Notes on the Nearctic Epuraeinae (Coleoptera: Nitidulidae)

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The paper includes new records, new synonymy for some names proposed in the genus *Epuraea* Erichson, 1843 and descriptions of *E. (E.) cetera* sp. n., *E. (E.) gulstafsoni* sp. n., *E. (E.) interposita* sp. n., *E. (Amedanyraea) latebrosa* subgen. et sp. n. and also substantiation of change in taxonomical interpretation of some nearctic species, in particular members of the subgenus *Epuraeanella* Crotch, 1874. Lectotypes are designated for *Epuraea (Epuraea) pallescens labilis* Erichson, 1843, stat. n. and *Epuraea scutellaris* (Brown, 1880), comb. n. (transferred from *Omosita*); *Epuraea (Marinexa) scaura* nom. n. is given to *Epuraea scutellaris* Kraatz, 1895. The subgenus *Horniraea* subgen. n. is proposed for *Epuraea scaphoides* Horn, 1879.

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The Nearctic "sap" or "picnic" beetles are known less well than the Palaearctic fauna of this family. This paper deals with some taxonomic corrections and additions to the list of the Nearctic fauna including some species occasionally introduced in by man. Though the Nearctic fauna is a particular subject of our consideration, we include data on the adjacent territories from Mexico to Panama, island systems neighbouring to North American continent south to latitude of Panama, and also Hawaii and the islands of Polynesian (= Pacific) region belonging to USA. The paper became possible after one of the authors was able to visit the U.S. National Museum of Natural History in Washington (in the subsequent text – USW), Field Museum of Natural History in Chicago (FMC) and Biosystematic Research Institute in Ottawa (BRO) thanks to support from those institutions. This study is mainly based on the specimens deposited in those collections. In addition, specimens borrowed from the following collections were used to prepare the paper: Canadian Museum of Nature, Ottawa (CMO); Department of Health & Human Services, Los Angeles (DSL); Museum fur Naturkunde an der Humboldt-Universitat, Berlin (MHB); Natural History Museum, London (NHL); Zoological Institute of the Russian Academy of Sciences, St.Petersburg (ZIN); Zoological Museum at Helsinki University (ZMH); Zoological Museum at Manchester University (ZMM).

Epuraea (Haptoncus) nubilis Grouvelle, 1913

Specimens examined. 2 (USW, ZIN), "Kenya, intrc. New York, N.Y. 12 Oct. 1967", "*Hyphaene coriacea* seed", "68-25842 S. Hidalgo Coll.", "*Haptoncus falax* Grouvelle, det. Gillogly 1969".

Notes. This species (not to be confused with *Epuraea nubila* Leconte, 1857) is widely distributed in tropical Africa and Madagascar (Kirejtshuk, inedit.), though Gillogly (1982) indicated it only from "Tanzania and Pemba Is." This first record from U.S.A. may have no sequence, though we may expect its arrival at one or several ports of North America.

Epuraea (Haptoncurina) motschulskii Reitter, 1873

Kirejtshuk, 1992 (tropics of Asia, Africa, Madagascar, Australia and Oceania, including Japan and China).

Specimens examined. USA: 1 (DSL), Los Angeles, "Sample 1585889, India, Peeled mango pickle, S. Angold, 1.16.90"; 1 (USW), "Japan, intrc. ... Alaska..."

[*Gardenia* flowers, Air Force plane] (named by L.R. Gillogly as *Haptoncus dispersus*); and also 1 (USW), "Nan Siam, Jan 29, M. Collier Truck Il."

Notes. This species is a most common representative of one of anthophilous groups of the Epuraeinae possibly associated with flowers of different plants, though its development has been recorded so far only in flowers of sweet batatas (Convolvulales: Convolvulaceae) (Audisio,1982; Jelinek, 1992). Initial distribution of this species before human deliveries in all zoogeographic regions was restricted to tropics of the Eastern Hemisphere.

Epuraea (Marinexa) scaura nom. n.

Epuraea scutellaris Kraatz, 1895 (junior secondary homonym of *Omosita scutellare* Broun, 1880).

As given below, *Omosita scutellare* Broun, 1880 belongs to *Epuraea*, thus the African *Epuraea scutellaris* Kraatz, 1895 should be replaced as a junior homonym. The species belongs to the subgenus *Marinexa* established by Kirejtshuk (1989).

Epuraea (? Epuraea) scutellaris (Broun, 1880), comb. n.

