

A Contribution to the Knowledge on the Species of the Genus *Coproica* Rondani, 1861 (Diptera: Sphaeroceridae)*

By

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Abstract. Descriptions of two new species of the genus *Coproica* ROND. (*C. coreana* sp. n., *C. ghanensis* sp. n.), lectotype designations of *C. digitata* (DUDA) and *C. pseudolugubris* (DUDA, as well as many new locality data of other nine species are given relying on the sphaerocerid material of the Hungarian Natural History Museum.

Continuing to report on the materials of Sphaeroceridae preserved in the Zoological Department of the Hungarian Natural History Museum, the author discusses the species of the genus *Coproica* RONDANI, 1861 in the present paper. The *Coproica* species are relatively well-known. The descriptions of the species dating from the last century were revised by DUDA (5), on that occasion and also later he described new species (5, 6, 7); eventually, he also compiled the monograph of the Palearctic species (8). In recent times COLLIN (4) and RICHARDS (14) contributed valuable data to our knowledge on the species in question. RICHARDS (14) also drew up a taxonomical key covering all species of the genus described up to 1960. Data about the range and way of life of the *Coproica* species are also to be found in the works of numerous other authors (bibliographic data of these works see: DUDA, 8; RICHARDS, 14 and PAPP, 11.

In the Hungarian Natural History Museum a quite numerous material has accumulated from the collections conducted by the Department of Systematic Zoology and Ecology of the Eötvös Loránd University and by the research workers of the Museum (1, 2, 3, 9, 12, etc.). A material of several thousand specimens is in question here even if one leaves the ten thousands of imagoes collected in the course of manure-ecological research out of account. The larvae and imagoes of most *Coproica* species are coprophagous. Certain species (in the first place *C. ferruginata* and *C. vagans*) live in vast numbers of individuals in all countries

* Sphaeroceridae (Diptera) in the collection of the Hungarian Natural History Museum, Part III.

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where stock-breeding has reached an advanced stage; in one stable several thousands, in one manure plant millions of individuals are to be found. In view of their way of life, man has contributed to spreading certain *Coproica* species in a considerable degree. Thus *C. ferruginata*, *C. hirtula* and *C. vagans* have become cosmopolitan or nerally cosmopolitan. From recent data (see PAPP, 12) it seems that also *C. acutangula* and *C. hirticula* are spreading intensively. The other group of the *Coproica* species develops in the droppings of domestic and wild ungulates (*C. coreana* sp. n., *C. digitata*, *C. dentata*, *C. ghanensis* sp. n., *C. lugubris*, *C. pseudolugubris*). In spreading these man has a minor part or none at all. Still, as shown by the example of the species *acutangula* ZETT. (a species living primarily in horse droppings), later also one or two of these may appear rather far beyond known up to now.

In our material I found 13 species, out of these 2 are new to science. From among the type-specimens of two species to be found in our Collection I designated lectotypes. I present the species in alphabetical order. The new data as to the range I marked by an asterisk following the name of the country in question.

Coproica acutangula (ZETTERSTEDT, 1847)*

Hungary: 39 ♂, 28 ♀ pinned specimens, over 300 specimens, in alcohol from different localities. — Jugoslavia: 1 ♂: Novi, KERTÉSZ, 11. 7. 1900., „*acutangula* ♂“ det. O. Duda; 3 ♂, 2 ♀: Zimony, KERTÉSZ, 22. 7. 1901; 2 ♂, 2 ♀, Zabljak, mon., 5. 7. 1958, Podgora, 1400 m, leg. MIHÁLYI. — Romania: 4 ♂, 1 ♀: Csíkszépvíz, FODOR, Vörösláz, 1009 m, 6. 7. 1917.; 2 ♂: Gyilkos tó, SZIL., 22. 8. 1931.; 3 ♂, 1 ♀: Homoródfürdő, SZIL., 22. 7. 1931. — Bulgaria: 1 ♂, 3 ♀: Varsec, 1–10. 8. 929, leg. SZILÁDY. — France: 1 ♂: Ft. Rambouillet, 29. 7. 10., „*Limosina pusilla* sec. typ. MEOG. ♂“, det Dr. VILLENEUVE, „*acutangula*“ det. O. DUDA; 1 ♀: ibid., 17. 8. 10., „*pusilla* ♀ (trés probablement)“ [handwriting of? VILLENEUVE]. — USSR: 1 ♂, 1 ♀: Rossia, Kasan, 2–6. 6. [18]98. Exp. Zichy, leg CSIKI, „*Heteroptera acutangula* ZETT.“ det. KERTÉSZ. — Mongolia: 250 ♂, 147 ♀: see PAPP (11). — Afghanistan: 1 ♀ (PAPP (12)). Other known distribution: N. America, Hawaii, Madeira, Zaire.

