Russian Entomol. J. 31(2): 118–123

A new species of the genus *Neocollyris* W. Horn, 1901, subgenus *Stenocollyris* Naviaux, 1994, from southern Vietnam (Coleoptera: Cicindelidae)

Новый вид рода *Neocollyris* W. Horn, 1901, подрод *Stenocollyris* Naviaux, 1994, из Южного Вьетнама (Coleoptera: Cicindelidae)

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KEY WORDS. Tiger beetles, Collyridini, taxonomy, Lam Dong Province.

КЛЮЧЕВЫЕ СЛОВА. Жуки-скакуны, Collyridini, таксономия, провинция Лам Донг.

ABSTRACT. *Neocollyris* (*Stenocollyris*) *fedorenkoi* **sp.n.** is described from Lam Dong Province, southern Vietnam. The new species is clearly distinguished from the especially similar *N.* (S.) *compressicollis* (W. Horn, 1909) and *N.* (*S.*) *rubens* (Bates, 1878) by the shape of the labrum, the more narrowly spaced eyes, the thin pronotum, the sculpture of narrower elytra, as well as the shape of the aedeagus and the large and spoon-shaped sclerite of the internal sack.

РЕЗЮМЕ. Из южновьетнамской провинции Лам Донг описан *Neocollyris* (*Stenocollyris*) *fedorenkoi* **sp.n.** От близких *N.* (*S.*) *compressicollis* (W. Horn, 1909) и *N.* (*S.*) *rubens* (Bates, 1878) новый вид явственно отличается формой верхней губы, уже расставленными глазами, узкой переднеспинкой, скульптурой более узких надкрылий, а также формой эдеагуса и крупным ложковидным склеритом внутреннего мешка.

Introduction

Within the genus *Neocollyris* W. Horn, 1901, the subgenus *Stenocollyris* Naviaux, 1994 was established by Naviaux [1995a] to initially include 22 species, among these three with two subspecies each [Naviaux, 1995a–b]. Later, *N.* (*S.*) *pseudosignata* (W. Horn, 1902) was transferred to the subgenus *Neocollyris* W. Horn, 1901, while both *N.* (*S.*) *vannideki* Naviaux, 1992 and *N.* (*S.*) *flava* Naviaux, 1995 to the subgenus *Mesocollyris* Naviaux, 1995 [Naviaux, 2004]. Over the following years, only four species have been described: one from Ceylon [Naviaux, 1995c], two from Sumatra [Naviaux, 2004; Dheurle, 2016], and one from Borneo [Dheurle, 2016]. As a result, 23 species presently belong to *Stenocollyris*, more than 60% of which occur in the Greater Sunda Islands [Wiesner, 2020], and only three species in Vietnam [Wiesner et al., 2017].

The present paper puts on record still one more, new species of *Stenocollyris* found in southern Vietnam. Its distinctions from the most similar species are also discussed.

Material and methods

The specimens used in this study are housed both in the museum and private collections, as follows: Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia (ZIN); Moscow State Pedagogical University, Moscow, Russia (MSPU); A.N. Severtsov Institute of Ecology & Evolution of the Russian Academy of Sciences, Moscow, Russia (SIEE); collection of Alexander Napolov, Riga-Zoo, Riga, Latvia (cAN); collection of Pavel Udovichenko, Moscow, Russia (cPU).

Measurements were taken as follows: TL — total body length without labrum (from the anterior margin of the clypeus to the apex of the elytra); HL — length of

How to cite this article: Matalin A.V. 2022. A new species of the genus *Neocollyris* W. Horn, 1901, subgenus *Stenocollyris* Naviaux, 1994, from southern Vietnam (Coleoptera: Cicindelidae) // Russian Entomol. J. Vol.31. No.2. P.118–123. doi: 10.15298/rusentj.31.2.04

head (from the anterior margin of the frons to the anterior margin of the neck); HW — width of head (with eyes); AS — distance between anterior supraorbital setae; PS — distance between posterior supraorbital setae; LL — length of labrum with apical teeth (from the anterior margin of the clypeus to the apex of longer teeth); LW — width of labrum (in the widest place); PL — length of pronotum (along the midline); PCL — length of pronotum column (along the midline); PW — width of pronotum (in the widest place excluding the basal lobe); EL — length of elytra (from the base of the scutellum to the apex); EW — width of the elytra (in the widest place); SW — width of shoulders (in the widest place); AL — length of the aedeagus (from the base to the apex).

