

Linzer biol. Beitr.	46/1	799-827	31.7.2014
---------------------	------	---------	-----------

Review of the New World *Edaphus* MOTSCHULSKY (Coleoptera, Staphylinidae)

120th Contribution to the Knowledge of Euaesthetinae

V. PUTHZ

Abstract : A review on the *Edaphus* of the New World is given including a key to species. 20 new species are described: *Edaphus angulosicollis* nov.sp. (Peru), *E. atahualpa* nov.sp. (Peru), *E. brachati* nov.sp. (Venezuela), *E. chilensis* nov.sp. (Chile), *E. ecuadorensis* nov. sp. (Ecuador), *E. electrinus* nov.sp. (Bolivia), *E. falinianus* nov.sp. (French Guiana), *E. foraminosus* nov.sp. (Peru), *E. foveolicollis* nov.sp. (Peru), *E. hanleyi* nov.sp. (Bolivia), *E. inconveniens* nov.sp. (Costa Rica, Panama), *E. inexpectatus* nov.sp. (U.S.A: Arkansas), *E. marginicollis* nov.sp. (Venezuela), *E. mediocris* nov.sp. (Venezuela), *E. molestus* nov.sp. (Ecuador), *E. montoya* nov.sp. (Paraguay), *E. scupolai* nov.sp. (Ecuador), *E. torifrons* nov.sp. (Suriname), *E. variipennis* nov.sp. (Venezuela) und *E. variipunctus* nov.sp. (Peru).

Key words: Coleoptera, Staphylinidae, *Edaphus*, new species, New World, key to species.

Introduction

Edaphus MOTSCHULSKY is the largest genus of the subfamily Euaesthetinae. With nearly 600 species it has a worldwide distribution (fig. 1). Most of species live in the southern hemisphere, few in temperate areas. One species (*Edaphus lederi* EPPELSHEIM, fig. 3) is found also in New Zealand (introduced).

As can be seen from the map the Oriental region is the centre of biodiversity of this genus. I know of many species from the Himalaya, from China, Borneo, New Guinea and also from Japan which are still undescribed (number in brackets). Some more undescribed species are known to me from Australia. A striking fact is the observation, that there are no autochthonous *Edaphus* in New Zealand whereas several species in Fiji and surroundings.

In this (my last) paper on Euaesthetinae I describe all hitherto undescribed New World *Edaphus*, which I accumulated in the last decades and which have been waiting for publication. A key to all the, now 102 species, is included, which, as I hope, should benefit all future studies in this field.

In the descriptions I use several acronyms (see fig. 2) for characters which are described for every species. To my experience this is useful in describing a standard set of characters including indication whether the respective character is present or not.

In the neotropical *Edaphus* sexual dimorphism sometimes occur in the shape of the antennae; this should be taken in regard when descriptions are based only on one sex. An other dimorphism may occur in the shape (size) of elytra independent from the sex. A few species are both macropterous and micropterous (*E. variipennis*, *E. wagneri* PUTHZ).

Concerning the main characters of the exoskeleton, it has been shown, that the number of basal foveae of the pronotum may vary (4-6), so that this character should preferably not to be used in keys to separate large groups. A deceptive character can also be the latero-basal carinae of the pronotum: sometimes there can also be seen a plica-like longitudinal laterobasally elevation, which resembles a true (sharp) carina. In these cases the respective species should be repeatedly inserted in a key. A fairly good working character is found in the medio-basal carina of tergite 3. Therefore the presence or absence and length of that carina should be described for every species.

In the male the shape of the apical notch of sternite 8 is of taxonomic relevance, as is also the shape of sternite 9. In the neotropical species this sternite does not exhibit dorsal honeycomb areas (muscle attachment sites) as are specific for many oriental species. Of important significance is the shape and structure of the sperm pump (whether there are stronger sclerotized ends: "trumpets" or not etc.). The aedeagus has a very complicated structure, the anterior portion of the median lobe often consist of two branches with different shape. Also the presence of setae at/on the median lobe should be noted. The shape of parameres, and the number and arrangement of setae should also be recorded.

The spermatheca of the female probably is likely to provide distinctive characters, but has not hitherto been studied in detail.

Material and methods

The morphological studies were carried out using a stereoscopic microscope (Leitz) and a Carl Zeiss compound microscope. Measurements have been taken through the binocular (1 unit = 0.0085 mm). The genitalia are embedded in Euparal (soluble in alc. abs.).

The following acronyms are used (see e.g. fig. 2):

A = Aedeagus; alFF = antero-lateral furrows of frons; alpF = antero-lateral portions of frons; ampF = antero-median portion of frons; bf = basal foveae of the pronotum; DE = distance between eyes; dlbc = distance of the latero-basal carinae of the pronotum; EL: greatest length of elytra; EW = greatest width of elytra; ha = honeycomb-like attachment sites of muscles; ht = holotype; lbc = latero-basal carinae of the pronotum; lbf = latero-basal foveae of the pronotum; LE = length of eyes; mbc = medio-basal carina of the pronotum; LG = length of genae; LT = length of temples; mbf = medio-basal fovea of the pronotum; mbct3 = medio-basal carina of tergite 3; PL = length of pronotum; PM = proportional measurements (1 unit = 0.0085 mm); pt/t = paratype/s; ptFF = postero-transverse furrow of frons; PW = width of pronotum; S 8 = Sternite 8 of male; SL = length of suture; SpP = sperm pump; vs = vesica seminalis.

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

AMNH.....American Museum of Natural History, New York
 FMCh.....Field Museum of Natural History, Chicago
 cAsscoll. Assing, Hannover
 cP.....coll. Puthz (in the SMNS)
 KSEM.....Kansas Entomological Museum, Kansas
 SMNSStaatliches Museum für Naturkunde, Stuttgart
 SMTDStaatliches Museum für Naturkunde, Dresden

Taxonomic results

***Edaphus ecuadorensis* nov.sp. (figs 11, 33, 48)**

Type material: Holotype (♂): ECUADOR: Napo, Yuturi Lodge, Rio Napo, 0°32'57"S, 76°2'18"W, FIT, 20.-21.III.1989, R. Brooks & D. Brzoska : in the KSEM.

Description: Macropterous brownish, basal half of elytra less dark than apical half, shiny, pronotum with about 17 puncture-like impressions, as elytra very finely punctate, pubescence short, semirerect on pronotum, recumbent elsewhere.

Length: 1.4-1.5mm (forebody: 0.9mm).

PM of the ht: HW: 47; DE: 30; LE: 14; LT:-; LG: -; PW: 50; PL:37; dlbc: 40; EW: 67; EL: 57; SL: 45.

Male: Sternite 8 (fig. 33). Sternite 9 acute apicomediaally, no fields of ha present. SpP about as long as the median lobe, tubular, vs smaller than apical portion of the median lobe. Aedeagus (fig. 48), apical portion of median lobe lanceolate, with two setae, parameres much shorter than median lobe, with one short apical and one also short subapical seta.

Head slightly narrower than elytra, eyes very large, no distinct temples present, ptfF distinct, alfF very short, ampF much broader than each of the callus-like elevated alpF, flat, no special separation between ampF and clp. Antennae robust, when reflexed about the last segment extends beyond the posterior margin of the pronotum, club 2-segmented, segment 10 slightly longer than segments 5-9 combined, nearly twice as long as broad, segment 11 about as long as segment 10. Pronotum much broader than long, sides moderately convex anteriorly, lateral margination curved up in anterior fifth, sides moderately concavely constricted behind; base with short lbc, a distinct mbc extending to base proper and 6 bf about equal in size; about 17 small puncture-like impressions on disc (fig.11); punctuation very fine, rather dense, interstices larger than punctures. Elytra large, distinctly broader than long, sides very shallowly convexely dilated, shoulders simple; punctuation fine, moderately dense, punctures different in size, interstices up to twice as wide as diameter of punctures. Mbct3 two thirds as long as the tergite.

Comparative notes: This new species resembles *E. poulaini* OROUSSET, from which it may be at once distinguished by the greater size, see also the key.

Etymology: The name refers to the country in which the new species was found.

***Edaphus variipunctus* nov.sp. (figs 7, 52, 60)**

Type material: Holotype (♂): PERU: Dept. Loreto, Campamento San Jacinto, 2°18'75''N, 75°51'77''W, 175-215m, 3.VII.1993, R. Leschen # 13: in the KSEM.

Description: Macropterous, moderately shiny, pronotum with 16 small puncture-like impressions on disc (fig. 7), elytra with dense setiferous punctures and some interspersed large punctures; pubescence short, recumbent.

Length: 1.0mm (forebody: 0.6mm).

PM of the ht: HW: 28; DE: 17.5; LE: 9; LT: -; LG: 2; PW: 31; PL: 26; dlbc: 25; EW: 45; EL: 40.5; SL: 31.

Male: Sternite 8 with a small notch in about posterior third. Sternite 9 acute apicomediaally, no fields of ha present. SpP about 2x as long as the median lobe, tubular with a curved distal tube, vs small (fig. 52). Aedeagus (fig. 60), apical portion of median lobe acutely angled narrowed, parameres shorter than median lobe, with one short apical and one short subapical seta.

Head slightly narrower than pronotum, eyes very large, no distinct temples present, ptfF distinct, alff short, ampF broader than each of the moderately elevated alpF. Antennae short, when reflexed not extending to the posterior margin of the pronotum, club 2-segmented, segment 10 about as broad as long, segment 11 slightly longer than segment 10. Pronotum broader than long, sides moderately convex anteriorly with a minute tooth apicolaterally, sides moderately constricted behind; base with short lbc and 6 moderately large bf, no mbc present; pronotal disc with about 8 puncture-like impressions on each lateral half, impressions smaller than bf. Elytra subquadrate, broader than long, sides moderately convex; shoulders with a short intrahumeral stria extending cariniform mediad toward a small puncture; setiferous punctures very dense, numerous fine punctures interspersed on the median area of each elytron (fig. 7). Mbct3 as long as the tergite.

Comparative notes: This new species is remarkable by the elytral punctuation and the peculiar SpP. It may be distinguished from its relatives as indicated in the key.

Etymology: Since the elytra have punctures of different size I name this new species "*variipunctus*" (Lat.= with different punctures).

***Edaphus foraminosus* nov. sp. (figs 14, 30, 44)**

Type material: Holotype (♂) and 3 ♀-paratypes: PERU: Dept. Loreto, Campamento San Jacinto, 2°18'75''N, 75°51'77''W, 175-215m, 3.VII.1993, R. Leschen #13; 1 ♀-paratype: ibidem 215m, FIT, 11.VII.1993, idem: HT and PTT in the KSEM, 1 PT in cP.

Description: Macropterous, chestnut brown, shiny, pronotum with numerous very large puncture-like impressions, impunctate aside of minute setiferous punctures, pubescence, recumbent.

Length: 1.3mm (forebody: 0.7mm).

PM of the ht: HW: 34; DE: 23; LE: 10; LT: -; LG: 2; PW: 39; PL: 31; dlbc: 30; EW: 54; EL: 49; SL: 39.

Male: Sternite 8 (fig. 30). Sternite 9 acute apicomediaally, no fields of ha present. SpP tubular, about 1.5x as long as the median lobe, vs smaller than apical portion of the

median lobe. Aedeagus (fig. 44), apical portion of median lobe concavely narrowed, parameres very stout, with one short apical and a slightly longer subapical seta.

Head distinctly narrower than pronotum, eyes large, no distinct temples present, ptFF distinct, alfF short, ampF broader than each of the elevated alfF, flat, no special separation between ampF and clp. Antennae short, when reflexed extending to about the posterior margin of the pronotum, club 2-segmented, segment 10 as long as broad, nearly as long as segment 11 (no sexual dimorphism). Pronotum broader than long, sides very slightly convexly dilated anteriorly, lateral margination slightly curved up anteriorly, sides nearly straightly constricted behind; base with long lbc and 6 equally large bf, no mbc present; disc with 16 very large puncture-like impressions (fig. 14). Elytra large, broader than long, sides moderately convex, shoulders with a short intrahumeral stria extending cariniform mediad toward a small impression medially. Mbct3 long, as long as the tergite.

Comparative notes: This new species is remarkable by the very large pronotal impressions. It may be distinguished from its relatives as indicated in the key.

Etymology: The name refers to the special characters of the pronotum, "*foraminosus*" (Lat.= full of holes).

***Edaphus foveolicollis* nov. sp. (figs 12, 23, 50)**

Type material: Holotype (♂): PERU: Dept. Loreto, 1.5 km N Teniente Lopez, 2°35'66''S, 76°06'92''W, FIT, 210-240m, 26.VII.1993, R. Leschen #211; 1 ♀-paratype: ibidem, 24.VII.1993, idem # 189; in the KSEM.

Description: Macropterous, brown, shiny, pronotum very finely punctate and with numerous puncture-like impressions on disc (fig. 12), elytra impunctate, pubescence short, semierect on pronotum elsewhere recumbent.

Length: 1.4-1.5mm (forebody 0.8-0.9mm).

PM of the ht: HW: 43.5; DE: 25; LE: 13; LT: -; LG: 2; PW: 49; PL: 40; dlbc: 39.5; EW: 72; EL: 61; SL: 49.

