistorisches Museum Wien (H. Schillhammer)

cAss..... author's private collection

cFel ..... private collection Benedikt Feldmann, Münster

The morphological studies were carried out using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). For the photographs a digital camera (Nikon Coolpix 995) was used.

The following abbreviations are used for the measurements, which are given in mm:

AL: length of antenna; AW: maximal width of abdomen; EL: length of elytra from apex of scutellum to posterior margin; EW: combined width of elytra; HL: head length from anterior margin of clypeus to posterior margin of head; HW: head width (including eyes); ML: length of aedeagus from apex of ventral process to base; PL: length of pronotum along median line; PW: maximal width of pronotum; TaL: length of metatarsus; TiL: length of metatibia; TL: total length.

The map was generated using the online generic mapping tool (GMT) of the Geomar website at [www.aquarius.ifm-geomar.de/omc](http://www.aquarius.ifm-geomar.de/omc).

***Pella discolor* nov.sp.** (Figs 1-7, Map 1)

**Type material:** Holotype ♀ [with worker of black *Camponotus* sp. attached to the pin]: "N38°12'14 E35°59'39, TR Kahramanmaraş, Gezbeli Gec., 2000 m, 28.IV.2007, leg. Meybohm & Brachat / Holotypus ♀ *Pella discolor* sp. n. det. V. Assing 2007" (cAss). Paratypes: 1 ♂ [dissected prior to present study; abdomen damaged]: "♂ / 355 / Kleinasien, 5. Reise F. Ressler, Kizilcahan, 25.6.1966" (NHMW); 1 ♀: "Petrowitz-Ressler, Reise nach Kleinasien 1960 / Umg. Akschehir, 27.4.1960 / Sultan-Dagh, im Detritus" (cAss).

**Description:** Measurements (in mm) and ratios (range, n=3): AL: 1.30-1.40; HL: 0.65-0.66; HW: 0.71-0.79; PW: 0.85-0.94; PL: 0.65-0.74; EL: 0.68-0.77; EW: 1.09-1.28; AW: 0.94-1.00; TiL: 0.76-0.91; TaL: 0.53-0.57; ML: 0.71; TL: 5.0-5.4; HW/HL: 1.09-1.18; PW/HW: 1.17-1.19; PW/PL: 1.27-1.30; EL/PL: 1.02-1.05; EW/PW: 1.29-1.37; AW/EW: 0.86; TiL/TaL: 1.43-1.58.

Distinctly bicoloured and glossy species: head and abdomen black; pronotum and elytra bright reddish, with the middle of the pronotum, as well as the median and lateral parts of the elytra more or less distinctly and more or less extensively infuscate; legs reddish to reddish yellow; antennae reddish.

Habitus as in Fig. 1. Head transverse (see ratio HW/HL); puncturation sparse and rather fine; microsculpture absent. Eyes large, somewhat longer than postocular region in dorsal view (Fig. 2). Antenna as in Fig. 3.