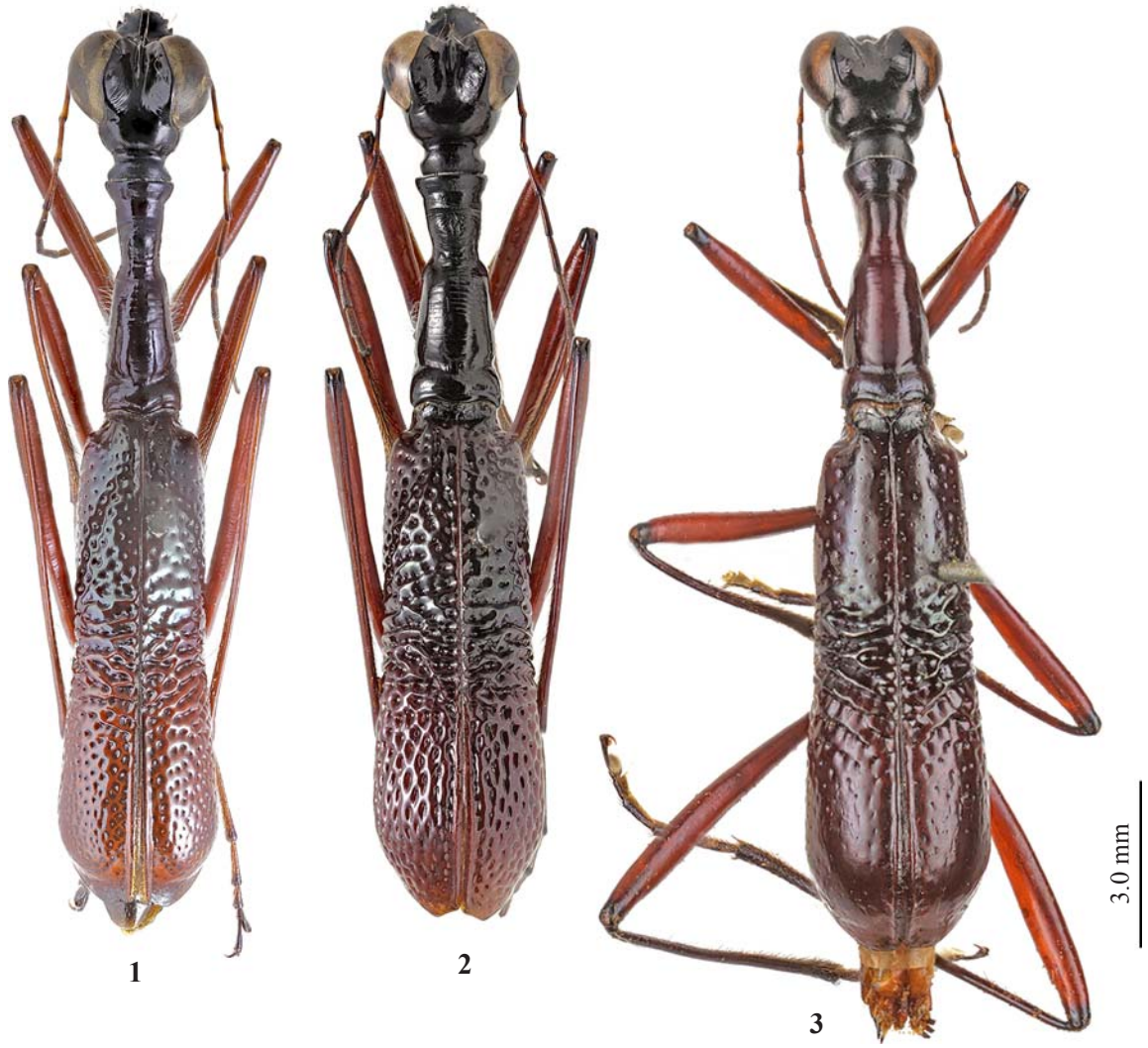
Photographs of the habitus and individual structural details were taken using a Canon EOS 40D camera with a MP-E 65 mm macro lens. The images of the maxillary and labial palps were taken with a Canon EOS 6D camera attached to a Carl Zeiss AXIO Scope.A1 microscope. All pictures were processed using Zerene Stacker software.