Male: Sternite 8 (fig. 23). Sternite 9 acute apicomediaally, no fields of ha. SpP tubular, nearly twice as long as the median lobe, vs ? Aedeagus (fig. 50), anterior portion of median lobe acutely angled, two long setae medially, parameres shorter than median lobe, narrow, with one short apical and one short preapical seta.

Head slightly narrower than pronotum, eyes very large, no distinct temples present, ptFF inclusively alfF distinct, ampF broader than each of the alpF, flat, alpF moderately elevated, no special separation between ampF and clp. Antennae robust, when reflexed slightly extending beyond the posterior margin of the pronotum, club 2-segmented, segment 10 as long as segments 6-9 combined, distinctly somewhat longer than broad, segment 11 slightly longer than segment 10. Pronotum much broader than long, sides moderately convex anteriorly, lateral margination slightly curved up anteriorly, sides distinctly constricted posteriorly; base with short lbc and 6 moderately large bf, no mbc present; pronotal disc with about 30 puncture-like impressions, punctuation (setiferous punctures) very fine, dense. Elytra very large, broader than long, sides moderately convexly dilated, shoulders with a short intrahumeral stria extending cariniform mediad toward a small puncture-like impression. Mbct3 as long as the tergite.

Comparative notes: This new species resembles by habitus generally *E. ecuadorensis* sp. n., but may be easily distinguished by the missing mbc, more and smaller pronotal impressions and by the humeral characters; see also the key.

Etymology: Because of the small puncture-like impressions on the disc of the pronotum I name this new species "*foveolicollis*" (Lat.= with small puncture-like impressions on pronotum).

***Edaphus scupolai* nov.sp. (fig. 13)**

Type material: Holotype (♀): ECUADOR: Pichincha, Otonga, 2065 m, 0°25'01.2''S, 79°00'14''W, 21.VII.2006, A. Scupola: in cP (SMNS).

Description: Macropterous, light brown (immature ?), shiny, pronotum with 10 puncture-like impressions on disc, aside of minute setiferous punctures impunctate; pubescence dense, semierect.

Length: 1.6mm (retracted) (forebody: 1.1-1.2mm).

PM of the ht: HW: 51; DE: 38; LE: 16; LT: -; LG: 1; PW: 59; PL: 50; dlbc: 46; EW: 83; EL: 74; SL: 60.

Male: Unknown.

Head distinctly narrower than pronotum, eyes very large, no distinct temples present, ptff and short alfF distinct, ampF broader than each of the moderately elevated alpF, convex, no special separation between ampF and clp. Antennae robust, when reflexed slightly extending beyond the posterior margin of the pronotum, club 2-segmented, segment 10 slightly longer than broad, segment 11 slightly longer than segment 10. Pronotum broader than long, sides convex anteriorly with a small denticle anterolaterally, moderately concavely constricted behind; base with distinct lbc, 6 equally large bf, no mbc present; punctuation very fine, sparse, interstices much larger than punctures, 5 puncture-like impressions on each lateral half of the disc (fig. 13). Elytra very large, broader than long, sides moderately convex, shoulders with two convergent intrahumeral striae forming a denticle posteriorly, and two puncture-like impressions near anterior margin on each elytron; setiferous punctures about as sparse as on pronotum. Mbct3 two thirds as long as the tergite.

Comparative notes: This new species resembles closely *E. huggerti* OROUSSET, but may be distinguished by the equal size of the bf. From other relatives it may be distinguished as indicated in the key.

Etymology: This species is named in honour of its collector with thanks for donating the type to my special collection.

***Edaphus variipennis* nov.sp. (figs 20-22, 47)**

Type material: Holotype (♂) and 2♂♂-paratypes: VENEZUELA: Aragua, Rancho Grande Biological Station, "La Cumbre", 1450m, 10°21'N, 67°41'W, berlese leaf litter, 28.II.1995, R. Brooks #020. Paratypes: 1♂, 2♀♀: ibidem 26.II.1995, idem #003; 1♂, 1♀: Rancho Grande Biol. Sta., Pico Penquitos, 1300m, 10°21'N, 67°41'W, berlese leaf litter, 27.II.1995, R. Brooks #019; 1♂: ibidem, cloud forest litter, 13.V.1998, R. Anderson; 1♂, 3♀♀: Rancho Grande Biol. Sta., 1550m, 10°21'38''N, 67°41'38''W, cloud forest litter, idem, 14.V.1998; 3♀♀: ibidem 1250m, 10°21'0''N, 67°41'0''W, montane forest litter, 12.V.1998, idem; 1♂: ibidem, 1100m, FIT, 23.IV.-3.V.1964, T. Philips; 1♂: ibidem, dung trap, 6.-9.VII.1964, idem; 1♂: ibidem 1350m,

10°21'15"N, 67°41'11"W, montane forest litter, 12.V.1998, R. Anderson; 1♂: ibidem, 9 km S, 900m, 19°22'0"N, 67°41'0"W, 26.VI.-9.VII.1984, T. Philips; 1♀: ibidem 1390-1420m, berlese leaf litter, 27.II.1995, R. Brooks #004.- HT and PTT in the KSEM, PTT also in cP.

Description: Brachypterous OR macropterous (figs 21, 22), reddish brown, shiny, aside of setiferous punctures impunctate; pubescence semierect.

Length: 1.6-2.1mm (forebody: 0.9-1.1mm).

PM of the brachypterous ht and one macropterous pt: HW: 44 (53); DE: 32 (37); LE: 12 (14); LT: - (-); LG: 1 (-); PW: 50 (60); PL: 40 (45); EW: 63 (82); EL: 47 (72); SL: 36 (55).

Male: Sternite 8 (fig. 20). Sternite 9 acute apicomediaally, no fields of ha present. SpP tubular, more than twice as long as the median lobe, vs about one sixth as long as the median lobe. Aedeagus (fig. 47), apical portion of median lobe bifid, median lobe inside with two narrow sclerites; parameres slightly longer than median lobe, without setae.

Head much narrower than pronotum, eyes large, coarsely faceted, distinct temples absent, ptF distinct, alfF (anterior of ptF) absent, ampF narrowly elevated, confluent with elevated impunctate alpF. Antennae long, when reflexed distinctly extending beyond the posterior margin of the pronotum, club 3-segmented, segment 9 about as long as broad, segment 10 about one fourth longer than segment 9, about as long as segment 11 (no sexual dimorphism). Pronotum much broader than long, sides slightly angulate, shallowly concavely constricted in posterior two thirds; base with 8 small bf, lbc and mbc absent. Elytra trapezoid (fig. 22) or subquadrate (fig. 21), shoulders simple. Mbct3 absent.

Comparative notes: This new species is very similar to *E. electrinus* nov.sp. It may be distinguished by impunctate alpF and the sexual characters of the male; from other resembling species as indicated in the key.

Etymology: Because of two different shapes of elytra I name this species "*variipennis*" (Lat.= with different shapes of elytra).

***Edaphus electrinus* nov.sp. (figs 19, 45, 46)**

Type material: Holotype (♂) and 7♂♂, 2♀♀-paratypes: BOLIVIA: La Paz, Coroico Cerro Uchumachi, 2150m, 16°12.16'S, 67°43.33'W, 2nd growth cloud forest litter, 27.I.2001, R. Anderson.- HT and PTT in the KSEM, PTT also in cP.

Description: Brachypterous, light reddish brown, shiny, aside of setiferous punctures and a few punctures on anterior alpF impunctate; pubescence semierect.

Length: 1.5-2.1mm (forebody: 0.9-1.0mm).

PM of the ht: HW: 48; DE: 35; LE: 12; LT: -; LG: 2; PW: 56; PL: 43; EW: 71; EL: 51; SL: 37.

Male: Sternite 8 (fig. 19). Sternite 9 acute apicomediaally, no fields of ha present. SpP and vs as in *E. variipennis*. Aedeagus (figs 45, 46) very similar to that of *E. variipennis* but the parameres with one distinct apical seta.

In most respects similar to the brachypterous *E. variipennis* but the anterior portion of alpF with few distinct punctures.

Comparative note: Aside of the punctate alpF and the male sexual characters this new species cannot be distinguished from *E. variipennis*.

E t y m o l o g y : The name of this species refers to the colour of the insect, "*electrinus*" (Lat.= amber-like).

***Edaphus atahualpa* nov.sp. (figs 37, 56)**

Type material: Holotype (♂) and 1 ♂-paratype: PERU: Dept. Madre de Dios, Pantiacolla Lodge, Alto Madre de Dios River, 12°39.3'S, 71°13.9'W, 420m, FIT, 14.-19.XI.2007, D. Brzoska: in the KSEM.

D e s c r i p t i o n : Macropterous, light brown, moderately shiny, aside of minute setiferous punctures impunctate, pubescence recumbent. Antennae with a 3-segmented club.

L e n g t h : 1.0-1.1mm (forebody: 0.6-0.65mm).

PM of the ht: HW: 29; DE: 19; LE: 9; LT: >1; LG: 2; PW: 30; PL: 26; EW: 47; EL: 41; SL: 32.

M a l e : Sternite 8 (fig. 37). Sternite 9 acute apicomediaally, fields of ha absent. SpP sack-shaped, more than twice as long as the median lobe, simple (no trumpet), vs about one third as long as the median lobe. Aedeagus (fig. 56), apical portion of median lobe narrow, slightly longer than parameres, parameres with 1 strong, very long seta.

Head nearly as broad as pronotum, eyes large, moderately finely faceted, temples indistinct, ptfF distinct, alffF indistinct, ampF slightly broader than each of the moderately elevated alpF, flat, no special separation between ampF and clp. Antennae moderately long, when reflexed extending to about the posterior margin of the pronotum, segment 7 broader than segments 6 and 8, club 3-segmented, segments 9 and 10 slightly broader than long, segment 11 about one third longer than segment 10. Pronotum broader than long, sides moderately convex anteriorly, moderately concavely constricted behind; lbc and mbc absent, 6 equally small bf present. Elytra broader than long, subquadrate, sides shallowly convex, shoulders simple. Mbct3 absent.

C o m p a r a t i v e n o t e s : This new species is remarkable by the 3-segmented antennal club and the small size. The aedeagus resembles that of *E. longepilosus* PUTHZ (both have one very long stout apical seta at the parameres), but the new species is clearly distinct by the 3-segmented antennal club, fully wings and the much longer median lobe.

E t y m o l o g y : The name of this new species refers to the latest Inka-king, who was defeated in 1532, when Pizarro conquered Peru.

***Edaphus molestus* nov.sp. (figs 35, 58)**

Type material: Holotype (♂): ECUADOR: Esmeraldas, Bilsa Biological Station, 500m, 0°20'24"N, 79°42'36"W, FIT, 7.-9.VII.1998, P. Hibbs: in the KSEM.

D e s c r i p t i o n : Macropterous, yellowish brown, shiny, elytra finely and densely punctate; pubescence semierect on pronotum, furthermore recumbent.

L e n g t h : 1.1-1.2mm (forebody: 0.75mm).

PM of the ht: HW: 33; DE: 24.5; LE: 9; LT: -; LG: 5; PW: 33; PL: 34; EW: 52; EL: 47; SL: 38.

M a l e : Sternite 8 (fig. 35). Sternite 9 acute apicomediaally, fields of ha absent. SpP and

vs not found. Aedeagus (fig. 58), apical portion of median lobe acutely angled, internal structures with some stronger sclerotized pieces, parameres slightly shorter than median lobe, with 1 apical and 1 subapical seta.

Head as broad as pronotum, eyes large, finely faceted, distinct temples absent, ptfF distinct, semicircular, alpF indistinct, ampF broader than each of the alpF, completely flat, no special separation between ampF and clp, alpF with few fine punctures. Antennae short, when reflexed nearly extending to the posterior margin of the pronotum, club 2-segmented, segment 10 about as broad as long, segment 11 distinctly longer than segment 10. Pronotum nearly as broad as long, sides moderately convex anteriorly, concavely constricted behind; base with 4 bf, distinct lbc and mbc absent. Elytra large, subquadrate, slightly broader than long, shoulders simple, sides shallowly convex; punctuation fine and dense, punctures as coarse as eye facets, interstices nearly as large as punctures. Mbct3 nearly extending to the posterior margin of the tergite.

Comparative notes: This new species resembles many other small neotropical *Edaphus*, it resembles mostly *E. hirsutus* PUTHZ, but may be distinguished by the 4 bf and the longer mbct3; from other resembling species as indicated in the key.

Etymology: Since it is difficult to distinguish this new species from other resembling species I name it "*molestus*" (Lat.= troublesome).

***Edaphus chilensis* nov.sp. (figs 63, 64)**

Type material: Holotype (♂): CHILE: Prov. Antarctica, Isla Navarino [Caleta] Mejillones, 7.XII.2004, T. Cekalovic: in cP (in the SMNS).

Description: Macropterous, chestnut brown, shiny, aside of setiferous punctures impunctate, pubescence recumbent.

Length: 1.0-1.1mm (forebody: 0.7mm).