Omosita scutellare Broun, 1880 (New Zealand).
Haptoncus californicus Gillogly, 1946, syn. n.; Gillogly, 1982 (Australia, Hawaii, California).

Types examined. Lectotype of *Omosita scutellare*, here designated, ♀ (NHL), "narua" (or "rarua") "New Zealand Broun Coll.", "Brit. Mus. 1922-482", "*Omosita scutellare*"; 1 paralectotype, ♀ (NHL), "311", "New Zealand Broun Coll.", "Brit. Mus. 1922-482", "*Omosita scutellare*". 4 paratypes of *Haptoncus californicus* (USW) and 1 additional specimen (USW) from San Marino.

Other material examined. USA: 2 (BRO), "G.P. Mackenzie, San Marino, Calif., 2-8-42", "J.F. Brimley Collection"; 1 (BRO), "Mill Valey, Marin Co., Cal., 18.X.1956", "H.B. Leech Collector", "Ex pile of rotting carrot tops"; 1 (ZIN), "CAL, S. Diego Co., 2 mi SE Pauna Valley, 1100′, 7.III.83, A. Smetana"; 4 (FMC), "G.P. Mackenzie, San Marino, Calif, 1-9-42"; 1 (USW), "Anaheim, Calif., XII.6.44", "orange", "L.R.Gillogly Collector"; 3 (USW), "Australia, intrc. Honolulu, Haw., 2-II-1967, Parker + Miller Coll.", "*Malus* sp., fruit, 67-9212", "*Haptoncus californicus* Gill. det. Gillogly"; 4 (USW, ZIN), "Australia, intrc. San Francisco, CA, 13 July 1970", "*Eucalyptus* seed, R. Wion", "*Pria* sp. det. Connell"; 1 (USW), "Australia, intrc. San Francisco, CA, 6 June 1969", "*Eucalyptus* seed", "*Pria* sp. det. Connell".

Notes. This species was occasionaly introduced from Australia and New Zealand where it is quite common in natural conditions. It is, perhaps, associated with soft decaying fruits and flowers like very similar species from the Australian region.

Epuraea (Epuraea) ambigua Mannerheim, 1843

Epuraea ambigua Mannerheim, 1843.
Epuraea integra Horn, 1897, syn. n.

Types examined. Lectotype, here designated, ♂ (ZMH), "Sitcha, Pippingsk.", "*Epuraea ambigua* Mannerh."; 1 paralectotype, "Sitcha"; 1 paralectotype, "Cygnaeus, Sitcha".

Other specimens examined. About a thousand specimens from Canada (British Columbia (FMC): "Alice Lake B.C., Garabaldi Pk., 29 June 1971, N.M. Downie"), USA [Idaho (USW), Washington (USW), Oregon (USW, FMC), California (USW, BRO), New Mexico (USW, BRO), Arizona (USW, BRO)]; and also: Mexico (USW, BRO, ZIN).