Taxonomy

Neocollyris (*Stenocollyris*) *fedorenkoi* Matalin, **sp.n.**
Figs 1, 4, 6, 8, 10, 16, 21, 27.

TYPE MATERIAL. Holotype ♂ — Vietnam, Lam Dong Prov., Bi Doup-Nui Ba Reserve, env. Long Lanh, at light, 12°10′44″N / 108°40′44″E, h = 1400–1600 m, 27–28.III.2008, leg. D. Fedorenko (ZIN).

COMPARATIVE MATERIAL. *Neocollyris* (*Stenocollyris*) *compressicollis* (W. Horn, 1909): 1♀ — Vietnam, Bac Kan Province, Cho Moi District, Quang Chu, 15–23.04.1986, leg. A. Gorochov (ZIN); 1♂1♀ — Vietnam, Lao Cai Province, Mount Fan-Si-Pan, h = 2300 m, 20.05.1994, leg. V. Sinjaev, A. Simonov (cPU); 1♀ — Vietnam, Phu Tho Province, Thanh Son District, Xuan Son National



Figs 1–3. *Neocollyris (Stenocollyris*) spp., habitus, dorsal view: 1 — *N.* (*S.*) *fedorenkoi* **sp. n.**, holotype; 2 — *N.* (*S.*) *compressicollis*, Kon Ka Kinh National Park, Gia Lai Province; 3 — *N.* (*S.*) *rubens* (India, Assam, Margherita, photo of Peter Schüle from the web-site https://carabidae.org/); 1–2 — males; 3 — female.

Рис. 1–3. *Neocollyris (Stenocollyris*) spp., внешний вид, сверху: 1 — *N.* (*S.*) *fedorenkoi* **sp. n.**, голотип; 2 — *N.* (*S.*) *compressicollis*, национальный парк Кон Ка Кинь, провинция Зялай; 3 — *N.* (*S.*) *rubens* (Индия, Ассам, Маграрита, фотография Петера Шуле с сайта https://carabidae.org/); 1–2 — самцы; 3 — самка.