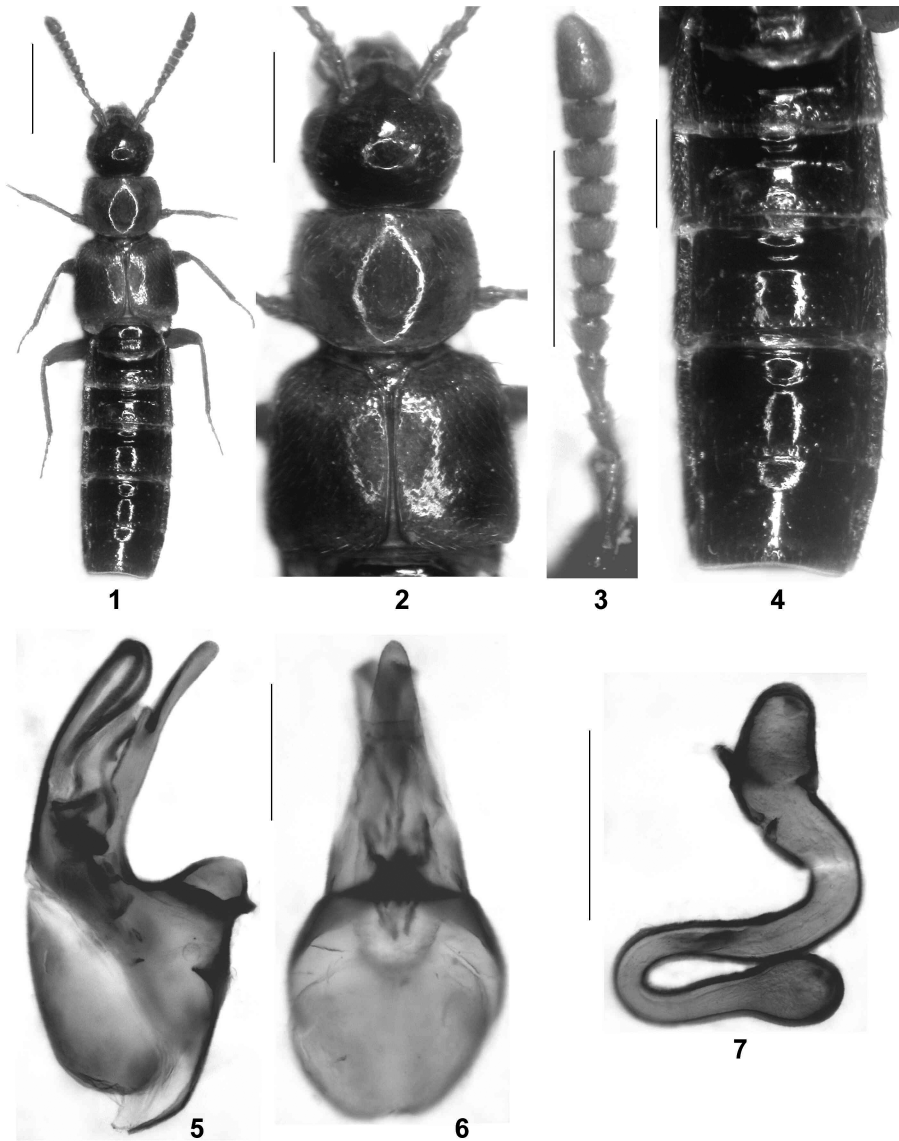
Pronotum distinctly transverse (see ratio PW/PL) and wider than head (see ratio PW/HW); puncturation similar to that of head; microsculpture absent (Fig. 2).

Elytra distinctly wider and slightly longer than pronotum (see ratios EW/PW and EL/PL); puncturation slightly denser and less fine than that of head and pronotum; microsculpture absent (Fig. 2). Hind wings fully developed.

Abdomen subparallel, slightly narrower than elytra (see ratio AW/EW); puncturation very sparse and rather fine; microsculpture absent (Fig. 4).

♂: posterior margin of tergite VIII almost truncate and strongly serrate; sternite VIII somewhat longer than tergite VIII, posterior margin broadly and rather weakly convex; median lobe of aedeagus as in Figs 5-6.

♀: tergite VIII of similar shape as in ♂, but posterior margin more weakly serrate; sternite VIII of similar length as tergite VIII, posterior margin weakly convex; spermatheca of distinctive shape (Fig. 7).