Coproica coreana sp. n.

Dark brown species, legs reddish brown; knees, ventral side of fore coxae and tarsi reddish yellow. Genae comparatively wide, longest diameter of eyes only 3 times longer than smallest genal width. Five pairs of moderately long interfrontals. Vibrissae comparatively short but thick. Third antennal joint and arista with short pubescence only. Thoracic chaetotaxy as in its congeners. Disc of scutellum with about 16 uniformly short bristles. Two short sternopleurals on each side (anterior not shorter than posterior, length about 0.04 mm). Legs normal, males without ventral hooks or other modifications on fore and hind metatarsi. Chaetotaxy of mid tibia: anterodorsals: at 1/4 and 7/12, a robust long bristle at 3/4; posterodorsals: a medium-sized bristle at 1/2 and a robust one at 3/4; a moderately long subventral bristle at 7/12 of tibia. Mid metatarsus (Fig. 1) with a very strong subbasal ventral bristle and 4–5 rather short and unpaired bristles. Wings clear, comparatively short and rounded. Wing measurements of holotype male: 1.12×0.51 mm, of paratypes: $1.12 - 1.45 \times 0.46 - 0.66$ mm. Costa ends at wing apex, with only moderately long thin bristles on $mg_1 \cdot c_x = 0.86 - 0.92$. r_{2+3} ending at a moderately sharp angle in c, r_{4+5} ending rather near to wing apex, its apical fourth curving down. $t_a - t_p / t_p = 1.42 - 1.44$. Hind lower edge of

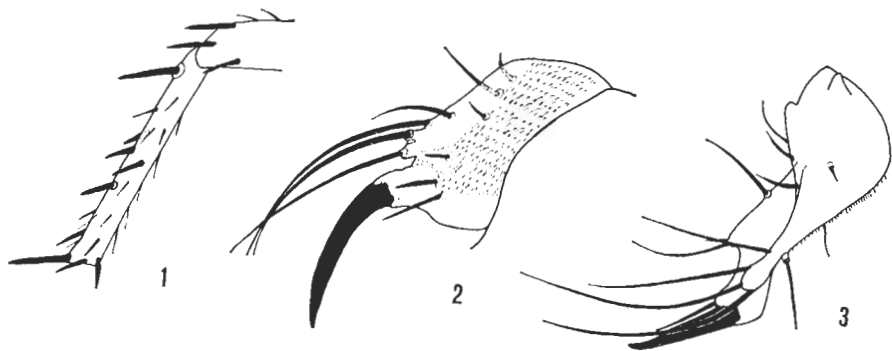


Fig. 1–3. *Coproica coreana* sp. n. 1: lateral view of mid metatarsus; 2: male surstylus in profile; 3: surstylus in ventral view

discal cell only a little more than 90° . Anal vein angularly sinuate. Halteres light brownish yellow. Male hypopygium with 3 pairs of long and strong and with some shorter bristles. Surstylus (Fig. 2 and 3) with a very big, black, ventrally and slightly medially directed thorn and with some very long bristles. Female cercus with 2 long, wavyly bent bristles and some short hairs.

Body length: holotype male: 1.72 mm, paratypes: 1.45–2.08 mm.

Holotype: male: Korean People's Republic, Prov. South Pyongan, Changlyong san, 50 km N of Pyongyang and 15 km E from Sa-gam, 13. 8. 1971, netting-from cow-pats, leg. S. HORVATOVICH and J. PAPP (No. 172). Paratypes: 1 ♂, 2 ♀: data same as for holotype. All type specimens preserved in alcohol in HNHM.

Coproica coreana sp. n. keys out in RICHARDS' (14) key to *hirtuloidea* (DUDA, 1925) (Peru, Bolivia), as it has a moderately long posterodorsal bristle at about the middle of mid tibia, but its mid metatarsus has a very strong subbasal ventral bristle. Its nearest relative is (in all probability) *C. dentata* L. PAPP, 1973. Contrarily to *dentata*, *C. coreana* sp. n. has no ventral projection on male mt_3 , its $t_a - t_p$ is distinctly longer than t_p , and male surstyli (Fig. 2,3) widely differ in form and armature from those of *dentata* [cf. PAPP (11)].