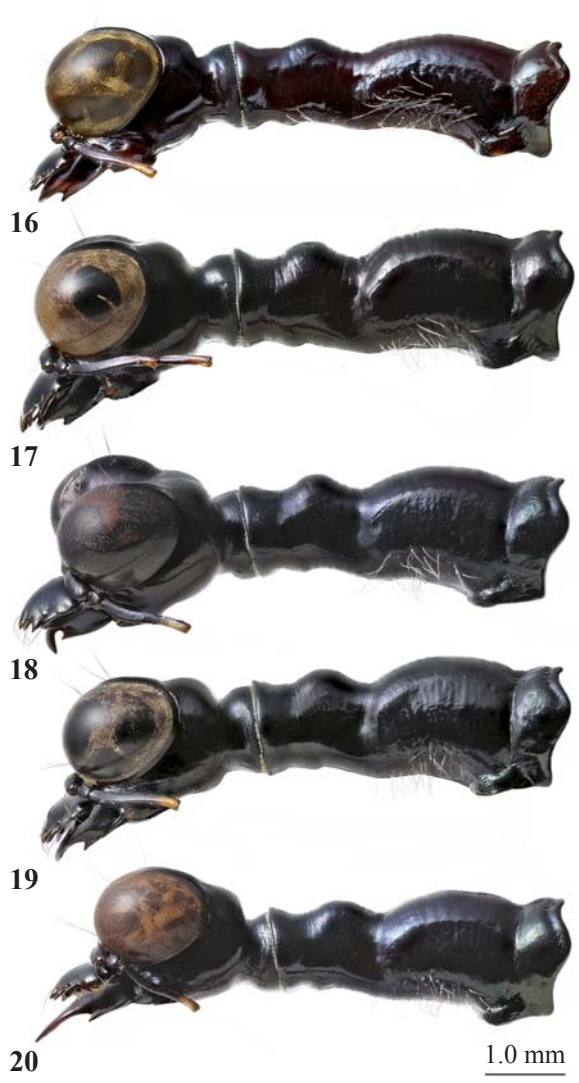
Park, 21°08′20″N 104°56′15″E, h = 300–400 m, 18.X.2014, leg. T.V. Galinskaya (MSPU), 1♂ — Vietnam, Phu Tho Province, ~90 km W of Ha Noi City, Xuan Son National Park, 21°07′01″N 104°56′39″E, h = 400–700 m, 6–15.XI.2014, leg. D. Fedorenko (MSPU), 1♀ — Vietnam, Thai Nguyen Province, 50 km NE of Thai Nguyen, h = 300 m, 15.6.1962, leg. O. Kabakov (ZIN); 3♂♂ — Vietnam, Tuyen Quang Province, 160 km NNW of Ha Noi, NE of Na Hang, 150–200 m, 9–14.6.1996, leg. A. Napolov, I. Roma (MSPU, cAN); 1♂ — Vietnam, Hoa Binh Province, Mai Chau District, Ha Son Binh forest, 4.11.1990, leg. S. Belokobylskij (ZIN); 3♂♂4♀♀ — Vietnam, Hoa Binh Province, Mai Chau District, Pa Co, Xa Linh, 20°44′N 104°55′E, h = 1120 m, 23.4.2002, leg. S. Belokobylskij (ZIN); 1♀ — Vietnam, Vinh Phuc Province, Tam Dao, h = 1000 m, 12.11.1990, leg. S. Belokobylskij (ZIN); 1♀ — Vietnam, Vinh Phuc Province, Tam Dao, h = 1600 m, 17.07.1993, leg. V. Sinjaev, A. Simonov (cPU); 2♂♂3♀♀ — Vietnam, Vinh Phuc Province, Tam Dao, 04.1995, leg. V. Sinjaev (MSPU, cPU); 1♀ — Vietnam, Kon Tum Province, Kon Plong District, near Ngoc Boc I Mountain, 14°44′N 108°18′E, h = 1100–1200 m, leg. D. Fedorenko, 8–23.IV.2014 (SIEE); 1♂ — Vietnam, Gia Lai Province, ~ 40 km NEE of Pleiku, Kon Ka Kinh National Park, 14°12′57″N 108°19′19″E, h = 1200 m, 9–22.V.2016, leg. D. Fedorenko (SIEE).

Neocollyris (*Stenocollyris*) *rubens* (Bates, 1878): 1♀ — Vietnam, Lao Cai Province, near Sa Pa, h = 2000 m, 4.6.1963, leg. O. Kabakov (ZIN); 1♀ — Assam, Margherita (digital photo of Peter Schüle from the web-site https://carabidae.org/).