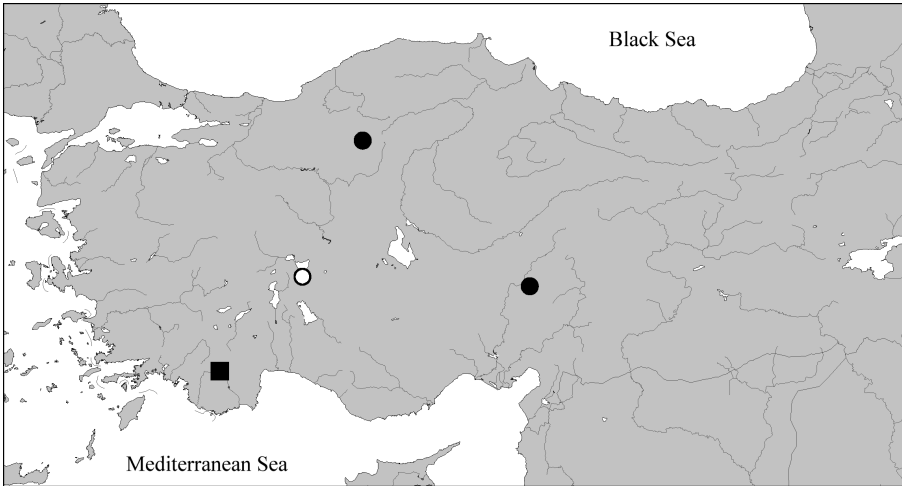
**Figs 1-7:** *Pella discolor* nov.sp.: (1) habitus; (2) forebody; (3) antenna; (4) abdomen; (5-6) median lobe of aedeagus in lateral and in ventral view; (7) spermatheca. Scale bars: 1: 1.0 mm; 2-4: 0.5 mm; 5-7: 0.2 mm.

**Comparative notes:** Based on the external and sexual characters, *P. discolor* belongs to the *P. excepta* group (see MARUYAMA 2006), which is represented in the Eastern Mediterranean by only one species, *P. cinctipennis* (EPPELSHEIM 1884). From this species, *P. discolor* is readily distinguished by the conspicuously bicoloured body, by the completely black abdomen, distinctly larger size, more massive antennae,

and genitalia of different morphology. For illustrations of the forebody, the antenna, and the sexual characters of *P. cinctipennis* see MARUYAMA (2006).

**E t y m o l o g y :** The name (Latin, adjective) refers to the conspicuous coloration of the species.

**D i s t r i b u t i o n a n d b i o n o m i c s :** The types were collected in three localities in northwestern, southwestern, and central southern Anatolia (Map 1) in April and June. The fact that only three specimens have become available suggests that the species is apparently very rare. The holotype was found associated with *Camponotus* sp. at an altitude of 2000 m, the male paratype was sifted from detritus.



**Map 1:** Distributions of the species of the *Pella excepta* group in Turkey: *Pella discolor* nov.sp. (filled and open circles), *P. sultanica* nov.sp. (open circle), and *P. cinctipennis* (EPELSHEIM) (square).

***Pella sultanica* nov.sp.** (Figs 8-13, Map 1)

**Type material:** Holotype ♀: "Petrowitz-Ressl, Reise nach Kleinasien 1960 / Umg. Akschehir, 4.5.1960 / Sultan-Dagh, im Detritus / Holotypus ♀ *Pella sultanica* sp. n. det. V. Assing 2007" (NHMW).

