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Contribution to the knowledge of the genus *Doliops* Waterhouse, 1841 (Coleoptera: Cerambycidae)

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Eight new species of the genus *Doliops* Waterhouse, 1841 (Coleoptera: Cerambycidae) are described and illustrated: *D. anichtchenkoi* sp. n., *D. gutowskii* sp. n., *D. savenkovi* sp. n., *D. shavrini* sp. n., *D. sklodowskii* sp. n., *D. stradinsi* sp. n, *D. valainisi* sp. n. and *D. vivesi* sp. n. New faunistic data for 17 species are given. A check-list for the genus *Doliops* Waterh. is proposed. The key for determination of species related to *D. curculionoides* Waterh. is given. The shape of the aedeagus is employed in the determination of *Doliops* Waterh. for the first time. To the present day, 42 species (including new) of the genus *Doliops* Waterh. are known, which are distributed in the Philippine archipelago and some islands south of Taiwan.

Key words: Coleoptera, Cerambycidae, *Doliops*, fauna, new species, taxonomy, Philippines

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INTRODUCTION

The genus *Doliops* Waterhouse, 1841 (Lamiinae: Apomecynini) is represented by 42 species (including the new species described herein), distributed mainly in the Philippines archipelago. Only *D. similis* Miwa & Mitono, 1933 is known from outside the Philippine archipelago. *Doliops similis* Miwa et Mitono is known from the nearby Lanyu and Lu Tao Islands (Taiwan) as a local endemic. Each island of the Philippines also has endemics co-existing with other, more widely distributed species (Vives 2005). The mimicry between species of the genus *Doliops* and members of the genera *Pachyrrhynchus* and *Metapocyrtus* (Curculionidae: Pachyrrhynchini) is remarkable because of its general habitus, rounded appearance, short legs, specific shape of antennae, coloration, shapes of the scales of stripes and other features (Vives 2005, Cabigas 2010).

The genus *Doliops* Waterh. has recently been thoroughly studied. Thirteen new species have been described by E.Vives (Vives 2005, 2009a, 2009b, 2011, 2012a, 2012b, 2013).

In the present paper, the author describes 8 new species of the genus *Doliops* Waterh.: *D. anichtchenkoi* sp. n., *D. gutowskii* sp. n., *D. savenk-*

ovi sp. n., *D. shavrini* sp. n., *D. sklodowskii* sp. n., *D. stradinsi* sp. n., *D. valainisi* sp. n. and *D. vivesi* sp. n. This paper is illustrated with photographs of the new species, similar species and, in the case of a number of taxa, with illustrations of the male genitalia. This is the first time when the analysis of male genitalia has been used for the identification of the taxa of this genus. Besides this, new faunistic data on 17 little known species are provided. The world faunistic list of the species of the genus *Doliops* has been supplemented by the described new species and updated information on the distribution of the species is presented.

Fig. 1. Map of the Philippines archipelago

MATERIALS AND METHODS

The material from the following collections has been examined:
DUBC – Daugavpils University, Institute of Systematic Biology, Coleopterological Research Centre (Ilgas, Daugavpils Distr., Latvia);
SMTD – Senckenberg Natural History Collections Dresden, Museum of Zoology (Dresden, Germany);

The type specimens of new described species are deposited in the collection of the Daugavpils University, Institute of Systematic Biology, Coleopterological Research Centre (Ilgas, Daugavpils Distr., Latvia) - DUBC. All specimens have been collected in the Philippines by local collectors.

The laboratory research and measurements have been performed using *Nikon* AZ100, *Nikon* SMZ745T and *Zeiss* Stereo Lumar V12 digital stereomicroscopes, NIS-Elements 6D software, and *Canon* 60D and *Canon* 1 Ds Mark II cameras.

The map of the Philippine archipelago (see Fig. 1) has been drawn using the software *ArcGis 10*.

In the faunistic list, the name of the species is followed by the information on the record. The number of studied specimens is indicated in parentheses.

RESULTS

***Doliops anichtchenkoi* sp. n.**
(Fig. 2C, J)

Type material. Holotype: Male, Philippines: N Luzon, Cagayan, 01.2013, local collector leg. **Paratypes:** Male, Philippines: Mindoro, Mt. Halcon, 09.2013, local collector leg. Male, Philippines: N Luzon, Mountain Province, 09.2013, local collector leg.; Male, Philippines: N Luzon, Cagayan, 10.2013, local collector leg.

Description. Body black, very shiny, with a strong, coppery luster. Surface with spots of pale pink or greenish scales. Length: 13.0 mm, Width: 5.7 - 5.8 mm.

Part of head between eyes and antennal bases with longitudinal band of pale pink or greenish scales and thin, straight median line without scales. Cheeks beneath the eyes with very small, pale pink spots consisting of a few scales. Labrum pubescent. Head black, finely punctate, glossy, with metallic luster. Three basal segments of antennae black with metallic luster and pubescence, fourth segment basally testaceous, with very fine white pubescence, and the remaining segments are testaceous and tomentose. Pronotum convex, black, shiny, with expressed copper luster. Lateral margin with stripe of pink or greenish scales. Base of pronotum with small, pale pink spot on disk. Scutellum shiny, with metallic luster; apically - rounded and tomentose. Elytra convex, black, shiny, with distinct copper luster, each elytron with seven spots of pale pink or greenish scales, of which four of the spots are located dorsally and three laterally. The apical spot is larger than the pre-apical one, inclined to side. Basal elongated spot close to basal margin of elytra. Second dorsal spot transverse. Shoulders of elytra protruding, shiny. Elytra behind shoulders on both sides with raised nodules. Width of elytra at shoulders: 4.7 - 5.2 mm. The largest width of the elytron is behind the middle: 5.7 - 5.8 mm. Elytra finely punctate. Anteriorly and laterally with sparse and coarse punctures and pubescence. Meso-, metaepimera and sternites spotted laterally, covered with pale pink or greenish scales. Femora with small pale pink or greenish spot at apex and more or less tomentose. Dorsal surface of tarsomeres covered by grey, iridescent tomentum. Tibia and tarsi in apical part covered by numerous setae.

Aedeagus (Fig. 4A).

Differential diagnosis. The new species is similar to *D. curculionoides* Waterhouse, 1841 (2D, K) in shape and body size, by the number (both species with seven spots on each elytron) and shape of elytral markings, however, the surface pattern is slightly different. The elytra of *D. curculionoides* Waterh. behind the shoulders,

without projection raised nodules, the shape of spots is different. In both species, the aedeagi are different (Fig. 4A, C). The pronotum of the new species has a stripe of pink or greenish scales along the lateral margin, but in *D. curculionoides* Waterh. there is a stripe of pink or greenish scales along the lateral margin and in the anterior part it has a second small, round spot, covered with pink or greenish scales. The third antennomere is black, but in *D. curculionoides* Waterh. it is testaceous basally.

D. anichtchenkoi sp. n. is similar also to *D. animula* Kriesche (Fig. 2A, B, I), *D. duodecimpunctata* Heller (Fig. 2F, M), *D. shavrini* sp. n. (Fig. 2G, N) and *D. gutowskii* sp. n. (Fig. 2E, L), but differs from them by the number, size and shape of elytral spots, the colour of the elytra and the shape of the male genitalia (Fig. 4A, E, G).