PM of the ht: HW: 31; DE: 23; LE: 7.5; LT: -; LG: 4; PW: 33; PL: 29; EW: 46; EL: 39; SL: 30.

Male: Sternite 8 (damaged), apical notch less than one third of the sternite length. Sternite 9 acute apicomediaally, no fields of ha present. SpP (fig. 64) as long as the median lobe, with a double trumpet, vs narrow, tube-like, nearly as long as the median lobe. Aedeagus (fig. 63), apical portion of median lobe acutely angled, paramere with 1 apical seta and 1 subapical tubercle.

Head narrower than pronotum, eyes moderately large, moderately finely faceted, no distinct temples present, ptfF semicircular, alpF indistinct, ampF much broader than each of the moderately elevated, very finely punctate alpF, completely flat with some minute punctures. Antennae short, when reflexed nearly extending to the posterior margin of the pronotum, club 2-segmented, segment 10 about as broad as long, distinctly shorter than segment 11. Pronotum broader than long, sides strongly convex anteriorly, posteriorly strongly concavely constricted; base with 6 small bf, lbc and mbc absent. Elytra slightly trapezoid, much broader than long, shoulders simple, sides shallowly convexly dilated. Mbct3 $\frac{1}{4}$ as long as the tergite.

Comparative notes: This new species resembles numerous similar species and should be best identified by the male sexual characters; apart from that see the key.

Etymology: The name refers to the country in which this new species has been found.

***Edaphus hanleyi* nov.sp. (figs 8, 31, 51)**

Type material: Holotype (♂): BOLIVIA: Cochabamba, Cochabamba, 109 km E Yungas (Cochabamba-Villa Tunari Road), 1480m, 17°8'50"S, 65°42'29"W, FIT, 1.-6.II.1999, R. Hanley: in the KSEM.

Description: Macropterous, reddish brown, aside of setiferous punctures impunctate; pubescence recumbent.

Length: 1.2-1.4mm (forebody: 0.8mm)

PM of the ht: HW: 36; DE: 22; LE: 12.5; LT: -; LG: 1; PW: 35; PL: 31; dlbc: 30; EW: 63; EL: 58; SL: 51.

Male: Sternite 8 (fig. 31). Sternite 9 acute apicomediaally, no fields of ha present. SpP about 1.5x as long as the median lobe, tubular, vs small. Aedeagus (fig. 51), median lobe with 2 long setae medially, parameres with 3 setae.

Head slightly broader than pronotum, eyes very large, finely faceted, distinct temples absent, ptfF distinct, alfF distinct, ampF broader (but not much) than each of the strongly elevated alfF, flat, no special separation between ampF and clp. Antennae long, when reflexed distinctly extending beyond the posterior margin of the pronotum, club 2-segmented, segment 10 as long as segments 6-9 combined, about 1/3 longer than broad, segment 11 longer than segment 10 (♂!; ♀ unknown). Pronotum distinctly broader than long, sides in anterior half convex, posteriorly strongly constricted; lbc strong, nearly half as long as the pronotum, mbc extending to base proper, strongly elevated, nearly as long as lbc, 6 distinctly delimited bf present, mbf large, twice as long as broad (fig. 8). Elytra large, broader than long, sides convexly dilated, shoulders with a distinct, narrow intrahumeral impression/stria (fig. 8). Mbct3 as long as the tergite.

Comparative notes: This new species is remarkable by the large mbf, strongly elevated, relatively long mbc and by the very large eyes. It may be distinguished from other relatives as indicated in the key.

Etymology: This species is names in honour of the collector R. Hanley.

***Edaphus torifrons* nov.sp. (figs 15, 36, 55)**

Type material: Holotype (♂): SURINAME: Brokoondo, Brownsberg Nature Preserve, Witi Creek Trail, 420m, 4°56'55"N, 59°10'53"W, FIT, 23.-25.VI.1999, Falin et al.: in the KSEM.

Description: Macropterous, reddish brown, shiny, aside of setiferous punctures impunctate; pubescence recumbent.

Length: 1.0-1.3mm (forebody: 0.75mm).

PM of the ht: HW: 33.5; DE: 21; LE: 10; LT: -; LG: 3; PW: 37.5; PL: 30; dlbc: 27; EW: 53; EL: 47; SL: 38.

Male: Sternite 8 (fig. 36). Sternite 9 acute apicomediaally, no fields of ha present. SpP about 1.5x as long as the median lobe, with a distinct double trumpet, vs small (fig. 15). Aedeagus (fig. 55), median lobe acutely angled narrowed (with 2 setae (?)), parameres shorter than median lobe, with 1 short apical and 1 slightly longer subapical seta.

Head distinctly narrower than pronotum, eyes very large, finely faceted, distinct temples absent, ptfF semicircular, distinct, alfF absent, alpF elevated, anteriorly coalescent with a transverse bulge, ampF = transverse bulge. Antennae moderately long, when reflexed

extending to the posterior margin of the pronotum, club 2-segmented, segment 10 slightly broader than long, segment 11 about 1/3 longer than segment 10. Pronotum much broader than long, sides convex anteriorly, strongly constricted posteriorly; lbc and mbc (extending to base proper) distinct, 6 distinctly delimited bf present, lbf twice as small as mbf. Elytra broader than long, sides shallowly concavely dilated, shoulders simple. Mbct3 nearly extending to the posterior margin of the tergite.

Comparative notes: Aside of the sexual characters of the male this new species is remarkable by the absence of a distinctly delimited ampF. It may be distinguished from other relatives as indicated in the key.

Etymology: The name of this new species refers to the transverse anterior bulge of the frons.

***Edaphus inconveniens* nov.sp. (figs 24, 61)**

Type material: Holotype (♂) and 1♂, 1♀-paratypes: COSTA RICA: Puntarenas, 11 km SE Est. Biol. Las Cruces, 8°46'43"N, 83°01'50"W, 1450m, wet cloud forest litter, 9.VII.1999, R. Anderson. 1♂-paratypes: PANAMA: Panamá, Cerro Campana near Capira, 900m, berlese forest litter, 5.VI.1995, R. Anderson.- HT and ppt in the KSEM, 1 pt in cP.

Description: Macropterous, reddish brown, shiny, aside of setiferous punctures impunctate; pubescence recumbent.

Length: 1.4-1.7mm (forebody: 0.9-1.0mm).

PM of the ht: HW: 43; DE: 27; LE: 13; LT: -; LG: 2; PW: 47; PL: 39; dlbc: 37; EW: 74; EL: 60; SL: 49.

Male: Sternite 7 with a broad and shallow apical emargination. Sternite 8 (fig. 24). Sternite 9 rounded apically, no fields of ha present. SpP tubular, about twice as long as the median lobe, vs ¼ as long as the median lobe. Aedeagus (fig. 61), parameres with 1 short apical and 1 short subapical seta.

Head narrower than pronotum, eyes large, coarsely faceted, distinct temples absent, ptff incomplete, distinct on each lateral half, absent medially, distance between interocular pits slight, slightly greater than distance between eyes and interocular pits (8-11-8), alff short, ampF slightly broader than each of the elevated alpF, flat, no special separation between ampF and clp. Antennae moderately long, when reflexed extending to the posterior margin of the pronotum, club 2-segmented, segment 10 as long as broad, segment 11 about 1/3 longer than segment 10. Pronotum much broader than long, sides convex in anterior two fifths, constricted posteriorly; lbc long, nearly half as long as the pronotum, mbc (extending to base proper) distinct, 6 bf present, mbf larger than lbf. Elytra broader than long, sides shallowly concavely dilated posteriad, shoulders simple. Mbct3 about ¾ as long as the tergite.

Comparative notes: This new species resembles strongly *E. remileti* OROUSSET but may be distinguished by the longer lbc, incomplete ptff and minor distance between the interocular pits (6-9-6 in *E. remileti*). From other resembling species it may be distinguished as indicated in the key.

Etymology: The name refers to the difficult identification of this species: "*inconveniens*" (Lat.= unbecoming).

***Edaphus falinianus* nov.sp. (figs 32, 53)**

Type material: Holotype (♂): FRENCH GUIANA: Wanaboo (near Nason), Merowinje River, 40m, 4°43'35''N, 54°26'36''W, FIT, 31.V.-5.VI.1999, Falin & DeDijn: in the KSEM.

Description: Macropterous, reddish brown, shiny, aside of setiferous punctures impunctate; pubescence recumbent.

Length: 1.6mm (forebody: 0.9mm).

PM of the ht: HW: 39; DE: 27; LE: 11; LT: 1; LG: 5; PW: 47; PL: 37; dlbc: 33; EW: 64; EL: 550; SL: 45.

Male: Sternite 8 (fig. 32). Sternite 9 acute apicomediaally, no fields of ha present. SpP about twice as long as the median lobe, with a double trumpet, vs about as large as the apical portion of the median lobe. Aedeagus (fig. 53), apical portion of the median lobe broadly lanceolate, median lobe with 4 strong setae in distal third, parameres much shorter than median lobe, broadened apically with two strong, short setae apically and one short seta in about the middle.

Head distinctly narrower than pronotum, eyes large, finely faceted, temples very short, oblique, ptF distinct, slightly angular, ampF much broader than each of the alpF, shallowly convex, no special separation between ampF and clp. Antennae fairly long, when reflexed distinctly extending to the posterior margin of the pronotum, club 2-segmented, segment 10 slightly longer than broad, segment 11 about one third longer than segment 10. Pronotum much longer than long, sides anteriorly strongly convex, strongly concavely constricted behind; lbc distinct, no mbc present, but 6 (-8) small bf. Elytra subquadrate, broader than long, sides moderately dilated posteriad, shoulders simple. Mbct3 about half as long as the tergite.

Comparative notes: This new species resembles strongly *E. congener* PUTHZ but may be distinguished by the greater size, stronger elevated alpF, longer antennal segment 10 and shorter mbct3; see also the key.

Etyymology: This species is named in honour of the collector Dr. Zachary Falin (Kansas).

***Edaphus mediocris* nov.sp. (figs 27, 57)**

Type material: Holotype (♂): VENEZUELA: Merida, Merida 34 km NW, 2350m, 8°37'0''N, 71°20'12''W, montane forest litter, 22.V.1998, R. Anderson: in the KSEM.

Description: Macropterous, chestnut brown, shiny, aside of setiferous punctures impunctate; pubescence recumbent.

Length: 1.1-1.2mm (forebody: 0.7mm).

PM of the ht: HW: 33; DE: 23.5; LE: 9; LT: <1; LG:3.5; PW: 36.5; PL: 29; dlbc: 25; EW: 58; EL: 45; SL: 37.

Male: Sternite 8 (fig. 27). Sternite 9 acute apicomediaally, no fields of ha present. SpP about 1.5x as long as the median lobe, with a distinct double trumpet, vs about as large as the apical portion of the median lobe. Aedeagus (fig. 57), apical portion of median lobe narrow, with 2 setae, parameres longer than the median lobe, shortly bifid, each branch with a very long seta.

Head narrower than pronotum, eyes large, finely faceted, distinct temples absent, ptF

semicircular, distinct, alF absent, ampF concave, distinctly broader than each of the moderately elevated alpF, no special separation between ampF and clp, alpF with a few minute punctures. Antennae short, when reflexed not extending to the posterior margin of the pronotum, club, very strong, 2-segmented, segment 10 as broad as long, segment 11 slightly longer than segment 10. Pronotum broader than long, sides strongly convex anteriorly, strongly, concavely, constricted behind; lbc distinct, mbc absent, 6 moderately large bf present. Elytra broader than long, subquadrate, sides shallowly dilated posteriad, shoulders with a nearly imperceptible short carina. Mbct3 one third as long as the tergite.

Comparative notes: This new species resembles several similar species, it may be distinguished from both *E. wagneri* PUTHZ and *E. gallinaceus* PUTHZ by the broader pronotum, from *E. siphonifer* PUTHZ by the broader head and pronotum, from all by the sexual characters of the male; see also the key.

Etymology: Since this new species is little remarkable I name it "*mediocris*" (Lat.= mediocre).

***Edaphus montoya* nov.sp. (figs 25, 49)**

Type material: Holotype (♂): PARAGUAY, Itapuá, Yatai, prop. Hostettler family, San Rafael Reserve, 100m, 26°38'17"S, 55°39'50"W, FIT, 21.-15.XI.2000, Z. Falin: in the KSEM.

Description: Macropterous, yellowish brown, shiny, aside of minute setiferous punctures impunctate, pubescence slightly erect.

Length: 1.5-1.7mm (forebody: 0.8mm).

PM of the ht: HW: 34; DE: 22.5; LE: 10; LT: <1; LG:3; PW: 39; PL: 34; dlbc: 30; EW: 62; EL: 56; SL: 45.

Male: Sternite 7 broadly and shallowly emarginate at posterior margin. Sternite 8 (fig. 25). Sternite 9 acute apicomediaally, no fields of ha present. SpP tubular, about 1.5x as long as the median lobe, with a long tubular connection with the vs, which is about as long as the apex of the median lobe. Aedeagus (fig. 49), parameres shorter than median lobe, with a moderately long apical and one shorter subapical seta.