DESCRIPTION. TL — 15.6 mm. Head moderately large, slightly elongate, HW/HL — 1.14, smooth and glabrous, with very fine and weakly visible isodiametric microsculpture on occiput; dark brown with light blue lustre, lateral sides of clypeus and frons, as well as anterior margin of genae red-brown; clypeus with two long setae; frons narrow, especially so in anterior third, frontal grooves deep, virtually parallel except for being slightly extended in the centre, with a longitudinal central carina between them; temples slightly convergent towards base; eyes large and protruding; each supra-orbital plate with two long setae and six shallow sparse striae behind posterior seta, PS/AS — 1.52 (Figs 1, 10, 16). Labrum relatively long, transverse, LW/LL — 1.31; shiny brown-black with light bluish lustre; with seven long submarginal setae (right laterobasal seta abnormal in being reduced) and seven dark brown apical teeth: three central teeth with wide bases and rounded apices, a pair of large and sharp latero-apical teeth, as well as a pair of laterobasal teeth (Fig. 4). Mandibles brown with dark brown apices and molars. Maxillary (Fig. 6) and labial (Fig. 8) palps entirely brown-black except for very narrow brown apical margins of palpomeres 3 and 4, as well as the base of labial palpomere 1, with straight and truncate apices of ultimate palpomeres. Antennae relatively long, clearly projected towards base of pronotum; antennomere 3 the longest, distinctly flattened, with a thin and sharp anterior margin; scape, pedicel and basal 3/4 of antennomere 3 dark brown with light violet tinge;

Figs 4–15. *Neocollyris (Stenocollyris*) spp., details: 4–5 — labrum; 6–7 — left maxillary palps; 8–9 — left labial palps; 10–15 — head and pronotum, dorsal view; 4, 6, 8, 10 — *N.* (*S.*) *fedorenkoi* **sp. n.**, holotype; 5, 7, 9, 11–14 — *N.* (*S.*) *compressicollis* (specimens from: 7, 9, 11 — Kon Ka Kinh National Park, Gia Lai Province; 12 — Ha Son Binh forest, Hoa Binh Province; 13 — Xuan Son National Park, Phu Tho Province; 5, 14 — env. of Na Hang, Tuyen Quang Province); 15 — *N.* (*S.*) *rubens* (India, Assam, Margherita, photo of Peter Schüle from the web-site https://carabidae.org/); 4–14 — males; 15 — female.

Рис. 4–15. *Neocollyris (Stenocollyris*) spp., детали строения: 4–5 — верхняя губа; 6–7 — левый нижнечелюстной щупик; 8–9 — левый нижнегубной щупик; 10–15 — голова и переднеспинка, сверху; 4, 6, 8, 10 — *N.* (*S.*) *fedorenkoi* **sp. n.**, голотип; 5, 7, 9, 11–14 — *N.* (*S.*) *compressicollis* (экземпляры из: 7, 9, 11 — национального парка Кон Ка Кинь, провинция Зялай; 12 — леса Хасонбинь, провинция Хоабинь; 13 — национального парка Сюаншон, провинция Футхо; 5, 14 — окрестностей На Ханг, провинция Туенкуанг); 15 — *N.* (*S.*) *rubens* (Индия, Ассам, Маграрита, фотография Петера Шуле с сайта https://carabidae.org/); 4–14 — самцы; 15 — самка.



Figs 16–20. *Neocollyris (Stenocollyris*) spp., males, head and pronotum, left lateral view: 16 — *N.* (*S.*) *fedorenkoi* **sp. n.**, holotype; 17–20 — *N.* (*S.*) *compressicollis* (specimens from: 17 — Kon Ka Kinh National Park, Gia Lai Province; 18 — Ha Son Binh forest, Hoa Binh Province; 19 — Xuan Son National Park, Phu Tho Province; 20 — env. of Na Hang, Tuyen Quang Province).

Рис. 16–20. *Neocollyris (Stenocollyris*) spp., самцы, голова и переднеспинка, слева: 16 — *N.* (*S.*) *fedorenkoi* **sp. n.**, голотип; 17–20 — *N.* (*S.*) *compressicollis* (экземпляры из: 17 — национального парка Кон Ка Кинь провинция Зялай; 18 — леса Хасонбинь, провинция Хоабинь; 19 — национального парка Сюаншон, провинция Футхо; 20 — окрестностей На Ханг, провинция Туенкуанг).

scape with a single apical seta, antennomeres 4 and 5 yellow-brown except for dark brown apices, with bluish tinge; antennomeres 6–11 dark brown except for yellow-brown bases, antennomeres 5–7 finely pubescent on ventral face, antennomeres 8–11 entirely and finely pubescent.