Mimicry. *D. anichtchenkoi* sp. n. mimics the weevil *Pachyrrhynchus erichsoni* Waterhouse, 1841 (Coleoptera: Curculionidae) (Fig. 5G, H).

Etymology. This species is named after my colleague and friend, the Russian carabidologist Alexander Anichtchenko (Daugavpils University, Institute of Systematic Biology, Coleopterological Research Center, Ilgas, Latvia), in appreciation of cooperation.

***Doliops gutowskii* sp. n.**
(Figs. 2E, L)

Type material. Holotype: Female. Philippines: Mindanao, Surigao del sur, 06.2013, local collector leg. **Paratype:** Female. Philippines: Mindanao, Surigao del sur, Barobo env., 08.2013, local collector leg.

Description. Body black, shiny, with a metallic luster. Surface with spots of pale pink scales. Length: 11.0 – 12.0 mm, width: 5.1 - 5.3 mm.

Head short, shiny; there is a longitudinal band of pale pink scales and a thin, straight median line between the eyes and the antennal bases. Cheeks without spots. Labrum with dark brown pubescence. Head finely punctate, with metallic luster. Three basal segments of antennae black, two first antennomeres with a bright metallic luster, the third antennomere black (basal part of third antennomere of *D. curculionoides* testaceous), shiny. The fourth antennomere is testaceous basally, with white, very fine pubescence, though the remaining segments are testaceous and tomentose. Pronotum convex, black, shiny, with metallic luster; laterally sparsely and coarsely punctated. Lateral margin with stripe of pink iridescent scales, without other spots. Scutellum shiny, with metallic luster; rounded and tomentose apically. Elytra convex, black, shiny, with metallic lustre, each elytron with six slightly ovoid spots of pale pink scales, three of which are located dorsally, two laterally and one boot-shaped and apically located. Basal spot located adjacent to the basal margin of the elytra. Apical spot boot-shaped (Fig. 2L). Shoulders of elytra protruberant, shiny. Elytra behind shoulders on both sides without projection, flat. Width of elytra at shoulders: 4.4 – 4.5 mm. Largest width of elytra behind middle: 5.1 - 5.3 mm. Elytra with microsculpture, sparse and coarse punctures, and pubescence. Meso-metaepimera and sternites with lateral spots, covered by pale pink or greenish scales. Femora without any small pale pink spot at apex; more or less tomentose. Surface of tarsomeres covered with grey tomentum. Tibia and tarsi apically covered with numerous dark setae.

Differential diagnosis. According to the body, size and shape of elytral pattern, the new species is similar to *D. curculionoides* Waterh. (Fig. 2D, K), however, the surface pattern is slightly different. The elytra of *D. curculionoides* Waterh. possesses differently shaped basal, and especially apical (Fig. 2K, L), spots. The pronotum of the new species possesses a stripe of pink or greenish scales only along the lateral margin, but in *D. curculionoides* Waterh. there is a stripe of pink or greenish scales along the side margin and anteriorly there is another small, round spot, covered with similar scales. The third antennomere in *D. gutowskii* sp. n. is black and shiny, though in *D. curculionoides* Waterh. it has a testaceous basal part.

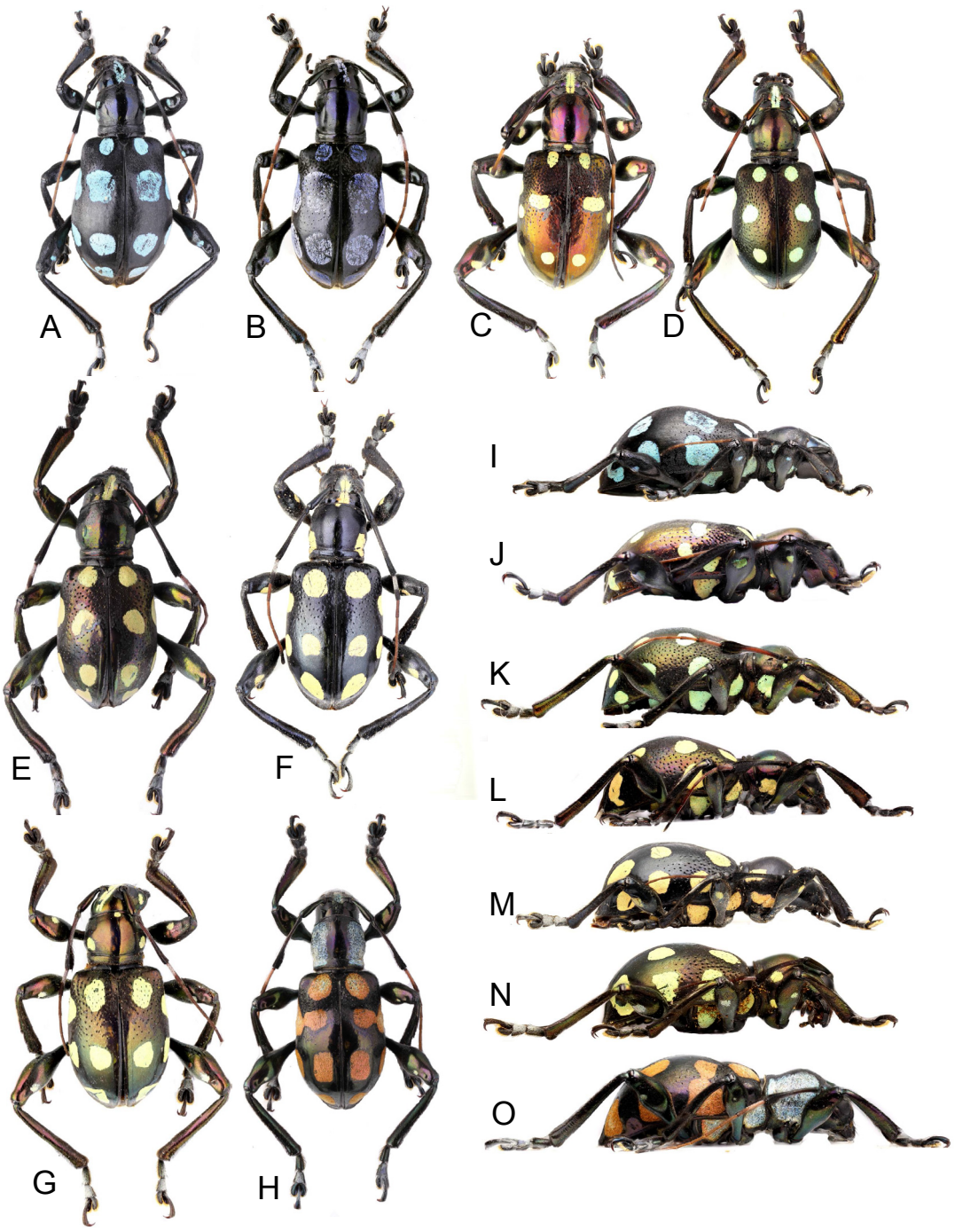

Fig. 2. A, B, I - *Doliops animula* Kriesche; C, J - *D. anichtchenkoi* sp. n.; D, K - *D. curculionoides* Waterhouse; E, L - *D. gutowskii* sp. n., F, M - *D. duodecimpunctata* Heller; G, N - *D. shavrini* sp. n.; H, O – *D. emmanueli* Vives. A - H – dorsal view; I - O – lateral view.