Head narrower than pronotum, eyes large, finely faceted, distinct temples absent, ptFF distinct, slightly angular, narrow ampF broader than each of the moderately elevated alpF, flat, no distinct separation between ampF and clp. Antennae moderately long, when reflexed nearly extending to the posterior margin of the pronotum, club 2-segmented, segment 10 distinctly broader than long, segment 11 nearly 3x as long as segment 10. Pronotum broader than long, sides convex anteriorly, anterior angles shortly margined (in dorsal aspect), sides posteriorly concavely constricted; lbc distinct, mbc absent, 6 fairly large bf present, lbf smaller than mbf. Elytra subquadrate, broader than long, sides moderately concavely dilated posteriad, shoulders simple. Mbct3 strong, as long as the tergite.

Comparative notes: This new species resembles many similar species, it may be distinguished as indicated in the key.

Etymology: Since this new species is named in commemoration of Antonio Ruiz de Montoya (1585-1652), famous Jesuit of the Paraguay Reductions.

***Edaphus angulosicollis* nov.sp. (figs 34, 62)**

Type material: Holotype (♂) and 1 ♀-paratype: PERU: Madre de Dios, Pantiacolla Lodge 5.5 km NW El Mirador Trail, Alto Madre de Dios River, 500m, 12°39'10"S, 71°16'28"W, FIT, 22.-26.X.2000, R. Brooks. HT in the KSEM, PT in cP.

Description: Macropterous, amber coloured, shiny, aside of setiferous punctures impunctate; pubescence recumbent.

Length: 1.1-1.2mm (forebody: 0.7mm).

PM of the ht: HW: 34.3; DE: 22.5; LE: 9.5; LT: 1.5; LG:2.5; PW: 34.5; PL: 29; dlbc: 25; EW: 48; EL: 46; SL: 36.

Male: Sternite 8 (fig. 34). Sternite 9 acute apicomediaally, no fields of ha present. Aedeagus (fig. 62), parameres shorter than median lobe, with 1 short apical, 1 short preapical and 1 seta in proximal half.

Head as broad as the pronotum, eyes large, finely faceted, temples short, oblique, ptfF distinct, moderately angular, ampF broader than each of the moderately elevated alpF, flat, no special separation between ampF and clp. Antennae robust, when reflexed extending to the posterior margin of the pronotum, club 2-segmented, segment 10 distinctly broader than long, segment 11 about 3x as long as segment 10. Pronotum broader than long, sides in anterior half slightly, straightly dilated, anterior angle slightly prominent, shortly margined, sides posteriorly strongly concavely constricted; lbc long, nearly half as long as the pronotum, mbc absent, 6 large, distinctly delimited bf present. Elytra subquadrate, slightly broader than long, sides shallowly convex, shoulders simple. Mbct3 as long as the tergite.

Comparative notes: This new species is remarkable by the shape of the pronotum; it may be distinguished from the relatives as indicated in the key.

Etyymology: The name of this new species refers to the anterior angles of the pronotum, "*angulicollis*" (Lat.= with angles at the pronotum).

***Edaphus marginicollis* nov.sp. (figs 29, 54)**

Type material: Holotype (♂): VENEZUELA: Carabobo, Mun. Bejuma Palmichal, 950, 22.XI.2005, V. Brachat: in coll. Assing (Hannover).

Description: Macropterous, reddish brown, shiny, aside of setiferous punctures impunctate; pubescence recumbent.

Length: 1.6-1.7mm (forebody: 0.95mm).

PM of the ht: HW: 42; DE: 30.5; LE:11; LT: -; LG:2; PW: 48.5; PL: 40; dlbc: 40; EW: 65; EL: 61; SL: 48.

Male: Sternite 8 (fig. 29). Sternite 9 acute apicomediaally, no fields of ha present. SpP sack-shaped, nearly 1.5x as long as the median lobe, vs about as long as the apical portion of the median lobe. Aedeagus (fig. 54), apical portion of median lobe acutely-angled, slightly longer than the slender parameres, parameres with 2 short setae apically.

Head distinctly narrower than pronotum, eyes large, finely faceted, no distinct temples present, ptfF semicircular, distinct, ampF concave, slightly broader than each of the moderately elevated alpF, no special separation between ampF and clp, alpF with 1 minute puncture. Antennae moderately long, when reflexed extending about to the

posterior margin of the pronotum, club 2-segmented, segment 10 slightly longer than broad, segment 11 slightly longer than segment 10. Pronotum broader than long, sides in anteriorly two fifth straight, lateral margination visible in dorsal aspect, anterior angles distinct, sides moderately constricted posteriorly; lbc distinct, mbc absent, 6 large bf present. Elytra very large, broader than long, sides very shallowly, concavely dilated, shoulders simple. Mbct3 absent.

Comparative notes: This new species is remarkable by the anteriorly parallel-sided and margined pronotum and the absence of the Mbct3. It may be distinguished from the relatives as indicated in the key.

Etymology: The name of this new species refers to the specific shape of the pronotum, "*marginicollis*" (Lat.= with a margined pronotum).

***Edaphus brachati* nov.sp. (figs 38, 59)**

Type material: Holotype (♂): VENEZUELA: Carabobo, Mun. Montalban, Mt. La Copa, 1400-1500m, 11.I.1007, V. Brachat.- **Paratypes:** 1♂, 4♀♀: Carabobo, Mun. Bejuma, Cerro de Paja, 1500m, 10°16'N, 68°14'W, 12.I.2007, V. Brachat; 1♀♀: Mun. Bejuma, El Maquero, 1200-1300m, 9.-21.I.2007, idem; 2♀♀: Mun. Bejuma, Palmichal, 950m, 10°19'04''N, 68°13'53''W, 21.I.2007, idem.- HT and PTT in coll. Assing (Hannover), PTT also in the KSEM and in cP.

Description: Macropterous, reddish brown, shiny, frons finely punctate, rest of surface aside of distinct and dense setiferous punctures impunctate; pubescence recumbent.

Length: 1.1-1.4mm (forebody: 0.7-0.8mm).

PM of the ht: HW: 35.5; DE: 25; LE: 11; LT: 1; LG:1.5; PW: 36; PL: 33; dlbc: 25; EW: 57; EL: 55; SL: 46.

Male: Sternite 8 (fig. 38). Sternite 9 acute apicomediaally, no fields of ha present. SpP about as long as the median lobe, with a small double trumpet, vs about one fifth as long as the median lobe. Aedeagus (fig.59), apical portion of median lobe acutely angled, parameres shorter than median lobe, slightly bifid, with 1 very long apical and 1 also very long seta at the small median branch.

Head nearly as broad as the pronotum, eyes large, finely faceted, minute temples indistinct, ptfF distinct, slightly angular, ampF broader than each of the slightly elevated alpF, flat, no distinct separation between ampF and clp, ampF and alpF finely punctate. Antennae slender, when reflexed not extending to the posterior margin of the pronotum, club 2-segmented, segment 10 slightly longer than broad, segment 11 about as long as segment 10. Pronotum slightly broader than long, sides convex anteriorly, shallowly concavely constricted behind; lbc distinct, mbc absent, 6-8 very small bf present. Elytra subtrapezoid, broader than long, sides distinctly, slightly convexely, dilated posteriad, shoulders simple. Mbct3 one third as long as the tergite.

Comparative notes: This new species resembles strongly *E. andersonianus* PUTHZ but may be distinguished by the longer antennal segment 10 and the aedeagus.; see also the key.

Etymology: This new species is named in honour of the collector Volker Brachat (Geretsried).

***Edaphus inexpectatus* nov.sp. (figs 16-18, 26, 39)**

Type material: Holotype (♂): U.S.A.: Arkansas, Scott Co., 14 mi SE Waldron, 1000 feet, forest litter, 31.V.1984, J. Pakaluk #238: in the AMNH.

Description: Macropterous, yellowish brown, shiny, aside of minute setiferous punctures impunctate; pubescence sparse, recumbent.

Length: 1.0-1.1mm (forebody: 0.63mm).

PM of the ht: HW: 24.5; DE: 18; LE: 8; LT: 1.5; LG:3; PW: 28.5; PL: 26; dlbc: 20.5; EW: 39; EL: 38; SL: 31.

Male: Sternite 8 (fig. 26). Sternite 9 acute apicomediaally, no fields of ha present. SpP sack-like, weakly sclerotized, vs about half as as long as the median lobe, slender. Aedeagus (figs 16-18, 39), apical portion of median lobe acutely angled, internal structures strongly sclerotized, parameres much shorter than median lobe, with 2 very long apical setae.

Head distinctly narrower than pronotum, eyes moderately large, finely faceted, temples distinct, ptF distinct, semicircular, alF short, ampF nearly as broad as each of the distinctly elevated alpF, flat, a distinct impression posteriorly at alpF about as large as antennal segment 2, no distinct separation between ampF and clp. Antennae short, when reflexed not extending to the posterior margin of the pronotum, club 2-segmented, segment 10 longer than broad, segment 11 about one third longer than segment 10. Pronotum broader than long, sides convex anteriorly, moderately concavely constricted behind; lbc, mbc (extending to base proper) and 4-6 small bf present. Elytra subquadrate, slightly broader than long, sides very slightly convex, dilated posteriad, shoulders simple. Mbct3 nearly half as long as the tergite.

Comparative notes: This new species belongs to the *dissimilis*-group. From the nearctic *Edaphus* species it may be distinguished as follows: from *E. lederi* Eppelsheim by the not elongated mbf, from *E. politus* Motschulsky by the much shorter mbct3, narrower shape and nearly impunctate tergites, from *E. nitidus* Motschulsky and *E. americanus* PUTHZ by longer, impunctate elytra, from all by the aedeagus.

Etyymology: Since I did not expect one further *Edaphus* from North America I name it "*inexpectatus*" (Lat.= not expected).

Key to the New World *Edaphus*

- 1 Pronotum with (additional) puncture-like impressions on disc2
- No (additional) puncture-like impressions on pronotal disc9
- 2 Two puncture-like impressions on pronotal disc. ♂ unknown. 1.3-1.9 mm (FB: 0.7-0.8 mm). Paraguay, Venezuela, Panama *biforatus* PUTHZ
- More than two puncture-like impressions on pronotal disc3
- 3 Pronotum with a distinct mbc4
- Pronotum without a distinct mbc5
- 4 Larger: 1.4-1.5 mm (FB 0.9 mm), pronotum with more than 16 puncture-like impressions on disc (fig. 11). ♂: A (fig. 48). Ecuador *ecuadorensis* nov.sp.
- Smaller: 0.95 mm (FB 0.55 mm), pronotum with 16 punctures on disc (fig. 8, OROUSSET, 1986). Venezuela *poulaini* OROUSSET
- 5 Elytra punctate (fig. 7). ♂: A (fig. 60). 1.0 mm (FB 0.6 mm). Peru *variipunctus* nov.sp.

-	Elytra impunctate	6
6	Smaller: 1.3 mm (FB 0.7 mm), pronotum with many very large puncture-like impressions (fig. 14). A (fig. 44). Peru.....	<i>foraminosus</i> nov.sp.
-	Larger: FB \geq 0.8 mm, pronotum with less large puncture-like impressions.....	7
7	Pronotum beside of larger discal impressions finely punctate (fig. 12). ♂: E (fig. 50). 1.4-1.5mm (FB 0.8-0.9 mm). Peru.....	<i>foveolicollis</i> nov.sp.
-	Pronotum beside of larger discal impressions impunctate.....	8
8	Bf of pronotum of about equal size (fig. 13). ♂ unknown. 1.6 mm (FB 1.1.-1.2 mm). Ecuador.....	<i>scupolai</i> nov.sp.
-	Bf of pronotum of different size. ♂: A (fig. 5, OROUSSET, 1987). 1.7 mm. Ecuador.....	<i>huggerti</i> OROUSSET
9	Antennal club 3-segmented.....	10
-	Antennal club 2-segmented.....	21
10	Lbc present.....	11
-	Lbc absent	14
11	Humeral angle with a distinct carina (fig 6, PUTHZ, 1973a). ♂: A (fig. 10, l. c.). 1.2-1.3mm (FB 0.75mm). Brazil: São Paulo	<i>angulipennis</i> PUTHZ
-	Humeral angle simple.....	12
12	Mbc present. A remarkably slender species. ♂ unknown. 1.4mm (FB 0.7mm). Paraguay.....	<i>phloeocharris</i> PUTHZ
-	Mbc absent, broader species.....	14
13	Pronotum and elytra extremely finely, densely, distinctly punctate, pronotum and elytra narrower. ♂: S 8 and A (fig. 16, and as in fig. 4, PUTHZ, 2007. Panama, Costa Rica	<i>hidalgo</i> PUTHZ
-	Pronotum and elytra at 60 x almost impunctate (setiferous punctures barely noticeable, pronotum broader. ♂: S 8 and A (as in figs 14, 17, PUTHZ, 2007). Panama, Costa Rica.....	<i>caballero</i> PUTHZ
14	Sides of elytra with an elevated narrow boarder and with granules. 2.2-2.5 mm (FB 1.1 mm). Ecuador.....	<i>limbipennis</i> PUTHZ
-	Sides of elytra simple.....	15
15	Brachypterous, PL >SL.....	16
-	Macropterous, PL <SL	18
16	Sides of pronotum strongly angular (about as in fig 1, PUTHZ, 1973a). 2.0-3.2mm (FB 1.0-1.3mm). ♂: A (fig. 12, PUTHZ 1973a). Colombia, Venezuela	<i>columbianus</i> PUTHZ
-	Sides of pronotum less angular. Smaller species.....	17
17	AlpF impunctate. ♂: S 8 (fig. 20), A (fig. 47). 1.6-2.1mm (FB 0.9-1.1mm)	<i>variipennis</i> nov.sp. (brachypterous)
-	AlpF with some punctures anteriorly. ♂: S 8 (fig. 19), A (figs 45, 46). 1.5-2.1mm (FB 0.9-1.0mm).....	<i>electrinus</i> nov.sp.
18	Elytra finely punctate	19
-	Elytra impunctate (aside of minute setiferous punctures)	20
19	Larger, punctuation of pronotum very fine, distinct. ♂: S 8 and A (figs 14, 17, PUTHZ 2007). 2.2-2.6mm (FB 1.4mm). Ecuador.....	<i>kapac</i> PUTHZ
-	Less large, 1.6-2.1mm (FB 1.0-1.2mm), punctuation of pronotum barely noticeable. ♂: S 8 and A (figs 13, 15, PUTHZ 2007). 1.8-2.1mm (FB 1.2mm). Peru	<i>apo</i> PUTHZ
20	Shoulders rectangular, sides of elytra not dilated posteriad. ♂: S 8 and A (figs 37, 56). 1.0-1.1mm (FB 0.6-0.65mm). Peru	<i>atahualpa</i> nov.sp. (see also # 17 <i>variipennis</i> nov.sp. (macropterous))