Coproica dentata L. PAPP, 1973

Mongolia: holotype male, 181 ♂, 173 ♀ paratypes [see PAPP (11).] – Hungary: 55 ♂, 45 ♀ paratypes: Csévharaszt, borókás, lótrágyáról (= juniper grove, on horse droppings), 9. 8. 1972, leg. BAJZA & PAPP. (1 ♂, 1 ♀ paratypes now in Museum f. Naturkunde, Berlin, and 1 ♂ paratype in Eberswalde as exchange materials); 1 ♂ pinned and 3 specimens in alcohol: Dömsöd, Apajpuszta, on horse droppings, 6. 9. 1973, BAJZA & PAPP L.

Coproica digitata (DUDA, 1918)

Limosina (Coprophila) digitata DUDA, 1918: Abh. zool.-bot. Ges. Wien, 10/1: 209.

Lectotype male. 1.55 mm. Dark brown, subshining species with some grey pruinosity. Facial plate greyish yellow, genae yellowish grey. Eyes big, longest

diameter a little more than four times longer than smallest genal width. Four pairs of moderately long but rather thin interfrontals. Arista only 2.7 times longer than antenna. Mesonotal and scutellar bristles as in its congeners. One very small anterior and one small posterior sternopleural. Coxae greyish yellow, all other parts of legs greyish dark brown (sometimes also fore knees and parts of tarsi greyish yellow). Chaetotaxy of mid tibia: anterodorsals: at 7/32 and at 17/32 moderately long, at 3/4 very strong bristle; posterodorsals: at 1/4 and 1/2 small, at 23/32 a robust bristle; one small subventral bristle at about 7/12 of tibia. Mid metatarsus with 6 pairs of short bristles ventrally, without any characteristic bristles. Male hind metatarsus with a very big ventral projection. Wings light grey, veins light brown. Wing measurements of lectotype male: 1.22×0.54 mm. $c_x = 1.63$. Costa ends at wing apex, with moderately long bristles on mg; r_{4+5} straight, ending about as far from wing apex as vein m. Hind lower angle of discal cell about 90° . $t_a - t_p = 1.53$. Anal vein angularly sinuate. Halteres yellow. Abdomen relatively very long, tergites with very long lateral bristles. Male hypopygium with 3 pairs of long and thick, as well as with several moderately long bristles. Inner genitalia of lectotype not studied.

Lectotype male: Novi, KERTÉSZ - 11. 7. 1900. [on lower side of the label, KERTÉSZ's handwriting] - "*digitata* ♂" [DUDA's handwriting], det. O. DUDA (Hungarian Natural History Museum).

Paralectotypes (Museum für Naturkunde, Zoologisches Museum, Berlin): 1 ♂: Luxor, 44511, XII. - *digitata* ♂ det. DUDA [both labels from BECKER's collection]; 1 ♂: Tunisia, Saint Germain, 28. 4. 1913. [a printed label] - *Heteroptera digitata* D. ♂ d. DUDA. Typus [DUDA's handwriting; from DUDA's collection]. The type series consisted of two other specimens, one from Semlin, one from Novi. They were in our Collection, but got lost somehow. (In all probability they were destroyed by *Anthrenus* larvae during the time when our Sphaeroceridae, Asteiidae, etc. were lent to late Dr. M. P. ARADI.)

Other specimens in the HNHM: Hungary: 50 ♂, 35 ♀ from different localities. - Romania*: 1 ♂, 1 ♀: Homoródfürdő, SZIL., 22. 7. 1931. - Jugoslavia: 2 ♂, 2 ♀: Zabljak, Mont., 5. 7. 1958, Podgora, 1400 m, leg. MIHÁLYI. - Bulgaria: 12 ♂, 5 ♀: Varsec, 1-10. 8. 929, leg. SZILÁDY. - Afghanistan: see PAPP (12). Other known occurrence: Egypt.