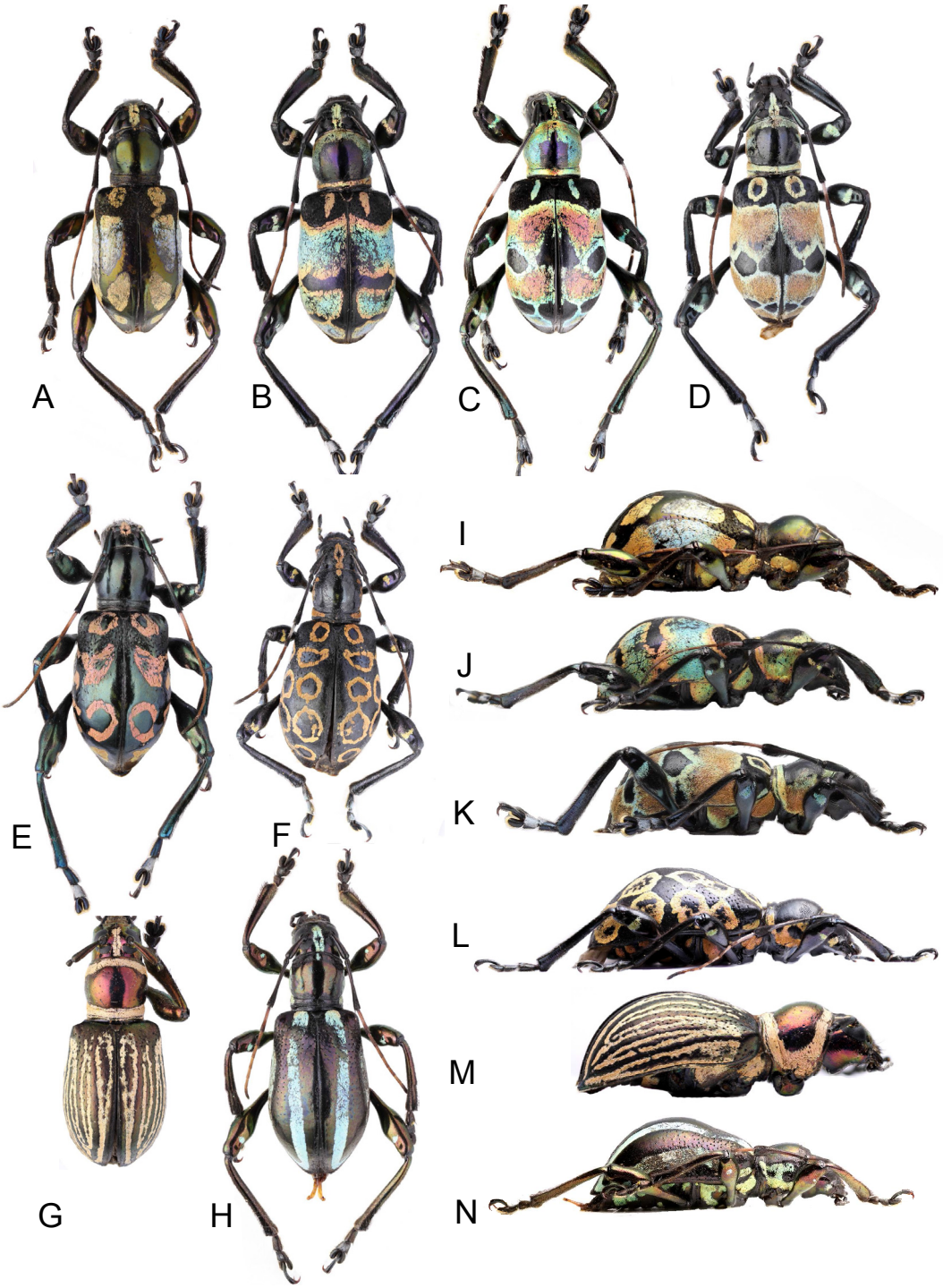

Fig. 3. A, I - *Doliops helleri* Vives; B, J - *D. savenkovi* sp. n.; C - *D. metallica* Breuning; D, K - *D. sklodowskii* sp. n.; E - *D. dupaxi* Vives; F, L - *D. stradinsi* sp. n.; G, M - *D. valainisi* sp. n.; H, N - *D. vivesi* sp. n.

D. gutowskii sp. n. is similar also to *D. animula* Kriesche, 1940 (Fig. 2A, B, I), *D. duodecimpunctata* Heller, 1923 (Fig. 2F, M), *D. shavrini* sp. n. (Fig. 2G, N) and *D. anichtchenkoi* sp. n. (Fig. 2C, J), though differ in the number, size and shape of elytral spots and/or colour of elytra and/or colour of the third antennomere.

Mimicry. *D. gutowskii* sp. n. possibly mimics the weevil *Pachyrrhynchus erichsoni* Waterhouse, 1841 (Coleoptera: Curculionidae) (Fig. 5H).

Etymology. This species is named after my colleague, the Polish entomologist Jerzy Marian Gutowski (Forest Research Institute, Bia³owieæa, Poland) in appreciation of cooperation.

***Doliops savenkovi* sp. n.**
(Figs. 3B, J)

Type material. Holotype: Male. Philippines: N Luzon, Sierra Madre, Quirino, 10.2013, local collector leg.

Description. Body black, shiny, without metallic luster. Surface with spots of green and pink scales. Length: 12.0 mm, width: 5.0 mm.

Head narrow, with longitudinal band of pale pink and greenish scales between eyes and antennal bases. Cheeks with small, greenish spots. Labrum covered with numerous setae. Head black, finely punctate and shiny. Three basal segments of antennae black, shiny and pubescent, with slight metallic luster. Fourth antennomere testaceous, in basal part with white pubescence. The remaining antennomeres testaceous and tomentose. Pronotum convex, black, shiny, with greenish and pink scales on both lateral and anterior margin. Dorsal disc of pronotum smooth, without scales, slightly tomentose laterally. Pronotum emarginated with narrow line of pink, iridescent scales. Scutellum rounded, apically tomentose. Elytra convex, black, shiny, with transverse, wide, bandformig spots. Two small elongated spots located basally on both sides of scutellum. Remaining three transverse, bandforming spots wide, green, emarginated with narrow linear pink scales. Between these spots there are black, smooth transverse areas, which converge with a black longitudinal band along the elytral suture. Elytra behind shoulders with raised nodules. Width of elytra at shoulders: 4.7 mm. Largest width of elytra behind tmiddle: 5.0 mm. Elytra finely punctate. Anteriorly with sparse and coarse punctuation and pubescence. Meso-, metaepimera and sternites with spots at their sides. Legs short, thick. Femora with greenish spot at apex and more or less tomentose. Surface of tarsomeres covered with grey pubescence. Tibia and tarsi apically covered with numerous setae.

Aedeagus (Fig. 4F).

Differential diagnosis. This new species differs from the other ones by the characteristic pattern of the body surface. The new species is slightly similar to *D. sklodowskii* sp. n. (Fig. 3D, K) and *D. metallica* Breuning, 1938 (Fig. 3C), however, differing by the shape of the disc of the pronotum, by the shape of the prescutellar spots on the elytra and the shape of genitalia (Fig. 4B, D, F,).