-	Shoulders oblique, sides of elytra dilated posteriad. ♂ unknown. 1.8-2.2mm (FB 1.0- 1.2mm). Peru.....	<i>bufo</i> PUTHZ	
21	Lbc absent		22
-	Lbc present		46
22	Elytra with a long curved sulcus in lateral half. 3.4-4.0 mm (FB 2.0 mm). Venezuela.....	<i>sulcatipennis</i> PUTHZ	
-	Elytra otherwise		23
23	Elytra with a deep transverse humeral and a circular parascutellar impression. ♂ unknown. 1.5-1.7mm (FB 0.8mm). Ecuador.....	<i>chinan</i> PUTHZ	
-	Elytra otherwise		24
24	Elytra simple. Small blackish species with two impressions on elytra. Lbc indistinct or absent. ♂: Figs 1-3, OROUSSET, 1986). 1.2-1.3 mm (FB 0.6 mm). Venezuela	<i>najtae</i> OROUSSET	
-	Elytra otherwise		25
25	Brachypterous or elytra shorter, PL >SL.....		26
-	Macropterous, PL <SL		33
26	Pronotum broader, PW: PL ≥1.15. 1.2-1.4mm (FB 0.8mm). ♂ unknown. Habitus (fig. 8, PUTHZ, 2006a). 1.3-1.5 mm (FB 0.8mm). Venezuela.....	<i>cimicoides</i> PUTHZ	
-	Pronotum less broad, PW: PL <1.15		27
27	Temples at least half as long as eyes.....		28
-	Temples much shorter than eyes		29
28	Eyes smaller, pronotum with 6 distinct bf; forebody almost impunctate. ♂: A (fig. 6, PUTHZ, 2006a). 1.1-1.5mm (FB 0.6-0.7 mm). Peru.....	<i>longepilosus</i> PUTHZ	
-	Eyes larger, pronotum with 4 (-6) indistinctly delimited bf; forebody finely punctate. ♂: A (fig. 10, PUTHZ, 2007). 1.3-1.7mm (FB 0.7-0.75 mm). Venezuela.....	<i>eliab</i> PUTHZ	
29	Elytra distinctly punctate.....		30
-	Elytra impunctate (aside of setiferous punctures)		31
30	Larger, 1.6-1.9mm (FB 0.8mm). Head and pronotum reddish brown, elytra and abdomen blackish brown (fig. 7, PUTHZ 2006a); pronotum and abdomen punctate. ♂ unknown. 1.6-1.9 mm (FB 0.8mm). Ecuador	<i>inka</i> PUTHZ	
-	Smaller. 1.0-1.4mm (FB 0.6-0.7mm). ♂: S 8 and A (figs 8, 9, PUTHZ, 2007). Venezuela.....	<i>david</i> PUTHZ	
31	Larger, 1.2-1.3mm (FB 0.9mm). S 8 and A (figs 24, 25, PUTHZ, 2007). 1.2-1.5mm (FB 0.9mm). Costa Rica.....	<i>kethleyi</i> PUTHZ	
-	Smaller		32
32	Habitus (fig. 39, PUTHZ, 2007). ♂: S 8 and A (figs 41, 43, PUTHZ, l.c.). 1.0-1.2mm (FB 0.7mm). Costa Rica.....	<i>dybasianus</i> PUTHZ	
-	♂: S8 and A (figs 42, 43, PUTHZ, l. c.). 1.0-1.2mm (FB 0.7mm). Costa Rica.....	<i>wagnerianus</i> PUTHZ	
33	Pronotum distinctly punctate.....		34
-	Pronotum impunctate or indistinctly punctate (minute setiferous punctures)		35
34	Temples distinct. Smaller, FB 0.7mm. ♂: S 8 and A (figs 19, 21, PUTHZ, 2006a). 1.1-1.4mm. Panama.....	<i>irenae</i> PUTHZ	
-	Temples indistinct. Larger, FB 0.8mm. ♂: A (resembling fig. 13, PUTHZ, 1973). 1.2-1.5 mm. Mexico: Oaxaca.....	<i>hirsutus</i> PUTHZ	
35	Mbct3 absent		36
-	Mbct3 present, can be very short.....		37
36	Bf distinctly delimited. PtfF semicircular. ♂: S 8 and A (figs 45, 46, PUTHZ, l. c.). 1.1- 1.4 mm (FB 0.85mm). Venezuela	<i>subtilipunctatus</i> PUTHZ	

- Bf indistinctly delimited. PtfF angular (trapezoid). S 8 and A (figs 51, 52, PUTHZ, 2007). 1.0-1.4 mm. Ecuador, Peru..... *villac* PUTHZ
- 37 Mbct3 nearly as long as the tergite. ♂: A (fig. 58). 1.1-1.2mm (FB 0.75mm). Ecuador *molestus* nov.sp.
- Mbct3 shorter38
- 38 AmpF punctate. Pronotum with 4 bf. ♂: S 8 and A (figs 49, 56, PUTHZ, l. c.). 1.0-1.2mm. Peru *cinche* PUTHZ
- AmpF impunctate39
- 39 Mbct3 \geq one third of the length of tergite 340
- Mbct3 < one third of the length of tergite 343
- 40 Larger, FB \geq 0.9mm41
- Smaller, FB \leq 0.8mm42
- 41 Pronotum broader, PW: PL >1.05. ♂: S 3-6 with medial impressions. S 8 and A (figs 21, 22, PUTHZ, 2007). 1.4-1.7mm (FB 0.9mm). Costa Rica..... *bierigi* PUTHZ
- Pronotum less broad, PW: PL <1.05. ♂: S 3-6 simple. S 8 and A (figs 4, 5, PUTHZ, 2001). 1.5-1.7mm (FB 1.0mm). Mexico *andersoni* PUTHZ
- 42 Antennal segment 10 about as broad as long. Pronotum with 4-6 bf. ♂: S 5 with a projecting lobe posteromedially. A (Fig. 13, PUTHZ, 1973b). 1.1-1.5 mm. (FB 0.75-0.8mm). Mexico: Chiapas; Guatemala *mexicanus* PUTHZ
- Antennal segment 10 broader than long. Pronotum with 8 bf. ♂: S 5 without a projecting lobe, S 8 and A (figs 19, 20, PUTHZ, 2007). 1.2-1.5 mm. (FB 0.8mm). Panama *panamensis* PUTHZ
- 43 Larger, FB \geq 0.8mm44
- Smaller, FB 0.7mm. ♂: SpP (fig. 64), A (fig. 63). 1.0-1.1mm. Chile... *chilensis* nov.sp.
- 44 Pronotum broader, PW: PL >1.10, with 6-8 small bf. ♂: S 8 and A (figs 53, 54, PUTHZ 2007). 1.2-1.5mm (FB 0.8-0.85mm). Bolivia [*bolivianus* PUTHZ]
- Pronotum less broad, PW: PL <1.05, with 6 bf45
- 45 Elytra shorter, trapezoid. ♂: S 8 and A (figs 34, 35, PUTHZ, 2007). 1.3-1.5mm (FB 0.85-0.9mm). Costa Rica..... *amigo* PUTHZ
- Elytra longer, subquadrate. ♂ S 8 and A (figs 5, 6, PUTHZ, 2007). 1.3-1.7 mm. (FB 0.9mm). Bolivia *similifactus* PUTHZ
- 46 Small blackish species with two impressions on elytra. see above see #13 *najtae* OROUSSET
- Reddish or reddish brown species with simple elytra47
- 47 At least tergite 3 with an atrium-pocket or with a prolonged atrium elevation (figs 1-3, 15-18, 25, PUTHZ 2006b).....(*ventralis*-group) 48
- Tergites simple, no atrium-pockets present63
- 48 Tergite 3 with a narrow, oblique atrium-pocket (fig. 10). Base of pronotum with 2 transverse bf49
- Tergites 1-4 with transverse atrium pockets (fig. 9). Base of pronotum different.....52
- 49 Elytra almost impunctate. ♂: Parameres of A with one apical seta50
- Elytra very finely and densely punctate. ♂ unknown. 1.2-1.5mm (FB 0.75mm). Ecuador *asheianus* PUTHZ
- 50 Smaller: 1.0-1.3mm (FB 0.6-0.7mm)51
- Larger: 1.3-1.5mm (FB 0.8-0.85mm). ♂: A (fig. 12, PUTHZ 2006b), parameres with two apical setae. Ecuador *falini* PUTHZ
- 51 Eyes smaller (figs 6, 7, l. c.). ♂: Antennal segment 11 nearly 4x as long as broad. A (fig. 5, l. c.). ♀: Head with short oblique temples (fig. 7, l. c). Costa Rica, Panama, Nicaragua *ventralis* PUTHZ

- Eyes larger (figs 10, 11, l. c.). ♂: Antennal segment 11 about 1.5x as long as broad. A (fig. 9). ♀: Head without distinct temples (fig. 11, l. c.). Peru, Ecuador.....*ventricula* PUTHZ
- 52 Pronotum distinctly punctate, with two postero-lateral denticles. 1.9-2.2mm (FB 1.3mm). Ecuador.....*denticollis* PUTHZ
- Pronotum impunctate and without lateral denticles.....53
- 53 Mbct3 present.....54
- Mbct3 absent.....56
- 54 ♂: Eyes very large with coarse ommatidia (fig. 13, l. c.). Distance between eyes ≤ half HW. A (fig. 30, l. c.). 1.1-1.4mm. French Guiana.....*boops* PUTHZ
- ♂: Eyes smaller with smaller ommatidia (fig. 14, l. c.), Distance between eyes > half HW.....55
- 55 Smaller: FB 0.7-0.8mm. ♂: Apical notch of S 8 less deep (fig. 23, l. c.), A (fig. 22, l. c.), apical part of parameres free. 1.3-1.6mm. Suriname, Trinidad, Brazil, Peru, ?Ecuador, Paraguay.....*rishwani* MAKHAN
- Larger: FB 0.85-0.95mm. ♂: Apical notch of S 8 deeper (fig. 24, l. c.), A (figs 20, 21, l. c.), apical part of parameres fused with the median lobe. 1.3-1.8mm. Brazil, French Guiana, Suriname, Guyana.....*humeralis* PUTHZ
- 56 Atrium pockets of tergites 1-4 slightly broader than long (fig. 9).....57
- Atrium pockets of tergites 1-4 much broader than long (figs 15-18, l. c.).....58
- 57 Larger: 0.9-1.1mm, pronotum narrower, mbct3 absent. ♂: S 8 (fig. 27, l. c.), A (fig. 26, l. c.). Costa Rica.....*schatzorom* PUTHZ
- Smaller: 0.8mm, pronotum broader, mbct3 present. ♂: S 8 (fig. 28, l. c.), A (fig. 29, l. c.). Panama: Canal Zone.....*liliputanus* PUTHZ
- 58 Lbc distinct and longer than bf.....59
- Lbc indistinct or at most as long as bf (species from Cuba).....60
- 59 Larger: FB 0.7-0.8mm, mbf larger, longer than broad. ♂: A (fig. 19, l. c.). 1.1-1.5mm. Costa Rica, Panama, Guatemala.....*marsupifer* PUTHZ
- Smaller: FB 0.65mm, mbf smaller, almost as long as broad. ♂: A (fig. 31, l. c.). 1.0- 1.2mm. Brazil.....*hoppi* PUTHZ
- 60 Larger, FB 1.0mm, eyes larger, genae almost missing. ♂ unknown. 1.6-2.0mm. Cuba.....*ferdinandae* PUTHZ
- Smaller, FB less than 1.0mm, eyes smaller, genae distinct.....61
- 61 Pronotum and elytra with both: fine + distinct and very fine + shallow punctuation...62
- Punctuation of pronotum and elytra simple. ♂: S 8 (fig. 10, PUTHZ 1997). 1.0-1.3mm. Cuba.....*juanae* PUTHZ
- 62 Eyes larger, genae less long. ♂: S 8 (fig. 6, l. c.), A (fig. 5, l. c.). 1.1-1.5mm. Cuba.....*cubanus* PUTHZ
- Eyes less larger, genae longer. ♂: S 8 (fig. 1, l. c.), A (fig. 8, l. c.). 1.4-1.9mm. Cuba.....*infidus* PUTHZ
- 63 Elytra with broad epaulets (a distinct line-like humeral impression separates broad and slightly elevated epaulets) and postero-lateral impressions (fig. 1, PUTHZ, 1973a). Large species.....64
- Elytra without broad epaulets but can have other humeral characters. Almost smaller species.....66
- 64 Longer, exceeding 2.2 mm.....65
- Shorter, less than 2.2 mm. Humeral impression at base with 2 small foveae. Postero-lateral outline of head (eyes + temples) acute angled. ♂ unknown. 1.7-1.9mm (FB 1.1mm). Ecuador.....*praefectus* PUTHZ
- 65 Mbc present. ♂: S 8 and A (figs 4, 7, PUTHZ, 2007). 2.5-5.1 mm (!) (FB 1.4-2.5mm). Venezuela, Ecuador.....*goliath* PUTHZ