Coproica ferruginata (STENHAMMAR, 1854)

Hungary: 276 ♂, 201 ♀ pinned specimens and about 40 000 specimens in alcohol from different localities. - Belgium: 1 ♂: Bayne, 23-4-42, marche sur l'eau. *Coprophila ferruginata* St. det. VANSCHUYTBROECK. - Bulgaria: 1 ♀: Mt. Balkan, SZILÁDY, 11. 7. 1928; 1 ♂: Varsec, 1-10. 8. 929, SZILÁDY. - Mongolia (PAPP (12)). - Korean People's Republic*: 1 ♀: Prov. South Pyongan, Chang lyong san, 50 km N from Pyongyan, 13. 8. 1971, leg. HORVATOVICH and PAPP, J. (No. 172). - Australia: 1 ♂: Queensland, Townsville, 16-22. 3. 1965, Exp. Dr. J. BALOGH, Townsville 21; 1 ♀: ibid., Townsville 11. (new to Queensland). - Bolivia*: 169 ♂, 143 ♀: Guayaramerin (Beni), Estancia Esperanza, 29-30. 11. 1966, on lamp light (No. 417), leg. BALOGH, MAHUNKA, ZICSI. - Argentina: 1 ♀: Buenos Aires, Ezeiza, 10. 12. 1961, TOPÁL (No. 771). - Ghana: 1 ♀: Busua, 26. 3. 1969, light trap (No. 329), ENDRÓDY-YOUNGA. - Congo: 1 ♂: Brazzaville, ORSTOM park, 21. 12. 1963, light trap, leg. S. ENDRÓDY-YOUNGA (No. 491); 1 ♂: ibid., 30. 12. (No. 563); 1 ♂: ibid., 27. 12. (No. 534). - Tanzania: 1 ♂: Afr. or. KATONA, 904. X., Kilima-Ndjuu, *Coprophila ferruginata* ♂, det. Dr. O. DUDA; 1 ♀: ibid., Shirati, 909. II., *C. ferruginata* STEH. ♀, det. O. DUDA. - Abyssinia: 1 ♀: Manako, 1912. III., KOVÁCS, *C. ferruginata* St. det. O. DUDA. Cosmopolitan.

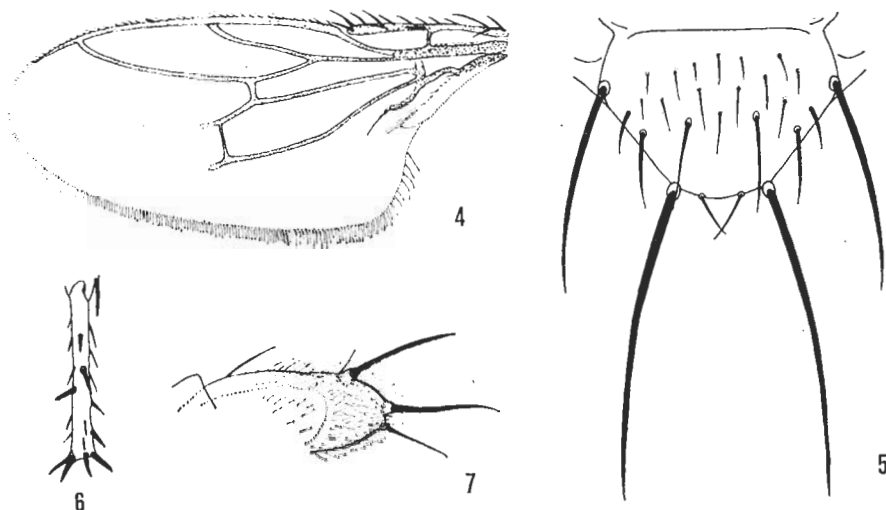


Fig. 4–7. *Coproica ghanensis* sp. n. ♀. 4: wing; 5: scutellum; 6: mid metatarsus in ventral view; 7: cercus in lateral view

Coproica ghanensis sp. n.