Mimicry. Currently we have no data about the mimicry of this species. The new species is a somewhat similar to *D. sklodowskii* sp. n. (Fig. 3D, K) and *D. metallica* Breuning, 1938 (Fig. 3C), which mimic *Pachyrrhynchus orbifer* Waterhouse, 1841 (Coleoptera: Curculionidae) (Fig. 5A,B,C,D).

Etymology. This species is named after my colleague and friend, the Latvian entomologist Nikolay Savenkov (Latvian Museum of Natural History, Riga, Latvia), in appreciation of cooperation.

***Doliops shavrini* sp. n.**
(Fig. 2G, N)

Type material.Holotype: Male. Philippines: N Luzon, Isabela, 09.2013, local collector leg. **Paratypes:** Male. Philippines: N Luzon, Sierra Madre, Quirino, 11.2011, local collector leg. Male. Philippines: N Luzon, Sierra Madre, Quirino, 10.2013, local collector leg. Male.

Philippines: N Luzon, Sierra Madre, Quirino, 06.2013, local collector leg. Female. Philippines: N Luzon, Sierra Madre, Quirino, 08.2013, local collector leg. Female. Philippines: N Luzon, Sierra Madre, Quirino, 08.2012, local collector leg. Male. Philippines: N Luzon, Mountain Province, 09.2013, local collector leg.

Description. Body black, very shiny, with strong coppery, greenish or bronze luster. Surface with spots of pale pink, pink or greenish scales. Length: 12.0 - 14.0 mm, Width: 3.4 - 3.8 mm.

Head with longitudinal band of pale pink, pink or greenish shiny scales between eyes and antennal bases. Cheeks under the eyes with elongated pale pink, pink, or greenish spots. Labrum pubescent. Head black and finely punctate, some parts with metallic luster and pubescent. Three basal segments of antennae black with metallic luster and pubescence, fourth antennomere testaceous basally, with very fine white pubescence, but remaining segments are testaceous and tomentose. Pronotum convex, black, shiny, with bright coppery, greenish or bronze luster. Stripe of pink or greenish scales along lateral pronotal margin and rounded spot at basal margin. Scutellum black, shiny, rounded and tomentose apically. Elytra convex, black, shiny, with bright copper, greenish or bronze lustre, each elytron with five spots of pale pink, pink or greenish scales, two of which are situated dorsally, and the other two laterally, though one circular spot located apically. Apical circular spot is larger than the others. The circle may be interrupted or closed. Basal, more or less rounded or slightly elongated spot in distance from the basal margin of the elytra, completely covered with scales, or circular and medially without scales. Second dorsal spot smaller than basal one, rounded, not transverse. Shoulders of elytra visible, slightly prominent and shiny. Elytra behind shoulders without raised nodules laterally. Width of elytra at shoulders: 4.0 - 5.0 mm. Largest width of elytra behind middle: 4.8 - 5.8 mm. Background of elytra is finely punctate. In basal part and laterally with sparse and coarse punctuation and pubescence. Meso-, metaepimera and sternites with spots laterally; covered with pale pink, pink or greenish scales. Femora with small spots apically and more or less tomentose. Surface of tarsomeres covered with grey pubescence. Tibia and tarsi partially covered apically with numerous setae.

Aedeagus (Fig. 4G).

Differential diagnosis. By the shape, body size and elytral coloration, new species is similar to *D. duodecimpunctata* Heller, 1923. (Fig. 2F, M), however, the surface pattern is slightly different. The background of the elytra of *D. duodecimpunctata* Heller is black and with six spots on both sides, while elytra of the new species are black, very shiny, with bright coppery, greenish or bronze luster and five spots. The male genitalia of both species are very similar, but with slightly differences (Fig. 4E, G).

By the shape, size and elytral markings, *D. shavrini* sp. n. is similar also to *D. anichtchenkoi* sp. n. (Fig. 2C, J). The elytra of *D. anichtchenkoi* sp. n. with raised nodules and with different shape of spots behind the shoulders on both sides. The male genitalia of both species differ greatly. In *D. anichtchenkoi* sp. n., the lamella of the aedeagus is not inclined upwards as in other species. The side of the pronotum of *D. anichtchenkoi* sp. n. along the lateral margin with a stripe of pink or greenish scales, while in *D. shavrini* sp. n. there is a stripe of pink or greenish scales along the lateral margin and in the basal part there is another spot, covered with pink or greenish scales.

The new species is similar also to *D. curculionoides* Waterh. (Fig. D, K) in terms of shape, size and elytral markings, however, the surface pattern is slightly different. *D. curculionoides* Waterh. has seven spots on each elytron, while the new species has only five spots. Male genitalia of both species are very similar, though differs by the shapes of lamellae of *aedeagus*. The new species possesses a stripe of pink or greenish scales along the lateral pronotal margin and another small, rounded or slightly elongated spot basally, but in *D. curculionoides* Waterh. there is a stripe of pink or greenish scales along the lateral margin and another small, rounded spot, anteriorly covered with pink or greenish scales scales.