-	Mbc absent. ♂: A (fig. 11, PUTHZ, 1973a). 2.2-3.3mm. Brazil: São Paulocrassus PUTHZ	
66	Base of pronotum with a mbc, extending to base proper.....	67
-	Base of pronotum without a mbc extending to base proper	89
67	Brachypterous or apterous, PL >SL	68
-	Macropterous, PL <SL	69
68	Longer, 1.5-2.0mm (FB 0.8mm). Frons impunctate, temples distinct. Habitus (fig. 9, PUTHZ, 2006). ♂ unknown. 1.5-2.1mm (FB 0.8mm). Ecuador... <i>trapezipennis</i> PUTHZ	
-	Less long, 1.3mm (FB 0.6mm). Frons punctate, temples indistinct. ♂: A (fig. 3, OROUSSET, 1986). 1.3-1.4mm (FB 0.65-0.7mm). Venezuela <i>fuscescens</i> OROUSSET	
69	Elytra with an intrahumeral stria (fig. 8). ♂: S 8 and A (figs 31, 51). 1.2-1.4mm (FB 0.8mm). Bolivia	<i>hanleyi</i> nov.sp.
-	Elytra with or without an intrahumeral impression, but no stria	70
70	Pronotum distinctly punctate. ♂: figs 28, 43 and figs 13-15 (OROUSSET, 1983). 1.3-1.7mm (FB 0.8-0.9mm). French Guiana, Guyana, Suriname..... <i>tavakiliani</i> OROUSSET	
-	Pronotum impunctate (aside of minute setiferous punctures).....	71
71	Elytra distinctly punctate (at least near suture)	72
-	Elytra impunctate (aside of minute setiferous punctures)	74
72	Larger. 1.5-1.8mm (FB 0.9mm). Mbct3 about as long as the tergite. ♂: A (about as in fig. 1, PUTHZ, 1974b). Brazil: Guanabara..... <i>congerminalis</i> PUTHZ	
-	Smaller, FB <0.7mm. Mbct3 less than half as long as the tergite	73
73	Elytral punctuation sparse, shallow, and extremely fine (can be more distinct near suture), elytra uniformly coloured. ♂: Apical notch of S 8 half as deep or deeper than half the length of sternite. A (fig. 41, PUTHZ 1974). 1.0-1.4mm. U. S. A.....	<i>americanus</i> PUTHZ
-	Elytra distinctly, moderately strongly punctate (strong, irregular, and moderately sparse on disc), mostly bicoloured: shoulders and posterior margin lighter (yellowish) than the rest of surface. ♂: Apical notch of S 8 less deep than half the length of sternite, A (fig. 40). 1.2-1.5mm. U. S. A.....	<i>nitidus</i> MOTSCHULSKY
74	Pronotum broader, PW: PL ≥1.20	75
-	Pronotum less broad, PW: PL <1.18	79
75	Bf distinct and distinctly delimited	76
-	Bf less distinctly delimited owing to a broad transverse impression on either side of the mbc	77
76	AmpF concave, abdomen shiny, setiferous punctures less distinct, less dense. ♂: S 8 and A (figs 24, 61). 1.4-1.7mm (FB 0.9-1.0mm). Costa Rica, Panama.....	<i>inconveniens</i> nov.sp.
-	AmpF transversely elevated, abdomen moderately shiny, setiferous punctures more distinct, dense. ♂: S 8, A and SpP (figs 15, 36, 55). 1.0-1.3mm (FB 0.75mm). Suriname	<i>torifrons</i> nov.sp.
77	Temples distinct, antennal segment 10 longer than broad. ♂: S 8 and A (figs 12, 13, PUTHZ 2006a). 1.3-1.6 mm (FB 0.8mm). Peru	<i>lescheni</i> PUTHZ
-	Distinct temples absent, antennal segment 10 broader than long	78
78	Mbct3 longer, about as long as the tergite, alpF strongly elevated. ♂: S 8 and A (figs 9, 12, OROUSSET, 1983), habitus (fig. 2, l. c.). 1.3-1.8 mm (FB 0.7-0.8mm). French Guiana, Guyana, Suriname, Brazil: Para.....	<i>remileti</i> OROUSSET
-	Mbct3 shorter, about one half as long as the tergite, alpF slightly elevated. ♂: S 8 and A (figs 5, 6, PUTHZ, 2002). 1.3mm (FB 0.7mm). Mexico: San Luis Potosi.....	<i>izcoatl</i> PUTHZ
79	Temples distinct	80
-	Temples indistinct/absent.....	84
80	Larger, FB >0.8mm.....	83

-	Smaller, FB ≤ 0.7 mm	81
81	Mbf about three times as long as broad. ♂: A (fig. 42). 0.9-1.1mm (FB 0.6-0.7mm). Holarctis, New Zealand (introduced)	<i>lederi</i> EPPELSHEIM
-	Mbf about as long as broad	82
82	Tergites finely and densely punctate, mbct3 longer than half the tergite. ♂: A (fig. 2, PUTHZ, 1974). 1.2-1.3mm (FB 0.7-0.8mm). U.S.A.	<i>politus</i> MOTSCHULSKY
-	Tergites indistinctly, very sparsely punctate, mbct3 nearly half as long as the tergite. ♂: S 8 (fig. 26), A (figs 16-18, 39). U. S. A.: Arkansas.....	<i>inexpectatus</i> nov.sp.
83	AmpF distinctly broader than each of the alpF, mbf about as broad as long. ♂: S 8 and A (figs 10, 11, PUTHZ, 2006a). 1.3-1.7 mm (0.85-0.9mm). Venezuela.....	<i>venezolanus</i> PUTHZ
-	AmpF slightly less broad than each of the alpF, mbf slightly broader than long. ♂ unknown. 1.4-1.5mm FB 0.8-0.9mm). Mexico: Chiapas	<i>tizoc</i> PUTHZ
84	Pronotum with 6 bf.....	85
-	Pronotum with 4 bf.....	86
85	PtFF semicircular, ampF about as broad as each of the alpF. ♂: Figs 2, 3 (PUTHZ, 1990). 1.0-1.2mm (FB 0.7mm). Ecuador	<i>quisquilius</i> PUTHZ
-	PtFF trapezoid, ampF nearly twice as broad as each of the alpF. ♂: figs 2, 3 (PUTHZ, 2001). 1.2-1.3mm (FB 0.7mm). Mexico: Chiapas, Nicaragua	<i>ashei</i> PUTHZ
86	Pronotum broader, PW: PL > 1.10	87
-	Pronotum less broad, PW: PL < 1.10	88
87	Mbf twice as broad as long, ampF distinctly broader than each of the moderately elevated alpF. ♂ unknown. 1.0-1.1mm (FB 0.7mm). Peru	<i>peruanus</i> PUTHZ
-	Mbf about as broad as lbf, ampF about as broad as each of the strongly elevated alpF. ♂: S 8 and A (figs 48, 50, PUTHZ, 2007). 0.8-1.1 (1.2?)mm. (FB 0.55-0.6 (0.7?)mm). Panama, Costa Rica (?), Honduras (?), Guatemala (?)	<i>newtoni</i> PUTHZ
88	Mbf twice as broad as lbf. ♂: A (fig. 2, PUTHZ, 1978). 0.8-1.1 mm (FB 0.5-0.6mm). Brazil: Sta Catharina, Peru, Bolivia, Cuba ?	<i>plaumanni</i> PUTHZ
-	Mbf about as broad as lbf. ♂: S 8 and A (figs 14, 15, PUTHZ, 2006). 1.0-1.2mm (FB 0.65mm). Panama.....	<i>quadrifoveolatus</i> PUTHZ
89	Shoulders with a minute carina/denticle.....	90
-	Shoulders simple	95
90	Brachypterous, PL $> SL$	91
-	Macropterous, PL $< SL$	92
91	Mbct3 absent. ♂: A (fig. 14, l. c.). 1.1-1.3mm (FB 0.6-0.65mm). Brazil: Alexandra, Parana	<i>depressus</i> PUTHZ
-	Mbct3 present. ♂: S 8 and A (figs 32, 33, PUTHZ, 2007). 1.0-1.2mm (FB 0.7mm). Costa Rica (short winged form of)	<i>wagneri</i> PUTHZ
92	PW: PL > 1.20 . ♂: S 8 and A (figs 27, 57). 1.1-1.2mm (FB 0.7mm). Venezuela.....	<i>mediocris</i> nov.sp.
-	PW: PL ≤ 1.10	93
93	AmpF very finely punctate. ♂: S 8 and A (Figs 28, 30, 31, PUTHZ, l. c.). 1-1.3 mm (FB 0.7mm).....	<i>gallinaceus</i> PUTHZ
-	AmpF impunctate	94
94	♂: S 8, SpP and A (figs. 16-18, PUTHZ, 2006). 1.0-1.2mm (FB 0.7mm). Costa Rica.....	<i>costaricensis</i> PUTHZ
-	♂: S 8 and A (figs 32, 33, PUTHZ, 2007). 1.0-1.2mm. (FB 0.7mm). Costa Rica.....	<i>wagneri</i> PUTHZ
95	Head broader, PW: HW < 1.20	96
-	Head less broad, PW: HW ≥ 1.20	108

96	Elytra with a very fine granular sculpture. ♂: A (fig. 2, PUTHZ, 1974). 1.5-2.0mm FB 0.9-1.0mm). Brazil: Nova Teutonia, Paraguay <i>brasiliensis</i> WENDELER	
-	Elytra otherwise	97
97	Anterior angles of pronotum acute	98
-	Anterior angles of pronotum rounded, no margin visible in dorsal aspect	101
98	Antennal segment 10 broader than long. Sides of pronotum in anterior half convex. Mbct3 present.....	99
-	Antennal segment 10 longer than broad. Mbct3 absent. Sides of pronotum in anterior half straight. Mbct3 absent. ♂: S 8 and A (figs 29, 54). 1.6-1.7mm (FB 0.95mm). Venezuela <i>marginicollis</i> nov.sp.	
99	Longer, 1.5-1.9mm (FB 0.8-1.1mm)	100
-	Less long, 1.1-1.2mm (FB 0.7mm). ♂: S 8 and A (figs 34, 62). 1.1-1.2mm (FB 0.7mm) Peru <i>angulosicollis</i> nov.sp.	
100	AmpF broader than each of the alpF. ♂: S 8 and A (figs 25, 49). 1.5-1.7mm (FB 0.8mm). Paraguay <i>montoya</i> nov.sp.	
-	AmpF about as broad as each of the alpF. Longer, 1.6-1.9mm (FB 1.1mm). ♂ unknown. Brazil: Rio de Janeiro <i>bryanti</i> PUTHZ	
101	Mbct3 at least one third as long as the tergite	102
-	Mbct3 shorter than one third of the tergite	105
102	Antennal segment 10 distinctly broader than long	103
-	Antennal segment 10 about as long as broad or slightly longer	104
103	Pronotum with 4 (-5) bf. ♂: S 8 and A (figs 36, 37, PUTHZ, l.c.). 1.2-1.4mm. (FB 0.8mm). Panama, Costa Rica <i>andersonianus</i> PUTHZ	
-	Pronotum with 6-8 bf. 1.2-1.6mm (FB 0.8mm). Panama, Costa Rica. <i>dybasi</i> PUTHZ	
104	♂: S 8 and A (figs 38, 59). 1.1-1.4mm (FB 0.7-0.8mm). Venezuela <i>brachati</i> nov.sp.	
-	♂: S 8 and A (figs 53, 54, PUTHZ 2007). 1.2-1.5mm (FB 0.8-0.85mm). Bolivia <i>bolivianus</i> PUTHZ	
105	Pronotum broader, PW: PL \geq 1.20	106
-	Pronotum less broad, PW: PL $<$ 1.20	107
106	Larger, alpF strongly elevated. ♂: S 8 and A (figs 32, 53). 1.6mm (FB 0.9mm). French Guiana <i>falinianus</i> nov.sp.	
-	Smaller, alpF moderately elevated. ♂ unknown. 1.3mm (FB 0.75mm). Mexico: Hidalgo <i>axayacatl</i> PUTHZ	
107	AmpF punctate. ♂: S 8 and A (figs 1, 2 PUTHZ, 1990). 1.3-1.5mm (FB 0.85- 0.9mm). Brazil: Rio de Janeiro <i>planifrons</i> PUTHZ	
-	AmpF impunctate	108
108	Larger, FB \geq 0.9mm	109
-	Smaller, FB \leq 0.8mm	112
109	Pronotum with 4 bf, mbf much broader than lbf. ♂ unknown. 1.3-1.5mm (FB 0.9mm). Guatemala <i>euplectoides</i> SHARP	
-	Pronotum with 4-6 bf, mbf not or slightly broader than lbf	110
110	Mbct3 as long as the tergite.....	111
-	Mbct3 shorter than the tergite. 1.4-1.7mm (FB 0.9mm). ♂: S 8 and A (figs 21, 22, PUTHZ, 2007). Costa Rica..... <i>bierigi</i> PUTHZ	
111	Larger. ♂ unknown. 1.6-1.9mm (FB 1.1mm) Brazil: Rio de Janeiro. <i>bryanti</i> PUTHZ	
-	Smaller. ♂: S 8 and A (figs 26, 36, PUTHZ, 2011). 1.6mm (FB 0.9mm). Brazil: Bahia <i>agostii</i> PUTHZ	
112	Antennal segment 10 distinctly broader than long (e. g. fig 2b, PUTHZ, 1974)	113
-	Antennal segment 10 about as long as broad	114