Holotype somewhat faded, reddish yellow, somewhat darker when alive. Head 1.6 times higher than long. Four pairs of small interfrontals. Third antennal joint and arista with very short (shorter than 0.01 mm) pubescence. Eyes rather big, longest diameter about $\frac{1}{2}$ times longer than smallest genal width, thus genal rather narrow in the anterior part but strongly widening in the posterior part. Mesonotum with 1–1 inclinate and reclinate h, 2 np, 1 prst, 2 sa, 1 pa, 1 dc, 1 prsc, 2 sc, 1 short anterior and 1 well-developed posterior st pairs. Aemi sparse, only 4–6 rown between dc lines. Scutellar bristles (Fig. 5) very interesting, as it has rather few (16) discal ones in asymmetrical position, including 1 pair of very long discal bristles. Mid tibial armature: a moderately strong ventral bristle at 7/12, moderately long ones at 1/4, 13/24, a very strong anterodorsal one at 17/24, a weak but distinct posterodorsal one at 5/12, and a very long thick posterodorsal one at 2/3; subapical wreath of bristles. Armature of mid metatarsus: 1 ventral bristle near 1/3 of mt_2 , 1 anteroventral one at 1/2 and a somewhat more distally placed posteroventral one; all these bristles are only moderately long (Fig. 6). Legs normal, ochreous yellow. Wings (Fig. 4) highly interesting. Costa ends before wing apex. r_{2+3} ending at a rather wide angle in c. r_{4+5} strongly upcurving and ending very far from wing apex. $c_x = 0.97$, $t_a - t_p$ only a little longer than t_p . Anal vein rudimentary (I was unable to see more than the one on Fig. 4.) Hind margin of wing with sparse but long ciliae. Wing measurements of holotype female: 0.85 × 0.37 mm. Knob of halteres comparatively big, ochreous yellow, stalk darker, brownish. Female cercus with two strong bristles (dorsal one comparatively very thick) and a shorter, thick, stiff one (Fig. 7).

Body length of holotype female: 1.10 mm.

Holotype female: Ghana, Nakpanduri, 7. 8. 1967, sifted, singled, cow dung, leg. S. ENDRÖDY – YOUNGA (No. 249).

Coproica ghanensis sp. n. is an easily identifiable species, which shows a series of peculiar characteristics. There is no near relative in the genus *Coproica* ROND. It has a rudimentary anal vein, a weak but distinct bristle at about the middle of the posterodorsal side of mid tibia, a characteristic armature of mid metatarsus, asymmetrically placed discal bristles on scutellum (including a pair of very strong discal bristles). Also the three pairs of short or moderately long, stiff (not wavily bent) bristles on female cerci are highly characteristic.

Coproica hirticula COLLIN, 1956

Hungary: 113 ♂, 36 ♀ pinned specimens, as well as other specimens in alcohol from different localities. It was known only from Europe but has been found recently also in Australia.

Coproica hirtula (RONDANI, 1880)

Hungary: 41 ♂, 41 ♀ pinned and some other specimens in alcohol from different localities. — Germany: 2 ♂, 3 ♀: Eickel, 6. 9. 16. *hirtula* det. O. DUDA. — Italy: 1 ♀: Carlopago, 12. 7., *pseudolugubris* ♀ det. O. DUDA. — Bulgaria: 1 ♂: Varna, SZILÁDY, 2. 7. 1928. — Afghanistan (PAPP). — Korean People's Republic: 1 ♂, 1 ♀: Chang-lyong san, leg. HORVATOVICH and J. PAPP (No. 172); 1 ♂: Pyongyang, city park between river Te-dong and Pyongyang Hotel, 1. 9. 1971, leg. HORVATOVICH and J. PAPP (No. 227). — Vietnam*: 2 ♀: Hanoi, light trap, 4. and 12. 9. 1963, MANNINGER; 1 ♀: Prov. Yen Bai, Minh Xuan, netted on buffalo droppings, 3. 12. 1971, TOPÁL and MATSKÁSI; 1 ♂: *ibid.*, Luc Yen, along Chay river, extracted from material under tree bark, 6. 12. 1971. — China: Formosa, Sauter: 10 ♂, 14 ♀: Takao, different time data from 3. 1. 1907. to 12. 1912; 2 ♀: Tainan, 4. 1912; 1 ♀: Anping, 4. 1912. — India*: 2 ♀: Orissa, Daitari, 1. 12. 1967, neon light, leg. TOPÁL (No. 987); 1 ♀: Matheran, 800 m, 8. 7. 1902, BIRÓ. — Jemen*: 2 ♀: Wadi Zabid, 8. 1970, on light, leg. A. SZALAY—MARZSÓ. — Ethiopia: 3 ♂: Abyssinia, Kovács, Dire-Daua, 19. 11. 1911., *C. hirtula* ♂ det. O. Duda. — Congo: leg. BALOGH et al., 1963—64: 1 ♀: Brazzaville, ORSTOM park, light trap, 19. 11. 1963. (No. 214); 1 ♀: *ibid.*, 21. 12. (No. 491); 1 ♂, 1 ♀: *ibid.*, 30. 12. (No. 563). — GHANA*: leg. S. ENDRÓDY—YOUNG 1965—71: 1 ♀: Kumasi, light trap, 5—6. 6. 765. (No. 10); 1 ♀: Kwadaso. 25. 2. 1969. light trap (No. 313); 1 ♂: *ibid.*, 3. 3. 1969. (No. 318); 1 ♀: *ibid.*, 10. 3. 1969. (No. 323); 1 ♀: Busua, 26. 3. 1969. light trap (No. 329); 1 ♀: Sese, 17. 6. 1969. air plankton (No. 372); 1 ♀: Kumasi, 25. 6. 1969. air plankton (No. 376); 1 ♀: Kwadaso, light trap. 30. 6. 1969. (No. 379) 2 ♂, 3 ♀: Kwadaso, Berlese sample, dump hill of poultry farm, from under cadavers, 9. 10. 1969. (No. 400); 8 ♂, 12 ♀: Tamale, light trap, 12. 2. 1971. (No. 456); 1 ♂, 2 ♀: Ho, air plankton, 15. 9. 1971 (No. 475). — New Guinea: 1 ♂, 3 ♀: Erima Astrolabe B., BIRÓ, 11. 1896; 1 ♀: Seleo, Berlinhaf. BIRÓ, 96; 1 ♀: Stephansort, Astrolabe Bai, 7. 4. 1900. BIRÓ. — Bolivia: 9 ♂, 16 ♀: Guayaramerin (Beni), Estancia Esperanza, 29—30. 11. 1966, leg. BALOGH, MAHUNKA, ZICSI (No. 417). It became a cosmopolitan species by human activity.