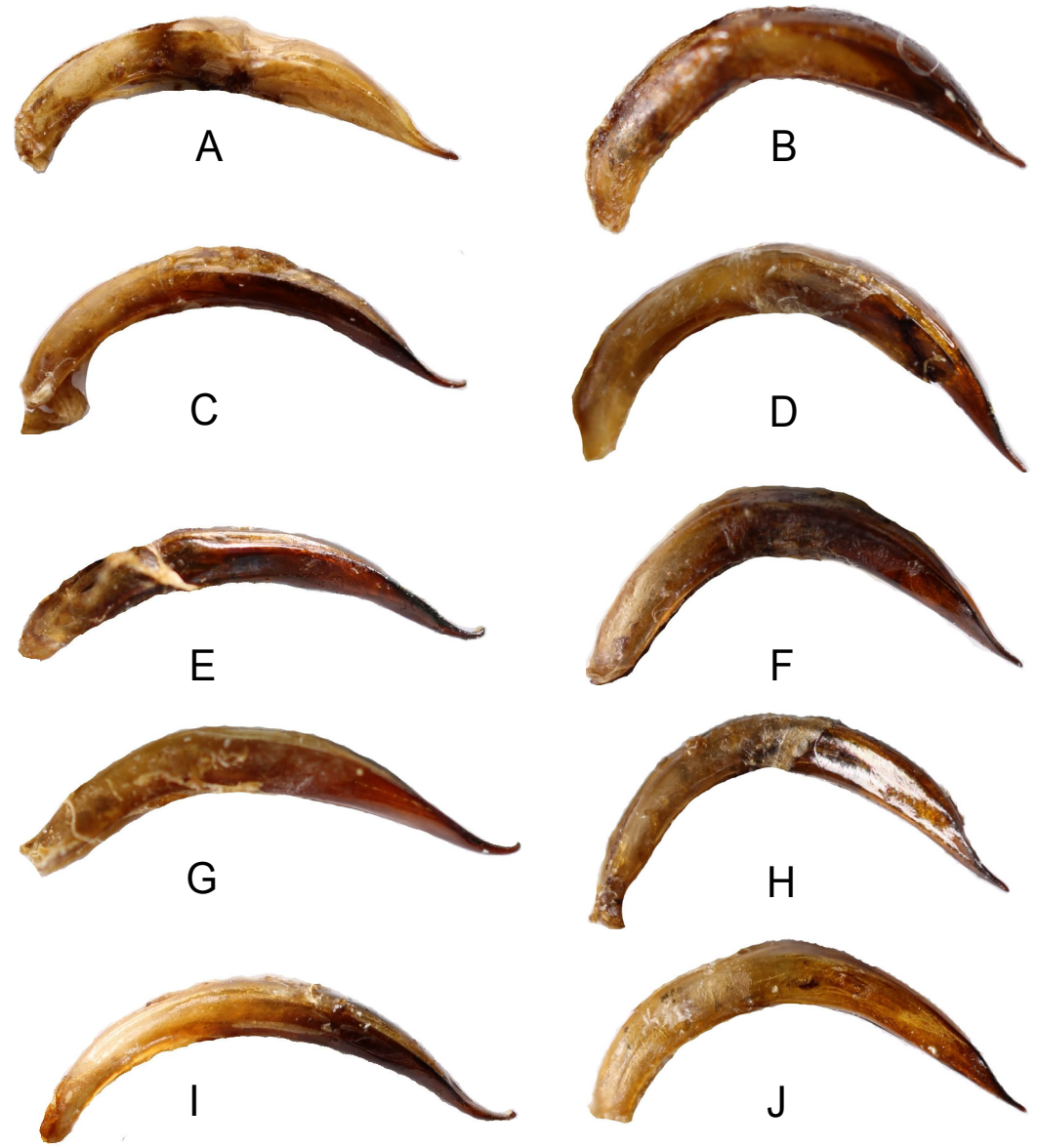

Fig. 4. Aedeagus: A - *D. anichtchenkoi* sp. n.; B - *D. sklodowskii* sp. n.; C - *D. curculionoides* Waterhouse; D - *D. metallica* Breuning; E - *D. duodecimpunctata* Heller; F – *D. savenkovi* sp. n.; G - *D. shavrini* sp. n.; H - *D. stradinsi* sp. n.; I - *D. valainisi* sp. n.; J - *D. dupaxi* Vives.

Etymology. This species is named after my colleague and friend, the Russian staphylinidologist Alexey Shavrin (Daugavpils University, Institute of Systematic Biology, Coleopterological Research Center, Ilgas, Latvia), in appreciation of cooperation.

***Doliops sklodowskii* sp. n.**
(Fig. 3D, K)

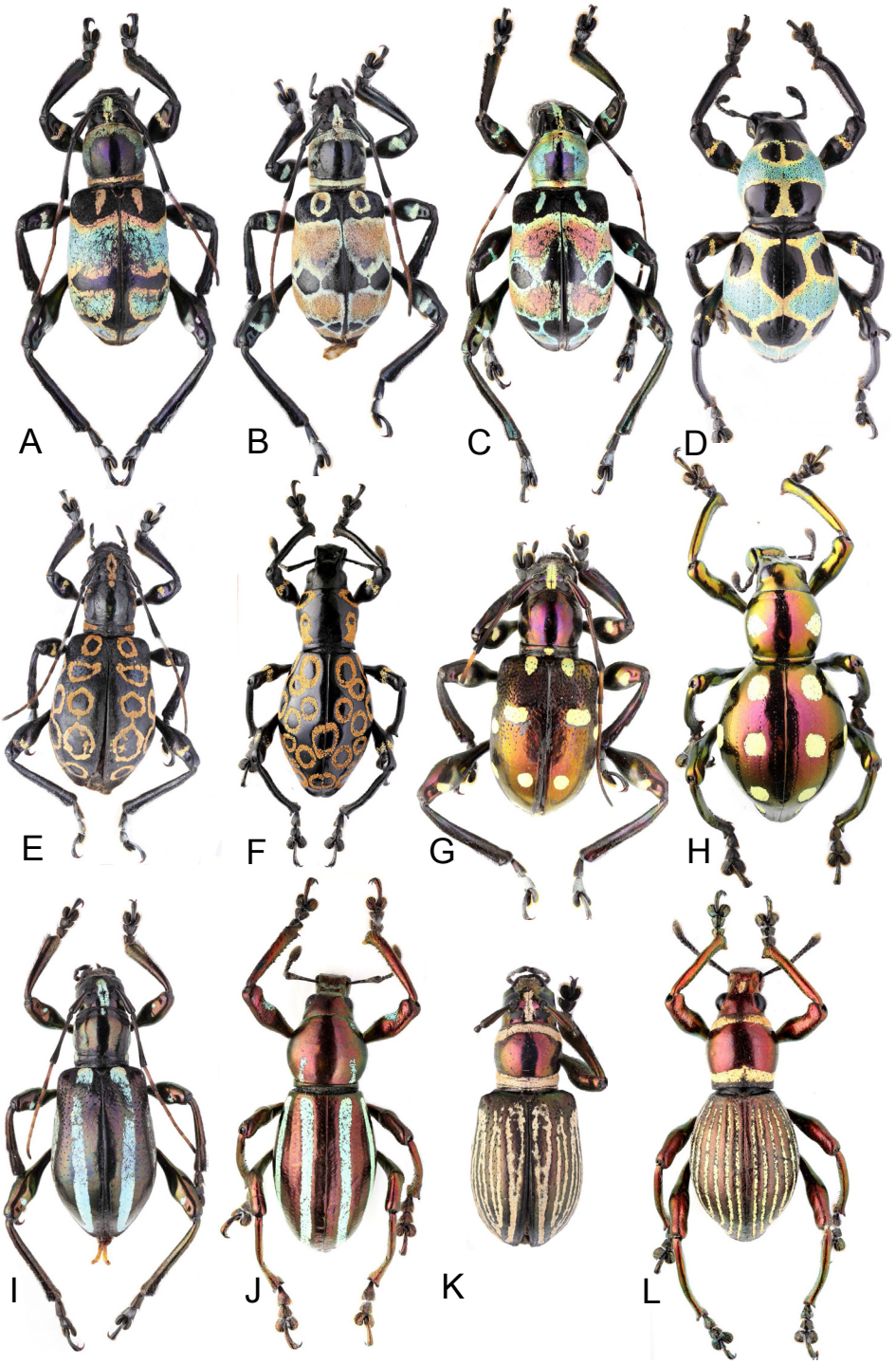

Fig.5. Mimicry: A - *Doliops savenkovi* sp. n.; B - *D. sklodowskii* sp. n.; C - *D. metallica* Breuning; D - *Pachyrrhynchus orbifer* Waterhouse; E - *D. stradinsi* sp. n.; F - *P. argus* Pascoe; G - *D. anichtchenkoi* sp. n.; H – *P. erichsoni* Waterhouse; I - *D. vivesi* sp. n.; J – *P. modestior* Behrens; K - *D. valainisi* sp. n.; L - *Pachyrrhynchus sp.*

Type material. Holotype: Male. Philippines: N Luzon, Sierra Madre, Isabela, 08.2013, local collector leg.

Description. Body black, shiny, without metallic luster. Surface with pink and orange spots, emarginated with yellow and greenish scales. Length: 13.0 mm, Width: 4.7 mm.