- 113 Mbct3 nearly as long as the tergite, head much narrower than pronotum. ♂: A (fig. 1, PUTHZ, 1974). 1.3-1.5 (1.9) mm (FB 0.8mm). Brazil: Nova Teutonia, Paraguay*congener* PUTHZ
- Mbct3 at most one half as long as the tergite, head about as broad as pronotum. ♂: S 8, SpP and A (figs. 16-18, PUTHZ, 2006). 1.0-1.2mm (FB 0.7mm). Costa Rica*costaricensis* PUTHZ
- 114 Mbct3 about as long tergite 3. 1.3-1.5mm (FB \leq 0.8mm). ♂: A (fig. 5, PUTHZ, 1985). Paraguay, Brazil: Sta. Catharina*torresbolloi* PUTHZ
- Mbct3 shorter than tergite 3 115
- 115 Eyes smaller, LG > 1/3 of LE. ♂: S 8 and A (figs 32, 33, PUTHZ, 2007). 1.0-1.2mm (FB 0.7mm). Costa Rica*wagneri* PUTHZ
- Eyes larger, LG as long as or shorter than 1/3 LE. ♂: S 8 and A (figs 44, 47, PUTHZ, l.c.). 1.1-1.3mm (FB 0.7-0.8mm)*siphonifer* PUTHZ

Acknowledgements

My thanks are due to all the colleagues who provided material for this final study, especially Dr. Z. Falin (KSEM). I thank also M. Marc Tronquet for some photographs.

Zusammenfassung

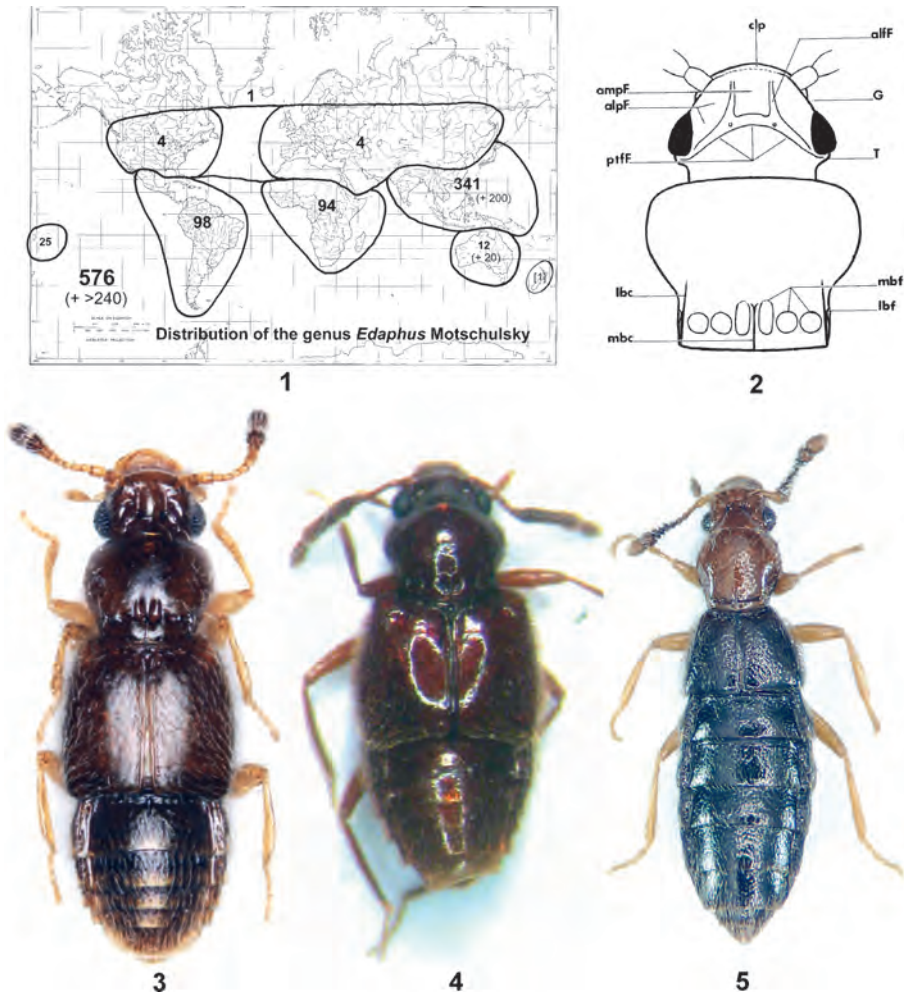
Eine Übersicht über die *Edaphus*-Arten der Neuen Welt wird gegeben. 20 neue Arten werden beschrieben: *Edaphus angulosicollis* nov.sp. (Peru), *E. atahualpa* nov.sp. (Peru), *E. brachati* nov.sp. (Venezuela), *E. chilensis* nov.sp. (Chile), *E. ecuadorensis* nov.sp. (Ecuador), *E. electrinus* nov.sp. (Bolivien), *E. falinianus* nov.sp. (Französisch Guiana), *E. foraminosus* nov.sp. (Peru), *E. foveolicollis* nov.sp. (Peru), *E. hanleyi* nov.sp. (Bolivien), *E. inconveniens* nov.sp. (Costa Rica, Panama), *E. inexpectatus* nov.sp. (U.S.A: Arkansas), *E. marginicollis* nov.sp. (Venezuela), *E. mediocris* nov.sp. (Venezuela), *E. molestus* nov.sp. (Ecuador), *E. montoya* nov.sp. (Paraguay), *E. scupolai* nov.sp. (Ecuador), *E. torifrons* nov.sp. (Surinam), *E. variipennis* nov.sp. (Venezuela) und *E. variipunctus* nov.sp. (Peru). Ein Bestimmungsschlüssel für alle Arten der Neuen Welt wird vorgelegt.

Bibliography

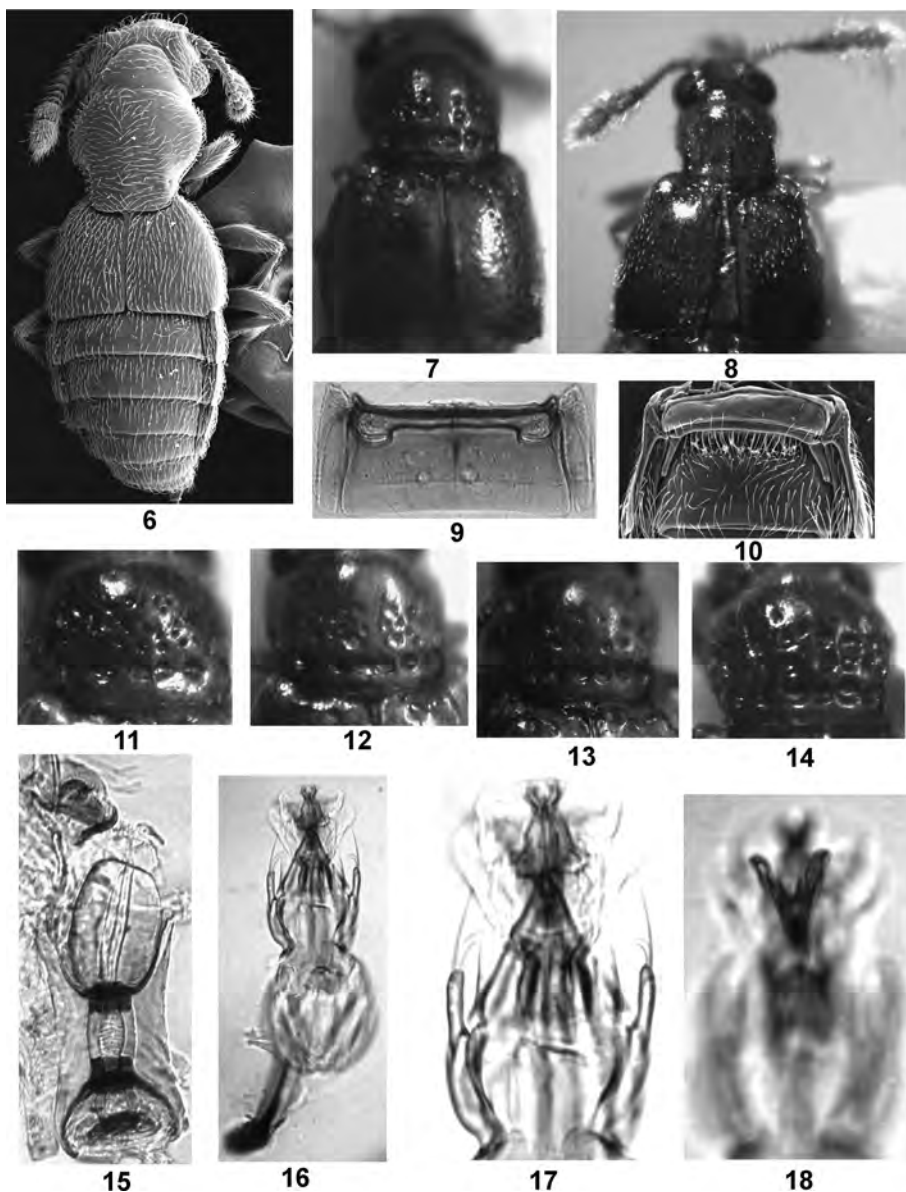
- KUSCHEL G. (1990): Beetles in a suburban environment: a New Zealand case study. The identity and status of Coleoptera in the natural and modified habitats of Lynfield, Auckland (1974-1989). — DSIR Plant Protection Report No. 3, 118 pp.
- OROUSSET J. (1983): Nouveaux Euaesthetinae néotropicaux (Coleoptera, Staphylinidae). — Revue française d'Entomologie (N. S.) 5: 113-119.
- OROUSSET J. (1986): Trois nouveaux Euaesthetinae néotropicaux du genre *Edaphus* Motschulsky (Coleoptera, Staphylinidae). — Revue française d'Entomologie (N. S.) 8: 75-79.
- OROUSSET J. (1987): Un nouvel *Edaphus* néotropical (Col. Staphylinidae). — Bulletin de la Société entomologique de France 92: 19-21.
- PUTHZ V. (1973a): On Some Neotropical Euaesthetinae (Coleoptera, Staphylinidae). — Studies on the Neotropical Fauna 8: 51-73.
- PUTHZ V. (1973b): Zwei neue neotropische *Edaphus*-Arten (Coleoptera, Staphylinidae). — Nouvelle Revue d'Entomologie 3: 147-148.