Coproica hirtuloidea (DUDA, 1925)

Bolivia: 2 ♂, 3 ♀: Guayaramerin (Beni), Estancia Esperanza, lumping, 29—30. 11. 1966, leg. BALOGH, MAHUNKA, ZICSI (No. 417). It is known only from Peru and Bolivia (DUDA (7), RICHARDS (14)).

Coproica lugubris (HALIDAY, 1836)

Hungary: 110 ♂, 79 ♀ pinned specimens and several dozen specimens in alcohol from different localities. — Bulgaria: 1 ♂, 3 ♀: Varsec, 1—10. 8. 1929. leg. SZILÁDY. — Tunisia*: 1 ♀: Tunis, Hoegen, *lugubris* ♂, det. O. DUDA. — Afghanistan (see PAPP (12)). — Korean People's Republic*: 42 ♂, 31 ♀: Prov. South Pyongan, Chang-lyong san 50 km N of Pyongyang and 15 km E from Sa-gam, 13. 8. 1971, leg. HORVATOVICH and J. PAPP (No. 172). Formerly it was known only from Europe but its occurrence in Tunisia, Afghanistan and Korea shows that it has in all probability a wide Palearctic distribution.

Coproica pseudolugubris (DUDA, 1925)

Limosina (*Coprophila*) *pseudolugubris* DUDA, 1924: Verhandl. zool. - bot. Ges. Wien, 73 (1923): 170, 179.

Lectotype female. 1.07 mm (measured also along abdomen curving down). Dark brown species with grey pruinosity, facial plate, anterior part of genae, fore coxae, knees and tarsi with some yellowish hue. Four pairs of rather strong interfrontals. Eyes rather big, longest diameter/smallest genal width = 3.5. Arista only 2.8 times longer than antenna. Mesonotal and scutellar chaetotaxy as in its congeners. 1 minute anterior and 1 small posterior sternopleurals. Mid tibial armature: anterodorsals: one rather strong at 1/4, a smaller one at 8/15, a very strong one at 3/4; posterodorsals: only one very strong at 3/4; small subventral bristle at about middle. Mid metatarsus with 5 (partly unpaired) short bristles ventrally [see PAPP (10): Fig. 15 (M, N)]. Wings light grey, veins light brown. Wing measurements of lectotype ♀: 1.08 x about 0.45 mm (not measurable exactly, as wings are somewhat wrinkled). Costa ends near wing apex, with comparatively short bristles on mg_2 but with rather long ones on mg_2 and mg_3 . $c_x = 0.81$. $t_a - t_p = 1.2$. Anal vein angularly sinuate. Female cercus with 2 very long wavy bent, 1 medium-sized straight and some shorter hairs.