Head with a longitudinal band of pale pink and greenish scales between eyes and antennal bases. Cheeks under the eyes with vertical greenish spots. Labrum covered with numerous setae. Head black, finely punctate and shiny. Three basal segments of antennae black, shiny and pubescent, without metallic luster. Fourth antennomere testaceous, with white pubescence, but remaining segments testaceous and tomentose. Pronotum convex, black and shiny, laterally with greenish and orange scales, emarginated with narrow linear greenish scales. Disc of pronotum smooth, without scales. Scutellum rounded and tomentose apically. Elytra convex, black and shiny, with transverse wide bandforming spots. Two small circular spots are located basally on either side of scutellum. Remaining three transverse bandforming spots are wide, orange, emarginated with narrow, linear, yellow and greenish scales. Between spots there are black smooth transverse areas. Width of elytra at shoulders: 4.4 mm. Largest width of elytra behind the middle: 4.7 mm. Elytra finely punctate. In basal part with sparse and coarse punctuation and tomentose. Meso, meta-epimera and sternites with lateral spots. Femora with greenish apical spots and more or less tomentose. Surface of tarsomeres covered with grey tomentum. Tibia and tarsi apically covered with numerous setae.

Aedeagus (Fig. 4B).

Differential diagnosis. This new species differs from the other species by the characteristic pattern of the body surface and is similar to *D. metallica* Breuning, 1938 (Fig. 3C), however, the form of the pronotal disc, the shape of the pre-scutellar spots on the elytra and the form of genitalia are different.

Mimicry. At present we have no data about the mimicry of this species. Probably, this species mimics *Pachyrrhynchus orbifer* Waterh. (Coleoptera: Curculionidae) (Fig. 5D)

Etymology. This species is named after my colleague and friend, the Polish carabidologist Jaroslaw Sklodowski (Warsaw University of Life Sciences (SGGW), Warsaw, Poland) in appreciation of cooperation.

***Doliops stradinsi* sp. n.**
(Fig. 3F, L)

Type material. Holotype: Male. Philippines: N Luzon, Mountain Province, 09.2013, local collector leg. **Paratypes:** Female. Philippines: N Luzon, Ifugao, 08.2013, local collector leg. Female. Philippines: N Luzon, Ifugao, 09.2013, local collector leg. Female. Philippines: C Visayas, Negros, 09.2013, local collector leg.

Description. Body black and shiny, with slight metallic luster. Surface with spots of pale pink scales. Length: 12.0 – 14.0 mm, Width: 5.4 – 5.5 mm

Head with longitudinal band of pale pink scales between the eyes and antennal bases. Cheeks beneath eyes have small, pale, pink spots. Labrum covered with numerous setae. Head black, finely punctate, sometimes with fine microsculpture. Three basal segments of antennae black, with slight metallic luster and pubescence, fourth segment testaceous basally, with white lustrous pubescence, but remaining segments testaceous and tomentose. Pronotum convex, black, shiny, on both sides with pale, pink, lustrous spot resembling inverted umbrella, at base and/or at front with small, pale, pink spot. Scutellum rounded and tomentose apically. Elytra very convex, black, and shiny, with nine pale pink circles, five of which are dorsally and four laterally located. Apical spots confluent, but distinct. Some dorsal and/or lateral circles closer together. Second circle in dorsal row slightly transverse. Laterally, below the shoulder there is a small rudimentary

spot. Width of elytra at shoulders: 3.8 - 4.6 mm. Largest width of elytra behind middle: 5.4 - 6.6 mm. Elytra finely punctate with sparse and coarse punctures and tomentose in basal part. Meso, meta-epimera and sternites with lateral spots covered with pale pink or greenish scales. Femora with small, pale, pink or greenish spot at apex and more or less tomentose. Surface of the tarsomeres covered with grey, iridescent tomentum. Tibia and tarsi apically covered with numerous setae.

Aedeagus (Fig. 4H).

Differential diagnosis. This new species differs from others which have a characteristically patterned body surface. The new species is somewhat similar to *D. dupaxi* Vives (Figs. 3E, 4J), however, the surface pattern and aedeagus are different.

Mimicry. *D. stradinsi* sp. n. mimics the weevil *Pachyrrhynchus argus* Pascoe, 1871 (Coleoptera: Curculionidae) (Fig. 5E, F), with which it co-exists.

Etymology. This species is named after the prominent Latvian scientist and academician, Jānis Stradiņš, in great respect, gratitude and due to his 80-year birthday.

***Doliops valainisi* sp. n.**
(Fig. 3G, M)
Type material. Holotype: Male. Philippines: Mindanao, Bukidnon, 08.2013, local collector leg.) Legs and antennae of holotype damaged; only two antennomeres have been preserved.

Description. Body black, very shiny, with bright coppery luster. Surface with pale, pink scales, arranged in longitudinal lines. Length: 12.0 mm, Width: 4.8 mm.

Head with longitudinal band of pale, pink scales between eyes and antennal bases. Cheeks without spots, only with some sparse pale pink scales. Labrum pubescent. Head with very shiny background, finely punctate, and sometimes with fine microsculpture and pubescence. Antennae black, with bright metallic luster and tomentose. Pronotum convex, black, very shiny, surrounded by a wide band of pale, pink scales. Disc of the pronotum very shiny with sparse punctures. Scutellum rounded and tomentose in apical part. Elytra very convex, black, and very shiny, on each side with five longitudinal rows of pale pink scales. These rows are doubled in the middle of the elytra, as a consequence of which the number of lines seems greater. The first and last rows extended to the elytral apex. The lateral row starts behind the shoulders. Width of elytra at shoulders: 3.8 - 4.6 mm. Greatest width of elytra behind the middle: 5.4 - 6.6 mm. Background of elytra finely punctate. On the elytra, there are longitudinal rows of coarse punctures, basally sparse and pubescent. Meso, meta-epimera and sternites with lateral spots, covered with pale pink scales. Legs of holotype are damaged. Femora without small apical punctures, more or less tomentose and very shiny. Only right foreleg of holotype is undamaged. Surface of the tarsomeres pubescent. Tibia and tarsus apically covered with numerous setae.

Aedeagus (Fig. 4I).

Diferential diagnosis. This new species differs from the other species by the characteristic pattern of the body surface. In the genus *Doliops* Waterh., there is currently no other known species in which the elytra possess longitudinal lines.

Mimicry. *D. valainisi* sp. n. mimics the weevil *Pachyrrhynchus sp.* (Coleoptera: Curculionidae) (Fig. 5K, L), with which it coexists.

Etymology. This species is named after my colleague and friend, the Latvian carabidologist Uldis Valainis (Daugavpils University, Institute of Systematic Biology, Coleopterological Research Center, Ilgas, Latvia) in appreciation of cooperation.

***Doliops vivesi* sp. n.**
(Fig. 3H, N)

Type material. Holotype: Female. Philippines: N Luzon, Mountain Province, 10.2013, local

collector leg.

Description. Body black, shiny, with slight metallic luster. Surface with blue longitudinal band dorsally and laterally. Length: 12.0 mm, Width: 5.0 mm.