Pronotum thin and long, TL/PL — 3.63, slightly expanded in basal third, PL/PW — 3.31 (Fig. 10), with a relatively long collar PL/PCL — 2.69, as well as a small rounded hump and a wide deep impression in anterior third (Fig. 16); dark brown with light bluish lustre, glabrous with sparse, shallow, transverse wrinkles on disc; anterior and posterior sulci wide and shallow, anterior one clearly wider. Prothorax dark red-brown with light bluish tinge, prosternum and basal portion of pro-episternum sparsely pubescent with long, soft, white hairs (Fig. 16). Meso- and metathorax dark brown, mesosternum densely pubescent with long, soft, white hairs; metasternum clearly inflated, entirely covered with thin isodiametric microsculpture, with two wide central rows of very short, white, semi-decumbent setae and a small group of soft, decumbent hairs at outer angles; metepisternum with a deep, longitudinal, central groove and very sparse, thin, white hairs all along.

Legs very long and gracile; fore- and mid-coxae dark brown, sparsely pubescent with soft, white hairs on anterior face, hind coxae red-brown, with a long apical seta each, densely pubescent, especially so on external sides with relatively long, soft, white hairs; all trochanters yellow-brown with darker anterior margins, fore- and mid- ones with a long apical seta each; all femora and tibiae reddish brown with indistinct bluish lustre; all tibiae densely pubescent with whitish setae over ventral face; tarsomeres 1–3 of all legs reddish-brown with dark brown blue-tinged apices, tarsomeres 4 and 5, as well as claws of all legs dark brown with metallic blue lustre.

Abdominal sternites dark brown, clearly reddish brown laterally, entirely covered with thin isodiametric microsculpture, anterior margins of sternites 4–6 each with a central pair of widely spaced long setae and 6–8 very short setae between them; sternite 7 with wide central notch and numerous very short setae along anterior margin.

Elytra long, sub-parallel in basal third, then gradually expanded towards apex, EL/EW — 3.0, with well-marked shoulders, EW/SW — 1.43; dark brown in basal half and reddish brown in apical half; covered with very thin isodiametric microsculpture; immaculate; scutellum very small; suture with slightly protruding edges only in apical quarter and a very short, wide, blunt spine; epipleura dark brown; macrosculpture formed by small, sparse, shallow and rounded pits in basal third; six irregular, deep, smooth-edged, transverse folds in the middle, and relatively dense, small, shallow, rounded dots in apical third, these latter being virtually absent from apices; apical margins oblique (Fig. 21).

Aedeagus relatively long, AL — 3.8 mm; EL/AL — 2.37; with a rounded basal portion and a thin, long, slightly incurved, sharp apex; internal sack with a long flagellum and a large spoon-shaped sclerite (Fig. 27).