Lectotype female: Gyón, KERTÉSZ - "*C. pseudolugubris*" ♀ 1920. X. 2. [DUDA's or KERTÉSZ's handwriting], det. Dr. O. DUDA.

Paralectotypes: 4 ♂ on two insect pins (1+3): data same as for lectotype; 1 ♀: *ibid.*, 17. 5. 1921.; 30 ♂, 7 ♀ on 19 insect pins: *ibid.*, 22. 5. 1921.; 1 ♀: *ibid.*, 17. 5. 1921. Paralectotypes in Zoologisches Museum, Berlin: 9 ♂: 16 8 20 (on 2 mm (wide orange labels), Königsfeld (on 3 mm wide white labels), *pseudolugubris* ♂ on 4 mm wide white labels) (every label with DUDA's handwriting); 1 ♀: 17 8 20 - *pseudolug.* ♀ (DUDA's handwriting without Königsfeld label and with time specification different from that in description, still, it has to be a member of the type-series). I designated specimens in our Collection to paralectotypes with different time specification as given in the description, because I am sure that DUDA had identified them at the same time together with specimens of 2. 10. 1920. [In his paper there are data of 13. 6. 1921. and 20. 5. 1921. for syntypes of *L. (Rachisopoda) modesta* (DUDA, 1924), thus it is obvious that KERTÉSZ sent also the material of May and June 1921 in the same parcel as the specimens from 1920.]

Other specimens in HNHM: Hungary: 7 ♂, 3 ♀: Gyón, KERTÉSZ (without any other data); 38 ♂, 33 ♀ from different localities; 1 ♂, 2 ♀: Gyón, KERTÉSZ, 19. 5. 1921, *hirtula* det. O. DUDA. - Jugoslavia: 1 ♂: Novi, KERTÉSZ, 26. 6. 1899., *pseudolugubris* ♂, det. DUDA. - Bulgaria*: 1 ♂: Rila, Monast., 24. 8. 1929., leg. SZILÁDY. - Mongolia: 39 ♂, 44 ♀ (PAPP, 11). - Afghanistan (PAPP, 12). Formerly it was reported from Europe, from Belgian Congo (Zaire) (VANSCHUYT-BROECK, 15) and from Ethiopia (DUDA, 7, 8). As later data proved to be erroneously identified, I think also the other extra-Palaearctic data need revision.

Coproica serra (RICHARDS, 1938)

Ethiopia: 3 ♀: Abyssinia, Kovács - Dire-Daua, 19. 11. 1911., *Coprophila pseudolugubris* ♀ (DUDA's handwriting), det. O. DUDA. The specimens well agree with the description of *serra* RICH. (only 1 minute sternopleural bristle, only small bristles or hairs on costa, $c_x \sim 0.9$, no posterodorsals

at 1/4 and 1/2 of mid tibia, head black, body length 1.6–1.8 mm, vein r_{4+5} ending as far from wing apex as vein m, angle of r_{2+3} with c varies with specimens). Mid metatarsus with a strong basal ventral bristle and with a smaller but rather strong ventral one about middle [not a pair of bristles ther as described for *ruwenzoriensis* (WANSCH.), cf. RICHARDS (14): 206].

Coproica vagans (HALIDAY, 1833)

Hungary: 163 ♂, 148 ♀ pinned specimens and over 20 000 specimens in alcohol from different localities. — Yugoslavia: 1 ♀: Novi, KERTÉSZ, 11. 7. 1900. — Romania: 1 ♀: Csik—Szépvíz, FODOR, Vörösláz, 1009 m, 6. 7. 1917., „*Copr. albipennis* Rond.“ det. Dr. O. DUDA. — Italy: 1 ♀: Carlopago, 12. 7. — Tunisia: 1 ♂: Gabes, BIRÓ, 18. 3. 1903., *vagans* ♂, det. O. DUDA; 3, ♂, 10 ♀: Sfax BIRÓ, 7. 3. 1903, *vagans* det. O. DUDA, on one of them: *Limosina albipennis* ROND. det. BECKER; 1 ♀: Gafsa, BIRÓ, 22. 3. 1903, *vagans* v. *flava* det. O. DUDA. — Afghanistan (PAPP, 12). — Mongolia (PAPP, 11). — Chile: 1 ♂: Azapa (Prov. Tarapaca) 25 km E from Arica, on riverside of Rio Lauca, 18. 11. 1965 (No. 128/4) (for detailed data see ANDRÁSSY, BALOGH et al.). Cosmopolitan on account of human activities. Its variety *Coproica vagans* var. *flava* (DUDA, 1918) has no taxonomic value. It occurs only in subtropical and infrequently, in tropical territories, where the melanin-synthesis in the cuticle of the imagos is interrupted because of the climatic factors.