Head short and narrow, with a longitudinal band of blue scales medially on the frons, between the eyes and antennal bases. Cheeks beneath eyes on both sides of head with blue spots. Labrum covered with numerous dark setae. Head black, shiny, finely punctate. Three basal segments of antennae black, with slight metallic luster and pubescence, fourth segment testaceous, with white lustrous pubescence. Remaining segments testaceous and tomentose. Pronotum convex, black and shiny. Side along the margin with broad stripe of bluish scales without additional spots in basal part and with small blue spot located centrally in the anterior pronotal margin. Scutellum black, hardly shiny, rounded and tomentose apically. Elytra short, convex, black, shiny, with blue longitudinal bands located dorsally and laterally. Dorsal and lateral bands are apically convergent. Elytra behind the shoulders on both sides with flat raised nodules. Width of elytra at the shoulders: 4.1 mm. The greatest width of elytra behind the middle: 5.0 mm. Elytra finely punctate. In basal part Elytra basally with sparse and coarse punctures and pubescence. Meso, meta-epimera and sternites with lateral spots, covered with bluish scales. Femora with small, bluish, apical spot and more or less tomentose. Surface of tarsomeres covered with grey, iridescent tomentum. Tibia and tarsi apically covered with numerous setae.

Diferential diagnosis. This new species differs from the others by the characteristic pattern of the body surface. Currently, there is no other known species in this genus with a blue longitudinal band on its dorsal surface.

Mimicry. *D. vivesi* sp. n. mimics the weevil *Pachyrrhynchus modestior* Behrens, 1887 (Coleoptera: Curculionidae) (Fig. 5I, J), with which it coexists.

Etymology. This species is named after the Spanish cerambycidologist, Eduard Vives (Terrassa, Barcelona, Spain) for his great contribution to the research of the genus *Doliops* Waterh.

Faunistic records

***Doliops animula* Kriesche, 1940** – Philippines: N Luzon, Mountain Province, 10.2013 (2 specimens).

***Doliops cuellari* Vives, 2012** – Philippines: Mindanao, Bukidnon, 10.-11.2013 (4 specimen).

***Doliops curculionoides* Waterhouse, 1841** – Philippines: Mindanao, Bukidnon, 08.2013 (1 specimen), Surigao del sur, 06.2013 (1 specimen), 07.2013 (1 specimen); Luzon, Eastern Visayas, Samar, Eastern Samar, 08.2013. (5 specimens), 09.2013 (4 specimens).

***Doliops duodecimpunctata* Heller, 1923** – Philippines: Luzon, Nueva Viscaya, Kayapa, 08.2013(2 specimens); Mindoro, Mt. Halcon, 08.2013 (7 specimens), 09.2013 (10 specimens), 11.2013 (5 specimens).

***Doliops dupaxi* Vives, 2013** – Philippines: Luzon, Nueva Viscaya, 08.2013 (1 specimen).

***Doliops edithae* Vives, 2009** – Philippines: Mindanao, Buda, Bukidnon, 03.2012 (1 specimen), Mt. Apo, N Cotabato, 03.2013 (1 specimen), 05.2013 (1 specimen), Mt. Parker, 08.2013 (3 specimens), 09.2013 (1 specimen), 11.2013 (1 specimen).

***Doliops elcanoi* Vives, 2011** – Philippines: Luzon, Nueva Viscaya, Belance, 06.2013 (1 specimen), 07.2013 (1 specimen), 08.2013 (2 specimens), Dupax del sur, 06.2013 (1 specimens), 07.2013 (1 specimen), 09.2013 (1 specimen), Mountain Province, 09.2013 (1 specimen).

***Doliops emmanueli* Vives, 2009** – Philippines: Luzon, Aurora, Dikapinisian, 09.2012 (1 specimen), Nueva Viscaya, Belance, 06.2013 (4 specimens), 08.2013 (2 specimens), Kasibu, 07.2013 (1 specimen).

***Doliops geometrica* Waterhouse, 1842** – Phil-

ippines: Mindanao, Surigao del sur, 07.2013 (2 specimens), Eastern Visayas, Samar, 07.2013 (1 specimen), 08.2013 (4 specimens), 09.2013 (1 specimen), 10. 2013 (2 specimens).

***Doliops halconensis* Vives, 2012** – Philippines: Mindoro, Mt. Halcon, 06.2013 (1 specimen), 07.2013 (3 specimens), 08.2013 (3 specimens), 09.2013 (8 specimens), 10.2013 (1 specimen), 10.2013 (2 specimens).

***Doliops helleri* Vives, 2009** – Philippines: Luzon, Sierra Madre, Quirino, 11.2011 (1 specimen), 08.2013 (1 specimen), 10.2013 (1 specimen).

***Doliops metallica* Breuning, 1938** – Philippines: Luzon, Aurora, Dikapinisan, 01.2013 (1 specimen), 11.2003 (1 specimen), Nueva Viscaya, Aritao, 06.2013 (1 specimen), 08.2013 (1 specimen), Balance, 06.2013 (1 specimen), Dupax del sur, 07.2013 (1 specimen), 09.2013 (1 specimen), Isabela, 11.2013 (1 specimen), Kasibu, 06.2013 (1 specimen), 07.2013 (3 specimens), 09.2013 (2 specimens), Nueva Viscaya, 06.2013 (3 specimens).

***Doliops multifasciata* Schultze, 1922** – Philippines: Mindanao, 11.2013 (1 specimen).

***Doliops octomaculata* Breuning, 1938** – Philippines: Luzon, Cagayan, 01.2013 (1 specimen), 10.2013 (1 specimen), Sierra Madre, Isabela, 09.2013 (1 specimen).

***Doliops pachyrrhynchoides* Heller, 1916** – Philippines: Luzon, Dingalan, Aurora, 08.2013 (1 specimen).

***Doliops pinedai* Vives, 2012** – Philippines: Luzon, Aurora, Dikapinisan, 01.2013 (5 specimens), Nueva Viscaya, Aritao, 07.2013 (1 specimen), 08.2013 (2 specimens).

***Doliops taylori* Vives, 2013** – Philippines: Luzon, Nueva Viscaya, Ambaguio, 06.2013 (1 specimen), 07.2013 (3 specimens), 08.2013 (1 specimen), 09.2013 (2 specimens), Aritao, 08.2013 (3 specimens), Dupax del sur, 09.2013 (1 specimen).