- PUTHZ V. (1974a): A New Revision of the Nearctic *Edaphus*-Species and Remarks on Other North American Euaesthetinae (Coleoptera, Staphylinidae). — *Revue suisse de Zoologie* **81**: 911-932.
- PUTHZ V. (1974b): *Edaphus congener* nov.spec., a New Staphylinid Beetle from Brazil (Coleoptera, Staphylinidae). 13th Contribution to the Knowledge of Euaesthetinae. — *Studies on the Neotropical Fauna* **9**: 35-37.
- PUTHZ V. (1977): Beiträge zur Kenntnis der Euaesthetinae LXXVIII Neotropische *Edaphus*-Arten mit Atriumtaschen an den Abdominaltergiten 2-4 (Staphylinidae, Coleoptera). — *Philippia* **8**: 137-145.
- PUTHZ V. (1990): Beiträge zur Kenntnis der Euaesthetinen LXI Neue *Edaphus*-Arten aus Südamerika (Staphylinidae, Coleoptera). — *Philippia* **6**: 259-263.
- PUTHZ V. (1997): Beiträge zur Kenntnis der Euaesthetinen LXXVIII Neotropische *Edaphus*-Arten mit Atriumtaschen an den Abdominaltergiten 2-4 (Staphylinidae, Coleoptera). — *Philippia* **8**: 137-145.
- PUTHZ V. (2001): Three new *Edaphus*-species from Mexico (Coleoptera: Staphylinidae) (83th contribution to the knowledge of Euaesthetinae). — *Dugesiana* **8**: 23-27.
- PUTHZ V. (2002): On four Mexican Euaesthetinae (Coleoptera: Staphylinidae) (85th Contribution to the knowledge of Euaesthetinae). — *Dugesiana* **9**: 55-58.
- PUTHZ V. (2006a): Description of new species and notes on some Neotropical Euaesthetinae (Coleoptera: Staphylinidae) (93rd Contribution to the knowledge of Euaesthetinae). — *Dugesiana* **13**: 25-38.
- PUTHZ V. (2006b): The *ventralis* group of *Edaphus*: Neotropical Euaesthetines with special abdominal characters (Coleoptera, Staphylinidae) (95th Contribution to the knowledge of Euaesthetinae). — *Dugesiana* **13**: 77-90.
- PUTHZ V. (2007): New Neotropical *Edaphus*-species (Coleoptera: Staphylinidae). — *Amazoniana* **13**: 97-130.
- PUTHZ V. (2011): Neue und alte Euaesthetinen (Coleoptera: Staphylinidae) 108. Beitrag zur Kenntnis der Euaesthetinen. — *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* **63**: 13-31.
- PUTHZ V. (2014): Some new Oriental *Edaphus* MOTSCHULSKY, mainly from Vietnam (Coleoptera, Staphylinidae). 119th Contribution to the Knowledge of Euaesthetinae. — *Linzer biologische Beiträge* **46** (1): 877-887.
- PUTHZ V. (2013a) (in Druck): *Edaphus* MOTSCHULSKY, 1857 aus Südindien (Coleoptera: Staphylinidae). 117. Beitrag zur Kenntnis der Euaesthetinen. — *Revue Suisse de Zoologie* **120**.
- PUTHZ V. (2013b) (in Druck): *Edaphus* von Japan (Coleoptera: Staphylinidae). 118. Beitrag zur Kenntnis der Euaesthetinen. — *Revue Suisse de Zoologie* **120**.

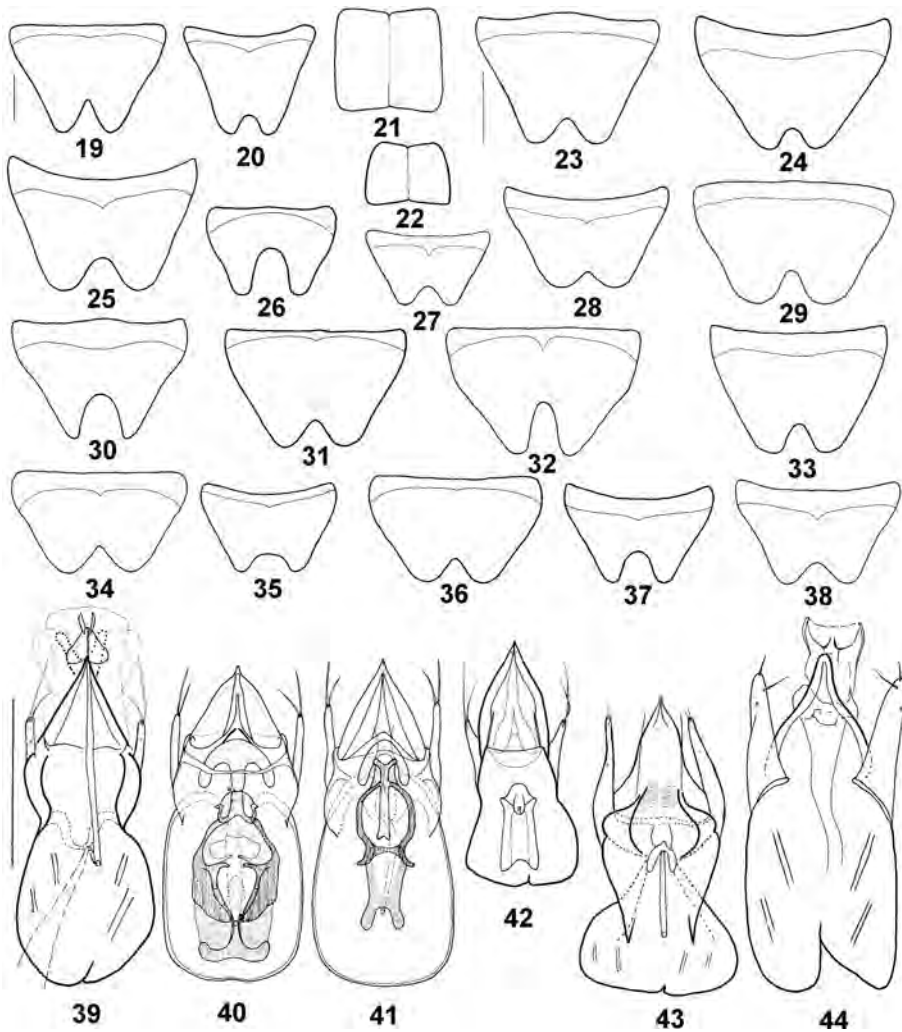
Anschrift des Verfassers: Dr. Volker PUTHZ
 Burgmuseum Schlitz, Naturwissenschaftliche Abteilung
 Vorderburg 1
 D-36110 Schlitz
 E-Mail: Stenus.Puthz@t-online.de



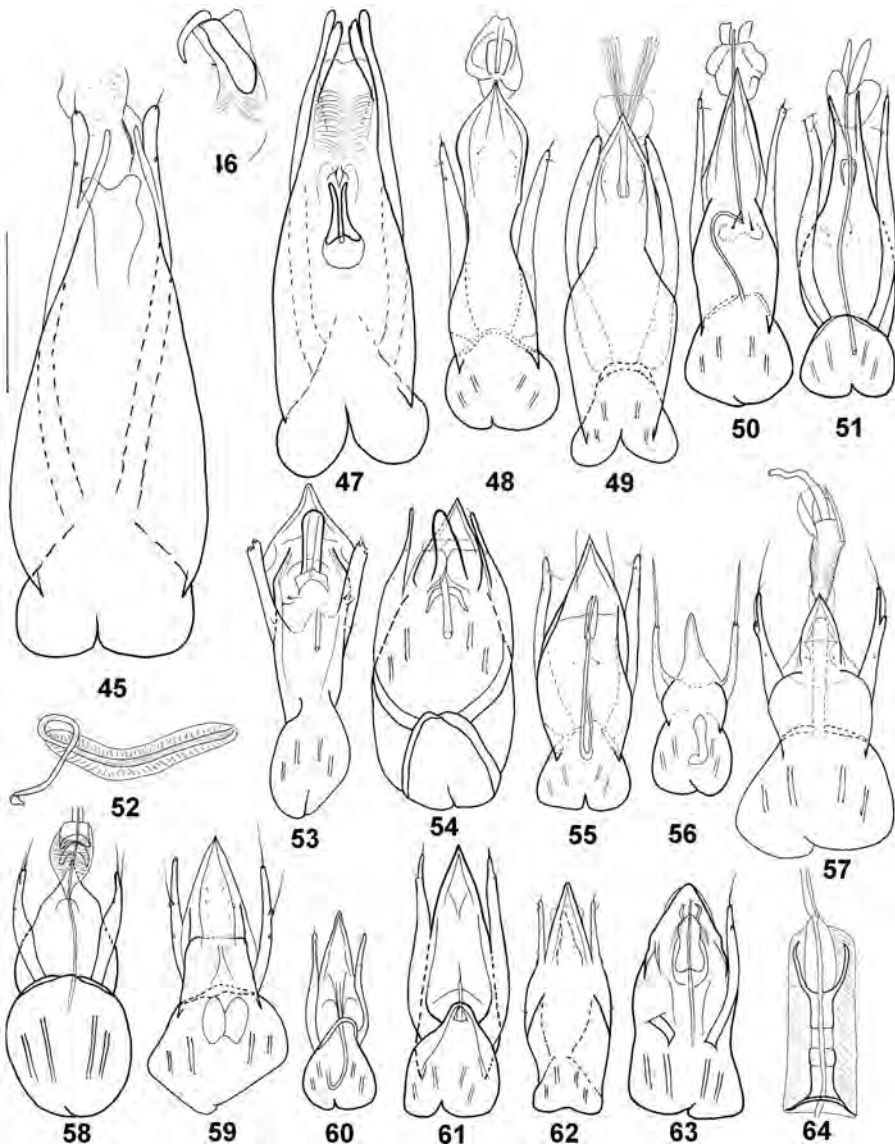
Figs 1-5: Distribution of the genus *Edaphus* MOTSCHULSKY (1; comments see introduction), schema of head and pronotum (2; acronyms see introduction), habitus of *Edaphus lederi* EPPELSHEIM (3), *E. goliath* PUTHZ (4) and *E. inka* PUTHZ (5, HT). - Scale diverse.



Figs 6-18: Habitus (1), fore body (7, 8), tergite 3 (9, 10), pronotum (11-14), sperm pump and vesica seminalis (15), aedeagus and apical portion of aedeagus (16-18) of *Edaphus dybasianus* PUTHZ (6, PT), *E. variipunctus* nov.sp. (7, HT), *E. hanleyi* nov.sp. (8, HT), *E. schatzorum* PUTHZ (9, PT), *E. ventralis* PUTHZ (10, PT), *E. ecuadorensis* nov.sp. (11, HT), *E. foveolicollis* nov.sp. (12, HT), *E. scupolai* nov.sp. (13, HT), *E. foraminosus* nov.sp. (14, PT), *E. torifrons* nov.sp. (15, HT) and *E. inexpectatus* nov.sp. (16-18, HT).



Figs 19-44: Sternite 9 of male (19, 20, 23-38), elytra (21, 22) and aedeagus (39-44) of *Edaphus electrinus* nov.sp. (19, PT), *E. variipennis* nov.sp. (20-22), *E. foveolicollis* nov.sp. (23, HT), *E. inconveniens* nov.sp. (24, PT), *E. montoya* nov.sp. (25, HT), *E. inexpectatus* nov.sp. (26, 39), *E. mediocris* nov.sp. (27, HT), *E. tavakiliani* OROUSSET (28, 43, Suriname), *E. marginicollis* nov.sp. (29, HT), *E. foraminosus* nov.sp. (30, 44, HT), *E. hanleyi* nov.sp. (31, HT), *E. falinianus* nov.sp. (32, HT), *E. ecuadorensis* nov.sp. (33, HT), *E. angulosicollis* nov.sp. (34, PT), *E. molestus* nov.sp. (35, HT), *E. torifrons* nov.sp. (36, HT), *E. atahualpa* nov.sp. (37, HT), *E. brachati* nov.sp. (38, HT), *E. nitidus* MOTSCHULSKY (40, Kentucky), *E. americanus* PUTHZ (41, HT) and *E. lederi* Eppelsheim (42, Switzerland). - Scale = 0.1 mm (19= 20, 23= 24-38, 39= 40-44).



Figs 45-64: Aedeagus (45-51, 53-63, detail: 46), sperm pump (52, 64) of *Edaphus electrinus* nov.sp. (45, 46, PT), *E. variipennis* nov.sp. (47, PT), *E. ecuadorensis* nov.sp. (48, HT), *E. montoya* nov.sp. (49, HT), *E. foveolicollis* nov.sp. (50, HT), *E. hanleyi* nov.sp. (51, HT), *E. variipunctus* nov.sp. (52, 60, PT), *E. falinianus* nov.sp. (53, HT), *E. marginicollis* nov.sp. (54, HT), *E. torifrons* nov.sp. (55, HT), *E. atahualpa* nov.sp. (56, HT), *E. mediocris* nov.sp. (57, HT), *E. molestus* nov.sp. (58, HT), *E. brachati* nov.sp. (59, HT), *E. inconveniens* nov.sp. (61, PT), *E. angulosicollis* nov.sp. (62, PT) and *E. chilensis* nov.sp. (63, 64, HT). - Scale= 0.1mm).

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Linzer biologische Beiträge](#)

Jahr/Year: 2014

Band/Volume: [0046_1](#)

Autor(en)/Author(s): Puthz Volker

Artikel/Article: [Review of the New World Edaphus MOTSCHULSKY \(Coleoptera, Staphylinidae\) 120th Contribution to the Knowledge of Euaesthetinae 799-827](#)