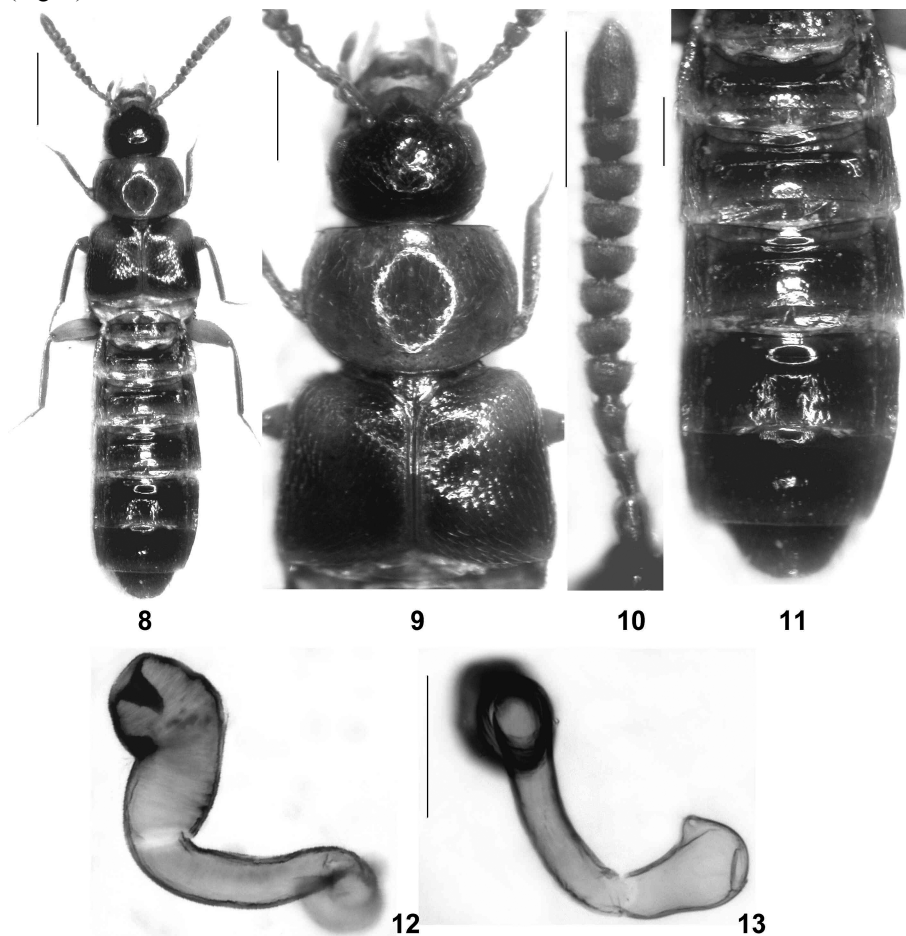
**Description:** Measurements (in mm) and ratios (holotype): AL: 1.71; HL: 0.77; HW: 0.89; PW: 1.22; PL: 0.86; EL: 0.86; EW: 1.54; AW: 1.42; TiL: 0.95; TaL: 0.72; TL: 6.8; HW/HL: 1.16; PW/HW: 1.37; PW/PL: 1.42; EL/PL: 1.00; EW/PW: 1.26; AW/EW: 0.92; TiL/TaL: 1.31.

**Coloration:** head blackish brown; pronotum pale reddish; elytra brown, with the humeral angles, the suture, and the posterior margins yellowish; abdominal segments III-V light brown, with the middle part of the tergites darker; abdominal segments VI-VIII blackish, with paler posterior margins; legs and antennae reddish.

**Habitus** as in Fig. 8. Head transverse (see ratio HW/HL); puncturation distinct, interstices in median dorsal area on average slightly wider than diameter of punctures; microsculpture absent. Eyes large, somewhat longer than postocular region in dorsal view (Fig. 9). Antenna as in Fig. 10.



Pronotum strongly transverse (see ratio PW/PL) and distinctly wider than head (see ratio PW/HW); puncturation much finer and sparser than that of head; microsculpture absent (Fig. 9).