The Check-List of the genus *Doliops* Waterhause, 1841

1. *Doliops anichtchenkoi* Barševskis, 2013 sp. n. – Luzon, Mindoro
2. *Doliops animula* Kriesche, 1940 – Luzon
3. *Doliops bakeri* Heller, 1924 – Negros
4. *Doliops basilana* Heller, 1923 – Basilan
5. *Doliops bitriangularis* Breuning, 1947 – Luzon
6. *Doliops costatus* Vives, 2012 – Mindanao
7. *Doliops cuellari* Vives, 2012 – Mindanao
8. *Doliops curculionoides* Waterhouse, 1841 – Luzon, Masbate, Mindanao, Samar
9. *Doliops duodecimpunctata* Heller, 1923 – Luzon, Mindonao, Mindoro
10. *Doliops dupaxi* Vives, 2013 – Luzon
11. *Doliops edithae* Vives, 2009 – Mindanao
12. *Doliops elcanoi* Vives, 2011 – Luzon
13. *Doliops emmanueli* Vives, 2009 – Luzon
14. *Doliops frosti* Schultze, 1923 – Samar
15. *Doliops geometrica* Waterhouse, 1842 – Luzon, Mindanao, Samar
16. *Doliops gertrudis* Hudepohl, 1990 – Negros
17. *Doliops gutowskii* Barševskis, 2013 sp. n. - Mindonao
18. *Doliops halconensis* Vives, 2012 – Mindoro
19. *Doliops helleri* Vives, 2009 – Luzon
20. *Doliops imitator* Schultze, 1918 – Luzon
21. *Doliops ismaeli* Vives, 2005 – Babuyan
22. *Doliops johnvictori* Vives, 2009 – Luzon
23. *Doliops ligata* Schwarzer, 1929 – Luzon
24. *Doliops magnifica* (Heller, 1923) – Luzon
25. *Doliops metallica* Breuning, 1938 – Luzon
26. *Doliops multifasciata* Schultze, 1922 – Mindanao
27. *Doliops octomaculata* Breuning, 1938 – Luzon
28 *Doliops pachyrrhynchoides* Heller, 1916 – Luzon
29. *Doliops pinedai* Vives, 2012 – Luzon
30. *Doliops savenkovi* Barševskis, 2013 sp. n. – Luzon
31. *Doliops shavrini* Barševskis, 2013 sp. n. – Luzon
32. *Doliops siargaoensis* Schultze, 1919 – Siargao
33. *Doliops similis* Miwa & Mitono, 1933 – Taiwan

- *Doliops similis similis* Miwa & Mitono, 1933
- *Doliops similis cheni* Nakamura, 1974

34. *Doliops sklodowskii* Barševskis, 2013 sp. n. – Luzon
35. *Doliops stradinsi* Barševskis, 2013 sp. n. – Luzon
36. *Doliops taylori* Vives, 2013 – Luzon
37. *Doliops transverselineata* Breuning, 1947 – Philippines
38. *Doliops urdanetai* Vives, 2011 – Luzon
39. *Doliops valainisi* Barševskis, 2013 sp. n. – Mindanao
40. *Doliops villalobosi* Heller, 1926 – Samar
41. *Doliops viridisignata* Breuning, 1947 - Luzon
42. *Doliops vivesi* Barševskis, 2013 sp. n. – Luzon

DISCUSSION

In the present paper, I present and describe eight new species of the genus *Doliops* Waterh, which testifies to the currently inadequate state of knowledge of this genus. Some of the species described differ from others in the patterns of the surface, colour of the background and some other characters and there is no difficulty to identify these species in nature. However, this genus also includes a number of cryptic species which require examination of the male genitalia for precise determination. None of the authors who have described the species of the genus *Doliops* Waterh. previously, have used the structure of the male genitalia as an identification character. The present paper is the first study in which preparation of male genitalia has been carried out and the peculiarities of their structure have been used in the identification of the species.

The most difficult species to identify turned out to be the species which resemble *D. curculionoides*. Previously it has been considered that *D. curculionoides* Waterh. has a very variable habitus,but this study has shown that *D. curculionoides* Waterh. actually constitutes a complex of several closely related species, which differ from each other in both the number of spots on the elytra, as well as their position and shape. For the identification of these species, also the background colour of the elytra and the presence or absence of raised nodules in the basal part of the elytra, behind the shoulders, are also of great significance. *D. anichtchenkoi* sp. n. and *D. animula* Kriesche possess such projections. Therefore we might conclude that they do not belong to the group of species *D. curculionoides* at all. Also the structure of the male genitalia supports this conclusion. In *D. anichtchenkoi* sp. n., the lamella of the aedeagus is not inclined upward, as it is in other species of this group, apart from *D. animula*, whose genitalia have not been studied, since all the currently available specimens are females. I consider that due to these considerations also *D. helleri* Vives (Fig. 3A, I), *D. emmanueli* Vives (Fig. 2H, O) and some other species should not be included in the group of species of *D. curculionoides* Waterh. In all of these, the basal part of the elytra behind the shoulders have nodules and the shape of the aedeagus is different from that of *D. curculionoides* Waterh. It is probable that *D. anichtchenkoi* sp. n. mimics *D. curculionoides* Waterh., though the present knowledge of this genus does not allow for scientifically based conclusions on the phylogenesis of this genus.
For the identification of the closely related species within the *D. curculionoides* (s.str.) species group, I propose the following key:

1 (4) Elytra behind shoulders with raised nodules.

2(3) Elytra with bright copper luster, each with seven small pale pink spots. Apical spot comma-shaped (Fig. 2J). ……..……..……. *D. anichtchenkoi* sp. n.

3(2) Elytra black, each elytron with six large green, blue or navy blue spots. Apical spot V–shaped (Fig. 2A, B, I) …….……. *D. animula* Kriesche

4(1) Elytra behind shoulders flat, without hump-shaped projections.

5(8) Elytra with four spots dorsally. Lateral pronotal margins with a stripe of pale scales and in anterior part with or without round spot.

6(7) Elytra with seven pale spots on each side. Lateral pronotal margins with stripe of pale scales and round spot in anterior part with. Third antennomere testaceous in basal part.....…… ..…… ……..……. *D. curculionoides* Waterh.

7(6) Elytra with six pale spots. Lateral pronotal margins with stripe of pink iridescent scales, without other spots. Third antennomere black.…….....…….…… *D. gutowskii* sp. n.

8(5) Elytra with three spots dorsally. Lateral pronotal margins with stripe of pale scales and in basal part with round or elongate spot.

9(10) Background of elytra black, Elytra with six pale spots. Apical spot oval, not circular …… ……..……. *D. duodecimpunctata* Heller

10(9) Background of elytra with bright metallic luster. Elytra with five pale spots. Apical spot in form of ring, which may be closed or divided into two parts ……..…… *D.shavrini* sp. n.

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REFERENCES

Cabigas E. 2010.A Folio of genus *Pachyrrhynchus* Germar model and its mimics. Salagubang, 1-51.

Vives E. 2005. New or interesting Cerambycidae from the Philippines (Part I) (Coleoptera, Cerambycidae). Les Cahiers Magellanes, 49: 1 – 13.

Vives E. 2009a. New or interesting Cerambycidae from the Philippines (Part II) (Coleoptera, Cerambycidae). Les Cahiers Magellanes, 88: 1 – 25.

Vives E. 2009b. New or interesting Cerambycidae from the Philippines (Part III) (Coleoptera, Cerambycidae). Les Cahiers Magellanes, 105: 1 – 20.

Vives E. 2011. New or interesting Cerambycidae from the Philippines (Part IV) (Coleoptera, Cerambycidae). Les Cahiers Magellanes, NS, 3: 9 – 19.

Vives E. 2012a. New or interesting Cerambycidae from the Philippines (Part V) (Coleoptera, Cerambycidae). Les Cahiers Magellanes, NS, 7: 70 – 82.

Vives E. 2012b. New or interesting Cerambycidae from the Philippines (Part VI) (Coleoptera, Cerambycidae). Les Cahiers Magellanes, NS, 9: 34 – 46.

Vives E. 2013. New or interesting Cerambycidae from the Philippines (Part VII) (Coleoptera, Cerambycidae). Les Cahiers Magellanes, NS, 11: 62 – 75.

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