Other known species of *Coproica* ROND. not found in the collection of the HNHM: *C. cacti* (RICHARDS, 1960), *C. mitchelli* (MALLOCH, 1913), *C. setulosa* (DUDA, 1929) and *C. urbana* (RICHARDS, 1960). Doubtful species: *Coproica disticha* (BECKER, 1919): described as *Limosina*, genus uncertain; *Coproica ruwenzoriensis* (VANSCHUYTBROECK, 1950): RICHARDS (14) thought it a possible synonym of the species *serra* RICH.

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REFERENCES

1. ANDRÁSSY, I., BALOGH, J., LOKSA, I., MAHUNKA, S. & ZICSI, A. (1967): *The scientific results of the Hungarian soil zoological expedition to Chile, Argentina and Brasil, I. Report on the collectings.* — Folia Ent. Hung., 20: 247–296.
2. BALOGH, J., ENDRÓDY—YOUNGA, S. & ZICSI, A. (1965): *The scientific results of the Hungarian soil zoological expedition to the Brazzaville-Congo. A report on the collectings.* — Folia Ent. Hung., 18: 213–280.
3. BALOGH, J., MAHUNKA, S. & ZICSI, A. (1969): *The scientific results of the Hungarian soil zoological expeditions to South America. 14. A report on the collectings of the second expedition.* — Folia Ent. Hung., 22: 453–474.
4. COLLIN, J. E. (1956): *Some new Borboridæ (Diptera).* — J. Soc. Brit. Ent., 5/5: 172–178.
5. DUDA, O. (1918): *Revision der europäischen Arten der Gattung Limosina Macquart (Dipteren).* Abh. zool.-bot. Ges. Wien 10: 1–240.
6. DUDA, O. (1924): *Berichtigungen zur Revision der europäischen Arten der Gattung Limosina Macq. (Dipteren) nebst Beschreibung von sechs neuen Arten.* — Verhandl. zool.-bot. Ges. Wien, 73 (1923): 163–180.
7. DUDA, O. (1925): *Die aussereuropäischen Arten der Gattung Leptocera Olivier = Limosina Macquart (Dipteren) mit Berücksichtigung der europäischen Arten.* — Arch. f. Naturg., 90A(11)1924: 5–215.
8. DUDA, O. (1938): 57. *Sphaeroceridae (Cypselidae).* — In LINDNER: Die Fliegen der palæarktischen Region, 6/1: 1–182.

9. ENDRÓDY – YOUNGA, S. (1970): *Entomological explorations in Ghana by Dr. Endrődy – Younga. 1. A diary of entomological collection in Ghana 1965–1969.* – *Folia Ent. Hung.*, 23: 5–91.
10. PAPP, L. (1973): *Trágyalegyek – Harmatlegyek (Sphaeroceridae – Drosophilidae).* – In: *Fauna Hungariae*, XV/7, Budapest, pp. 146.
11. PAPP, L. (1973): *Sphaeroceridae (Diptera) from Mongolia.* – *Acta Zool. Hung.*, 19: 369–425.
12. PAPP, L. (1978): *New species and records of Sphaeroceridae (Diptera) from Afghanistan.* – *Acta Zool. Hung.*, 24: in print.
13. RICHARDS, O. W. (1938): *Diptera Sphaeroceridae (Borboridae, Cygnetidae).* – In JEANNEL, R.: *Mission scientifique de l'Omo*, 4: 381–405.
14. RICHARDS, O. W. (1960): *On two N. American species of Leptocera Oliv., subgenus Coproica Rdi., with a review of the subgenus (Dipt., Sphaeroceridae).* – *Ann. and Mag. Nat. Hist.*, Ser. 13, 2/16: 199–208.
15. VANSCHUYTBROECK, P. (1950): *Diptères Sphaeroceridae du Musée du Congo Belge.* – *Ann. Mus. Congo Belge (8) Zool.*, 5: 1–46.