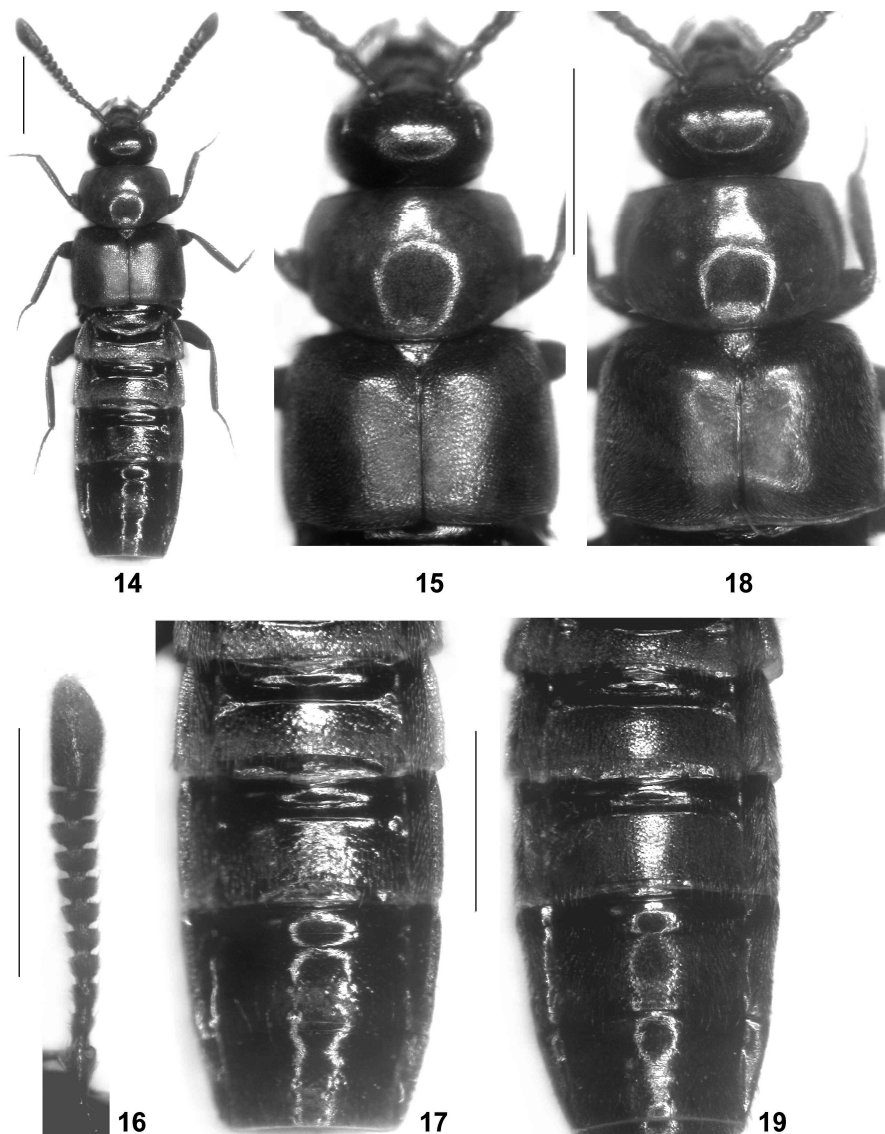


**Figs 8-13:** *Pella sultanica* nov.sp.: (8) habitus; (9) forebody; (10) antenna; (11) abdomen; (12-13) spermatheca in two different aspects. Scale bars: 8: 1.0 mm; 9-11: 0.5 mm; 12-13: 0.2 mm.

Elytra wider than and as long as pronotum (see ratios EW/PW and EL/PL); puncturation slightly denser and somewhat more distinct than that of pronotum, but finer and sparser than that of head; microsculpture absent (Fig. 9). Hind wings fully developed.

Abdomen subparallel, slightly narrower than elytra (see ratio AW/EW); puncturation moderately sparse and distinct; microsculpture absent (Fig. 11).

♂: unknown.



**Figs 14-19:** *Pella reuteri* nov.sp. (14-17) and *Pella ruficollis* (GRIMM) (18-19): (14) habitus; (15, 18) forebody; (16) antenna; (17, 19) abdomen. Scale bars: 1.0 mm.

♀: posterior margin of tergite VIII weakly convex and very finely (almost indistinctly) serrate; sternite VIII of similar length as tergite VIII, posterior margin weakly convex; spermatheca as in Figs 12-13.