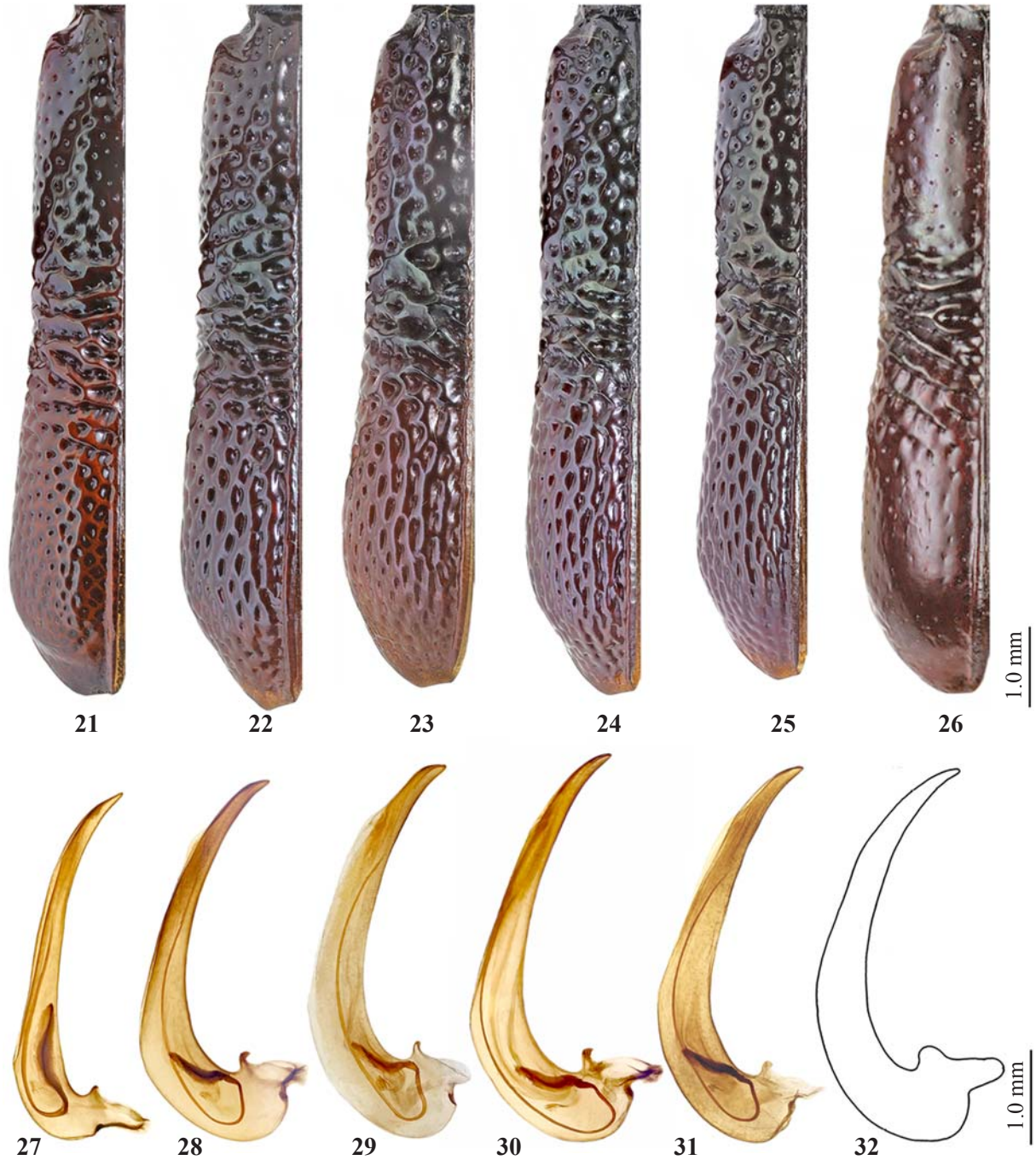
Females unknown.

ETYMOLOGY. The new species honours Dmitry Fedorenko, my good friend and a prominent Russian entomologist.

DIAGNOSES. *Neocollyris* (*Stenocollyris*) *fedorenkoi* **sp.n.** is closely related to *N.* (S.) *compressicollis* (W. Horn, 1909) and *N.* (*S.*) *rubens* (Bates, 1878), being distinguished from both by the clearly narrower interocular area — PS/AS — 1.52 (Fig. 10), *vs.* clearly broader — PS/AS — 1.32–1.46 in *N.* (S.) *compressicollis* (Figs 11–14) and *N.* (S.) *rubens* (Fig. 15); by the thin, longer and narrower pronotum — PL/PW — 3.31 (Figs 1, 10, 16), *vs.* more robust and wider — PL/PW — 2.73–3.0 in *N.* (S.) *compressicollis* (Figs 2, 11–14, 17–20) and *N.* (S.) *rubens* (Figs 3, 15); the shorter aedeagus — EL/AL — 2.37, with a less expanded base and a clearly larger spoon-shaped sclerite in the internal sack (Fig. 27), *vs.* a longer eadeagus — EL/AL — 2.12–2.26, with a widely expanded base in *N.* (S.) *compressicollis* (Figs 28–31) and *N.* (S.) *rubens* (Fig. 32), as well as clearly smaller and spoon-shaped sclerite in the internal sack in *N.* (S.) *compressicollis* (Figs 28–31). Moreover, the elytral macrosculpture in *N.* (*S.*) *fedorenkoi* **sp.n.** in the basal and apical thirds is formed by

small and rounded pits (Fig. 21), *vs*. large and polygonal pits in the basal third and longitudinally stretched pits in the apical third in *N.* (S.) *compressicollis* (Figs 22–25), or the small, sparse, very shallow pits in the basal third, and a virtually smooth apical quarter in *N.* (S.) *rubens* (Fig. 26).

To accommodate the new species, the key to the species of the subgenus *Stenocollyris* from Vietnam [Wiesner et al., 2017] must be modified as follows:



Figs 21–32. *Neocollyris (Stenocollyris*) spp., details: 21–26 — left elytron, dorsal view; 27–32 — aedeagus, left lateral view; 21, 27 — *N.* (*S.*) *fedorenkoi* **sp. n.**, holotype; 22–25, 28–31 — *N.* (*S.*) *compressicollis* (specimens from: 22, 28 — Kon Ka Kinh National Park, Gia Lai Province; 23, 29 — Ha Son Binh forest, Hoa Binh Province; 24, 30 — Xuan Son National Park, Phu Tho Province; 25, 31 — env. of Na Hang, Tuyen Quang Province); 26, 32 — *N.* (*S.*) *rubens* (26 — India, Assam, Margherita, photo of Peter Schüle from the web-site https://carabidae.org/; 32 — after Naviaux, 1995b); 21–25, 27–32 — males; 26 — female.

Рис. 21–32. *Neocollyris (Stenocollyris*) spp., детали строения: 21–26 — левое надкрылье, сверху; 27–32 — эдеагус, слева; 21, 27 — *N.* (*S.*) *fedorenkoi* **sp. n.**, голотип; 22–25, 28–31 — *N.* (*S.*) *compressicollis* (экземпляры из: 22, 28 — национального парка Кон Ка Кинь, провинция Зялай; 23, 29 — леса Хасонбинь, провинция Хоабинь; 24, 30 — национального парка Сюаншон, провинция Футхо; 25, 31 — окрестностей На Ханг, провинция Туенкуанг); 26, 32 — *N.* (*S.*) *rubens* (26— Индия, Ассам, Маграрита, фотография Петера Шуле с сайта https://carabidae.org/; 32 — по Naviaux, 1995b); 21–25, 27–32 — самцы; 26 — самка.

1. Metatarsi and apical part of metatibiae yellowish; elytra with a transverse yellow fascia in the middle .... *N.* (*S.*) *signata* (Horn, 1902)
— Metatarsi and metatibiae reddish brown or brownish black; elytra without yellow fascia 2
2(1). Pronotum narrow and slender, no less than 3.3 times as long as wide; aedeagus shorter, with a less strongly expanded base and a larger spoon-shaped sclerite in internal sack ..... *N.* (*S.*) *fedorenkoi* **sp.n.**
— Pronotum more robust, not more than 3.0 times as long as wide; aedeagus longer, with a widely expanded base and a smaller spoon-shaped sclerite in internal sack 3
3(2). Elytral sculpture smooth except for five or six deep transverse folds in the middle .... *N.* (*S.*) *rubens* (Bates, 1878)
— Elytral sculpture very coarse all over .... *N.* (*S.*) *compressicollis* (Horn, 1909)

Acknowledgements. I am very grateful to Dmitry Fedorenko and Pavel Udovichenko (both Moscow, Russia), Boris Kataev (St. Petersburg, Russia) and Alexander Napolov (Riga-Zoo, Riga, Latvia) who kindly lent material for this study, to Peter Schüle (Herrenberg, Germany) and Jurgen Wiesner (Wolfsburg, Germany) for the kind permission to use the digital photo of *N.* (*S.*) *rubens* from the web-site https://carabidae.org/, as well as to Sergei Golovatch (Moscow, Russia) who kindly checked the English.

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