**Comparative notes:** The male sexual characters of this species are unknown, but based on the similarity of the external and the female sexual characters with

those of *P. cinctipennis* and *P. discolor*, the new species appears to refer to the *P. excepta* group. From both *P. cinctipennis* and *P. discolor*, it is readily separated by much larger size, different coloration, the more transverse and relatively larger pronotum, the more massive antennae, the denser puncturation of the abdomen, the different puncturation of the forebody, as well as by the shape of the spermatheca.

**E t y m o l o g y :** The name (adjective) is derived from the Sultan Dağı, the name of the mountain where the holotype was discovered.

**D i s t r i b u t i o n a n d b i o n o m i c s :** The type locality is situated in southwestern Anatolia (Map 1). The holotype was apparently sifted from detritus.

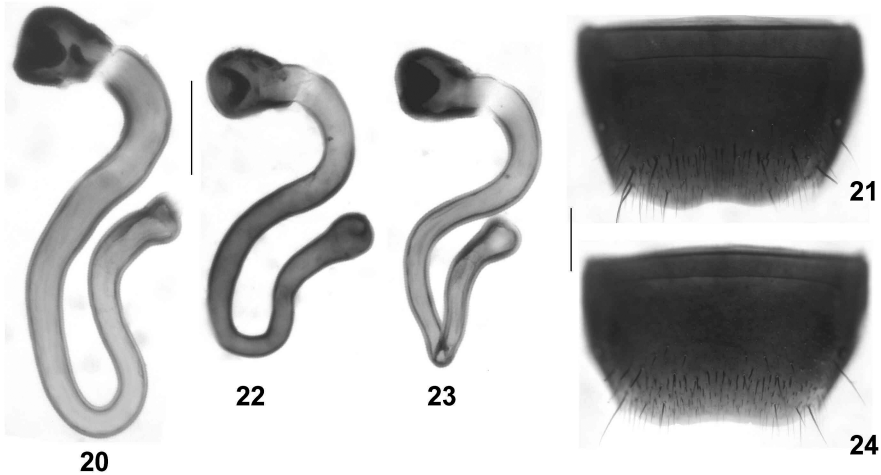
***Pella reuteri* nov.sp.** (Figs 14-17, 20-21)

**Type material:** Holotype ♀: "N-Irak, N Mosul - SW Hakkari, Al-Amadiya, 28.IV.2007, 1200 m, leg. C. Reuter / Holotypus ♀ *Pella reuteri* sp. n. det. V. Assing 2007" (cAss). Paratype ♀: same data as holotype (cFel).

**Description:** Measurements (in mm) and ratios (holotype, paratype): AL: 1.92, 1.87; HL: 0.68, 0.69; HW: 0.92, 0.94; PW: 1.21, 1.27; PL: 0.85, 0.88; EL: 0.85, 0.88; EW: 1.53, 1.57; AW: 1.45, 1.48; TiL: 0.89, 0.91; TaL: 0.68, 0.71; TL: 6.1, 6.3; HW/HL: 1.36, 1.35; PW/HW: 1.31, 1.35; PW/PL: 1.42, 1.45; EL/PL: 0.99, 1.00; EW/PW: 1.26, 1.24; AW/EW: 0.95, 0.94; TiL/TaL: 1.31, 1.28.

Externally (coloration, size, shape) as in *P. ruficollis* (GRIMM 1845) - see illustrations of habitus and forebody (Figs 14-16, 18) for comparison -, but distinguished as follows:

Elytra with dense, fine, but distinct puncturation (Fig. 15). Abdomen with less pronounced microsculpture, distinctly less dense and more distinct puncturation, and more glossy (Fig. 16; for an illustration of the abdomen of *P. ruficollis* see Fig. 19); puncturation of tergite VI very sparse (in *P. ruficollis* dense and fine).



**Figs 20-24:** *Pella reuteri* nov.sp. (20-21) and *Pella ruficollis* (GRIMM) (22-24): (20, 22-23) spermatheca; (21, 24) female tergite VIII. Scale bars: 21, 24: 0.2 mm; 20, 22-23: 0.1 mm.

♂: unknown.

♀: posterior margin of tergite VIII (Fig. 21) distinctly concave in the middle (in *P.*

*ruficollis* only indistinctly concave at most (Fig. 24)); spermatheca larger (Fig. 20), duct proximally more abruptly curved and subproximally straighter (see Figs 22-23 for spermatheca of *P. ruficollis*).

**Comparative notes:** The species is doubtlessly the adelphotaxon of *P. ruficollis*, the sole representative of the *P. ruficollis* group (MARUYAMA 2006). For characters separating the two species see the description above.

**Etymology:** The species is dedicated to Christoph Reuter, who discovered the types, in appreciation of his courage in collecting insects in such a perilous region.

**Distribution and bionomics:** The types were collected in northern Iraq, in the area north of Mosul, at an altitude of 1200 m in April. Additional bionomic data are unknown.

### Additional records of *Pella* from Turkey

#### *Pella humeralis* (GRAVENHORST 1802)

**Material examined:** Sakarya: 1 ex., Sapanca, V.1962, leg. Schubert (cAss). Sinop: 1 ex., Çangal/Ayancık, V.1962, leg. Schubert (cAss); 1 ex., Çangal Dağı, VI.1960, leg. Schubert (cAss). Arvin: 1 ex., Borçka, 1700 m, VI.1970, leg. Schubert (cAss).

**Comment:** MARUYAMA (2006) indicates this species only from Bolu province.

### Checklist of the *Pella* species of Turkey

The names of the species are arranged alphabetically. The references are abbreviated as follows: A04 = ASSING (2004); A06 = ASSING (2006); A07 = ASSING (2007); App = ASSING (present paper); M06 = MARUYAMA (2006).

taxon	distribution in Turkey (provinces)	references
<i>cinctipennis</i> (EPPELSHEIM 1884)	Muğla	App, M06
<i>discolor</i> nov.sp.	Ankara, Konya, Kahramanmaraş	App
<i>gibbera</i> ASSING 2007	Izmir	A07
<i>hampei</i> (KRAATZ 1862)	Izmir	A07
<i>humeralis</i> (GRAVENHORST 1802)	Sakarya, Bolu, Sinop, Artvin	App, M06
<i>laeviceps</i> (EPPELSHEIM 1880)	Gümüşhane, Trabzon	A07
<i>laticollis</i> (MÄRKEL 1845)	Sinop	A07
<i>lugens</i> (GRAVENHORST 1802)	Izmir	A07
<i>ruficollis</i> (GRIMM 1845)	Izmir	A07, App,
<i>similis</i> (MÄRKEL 1845)	Sinop, Kahramanmaraş	A04, A06, M06
<i>sultanica</i> nov.sp.	Konya	App

### Acknowledgements

My thanks are due to the colleagues in the material section for the loan of material under their care. In particular, I am grateful to Benedikt Feldmann for the generous gift of the holotype of *P. reuteri* and, in addition, for proof-reading the manuscript.

### Zusammenfassung

*Pella discolor* nov.sp. (Türkei) und *P. sultanica* nov.sp. (Türkei) aus der *P. excepta*-Gruppe sowie *P. reuteri* nov.sp. (Irak) aus der *P. ruficollis*-Gruppe werden beschrieben, abgebildet und von ähnlichen *Pella*-Arten unterschieden. Die Verbreitung der Arten der *P. excepta*-Gruppe in der Türkei wird anhand einer Karte illustriert. Ein Katalog der *Pella*-Arten der Türkei wird zusammengestellt.

### References

- ASSING V. (2004): New species and records of Staphylinidae from Turkey III (Insecta: Coleoptera). — Linzer biologische Beiträge **36** (2): 669-733.
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- MARUYAMA M. (2006): Revision of the Palearctic species of the myrmecophilous genus *Pella* (Coleoptera, Staphylinidae, Aleocharinae). — National Science Museum Monographs **32**: 1-207.

Author's address:

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

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