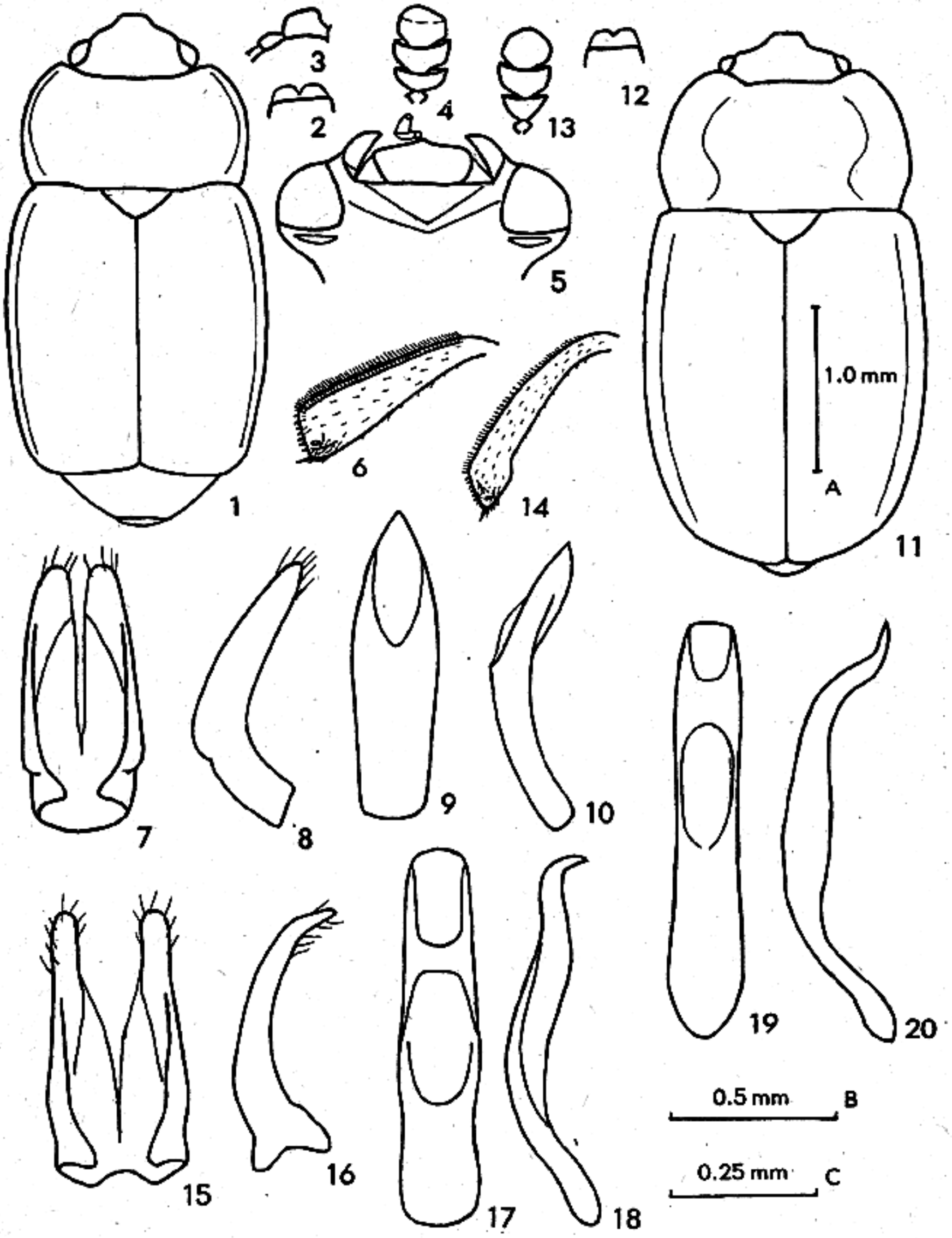
Notes. Parsons (1943) has outlined distribution for *E. ambigua*: Alaska, British Columbia, Washington, California while for *E. integra*: Nevada, Colorado, Arizona, New Mexico. Sharp (1891) had recorded *E. integra* also in Guatemala. Finally, *E. (E.) mexicana* Sharp, 1891 according to its original description may be interpreted as probable synonym because many of the specimens from Arizona determined by C. Parsons as *E. integra* (BRO) have smaller body with elytral apices not strongly prolonged and almost simple middle tibiae in males. However, there is a considerable degree of variability in the shape of elytral apices, antennal grooves, male middle tibiae and aedeagal structure (length of tegminal lobes and the outline of penis apex). This species seems to be associated with western mountain regions of North America. Parsons (1943) gives a record of this species in a nest of *Bombus juxtus*, but, perhaps, it lives under bark or in similar conditions, taking into consideration the similarity of this species to *E. (E.) marseulli* Reitter, 1872, living under bark of different trees, mainly Pinaceae, in holes of Scolytidae, sometimes on fermenting tree sap (Kirejtshuk, 1992; Audisio, 1993).

Epuraea (Epuraea) cetera sp. n.
(Figs 1-10)

Holotype. ♂ (FMC), Mexico, "Mexico, CNHM, 1955, Karl Brancsik Colln, ex Edward Knirsch".

Paratypes. 3 specimens, as holotype (FMC, ZIN).

Description. Male, holotype. Length 3.0, breadth 1.5, height 0.7 mm. Weakly convex



Figs 1-20. Genus *Epuraea*, subgenus *Epuraea* s. str. **1-10**, *E. (E.) cetera* sp. n.: **1**, body with outline of explanate sides of pronotum and elytra, dorsal; **2**, fore part of head with exposed labral lobes, dorsal; **3**, scapus; **4**, antennal club; **5**, ventral surface of head, with outline of antennal grooves and postocular fossae; **6**, male middle tibia, dorsal; **7**, tegmen, ventral; **8**, id., lateral; **9**, penis trunk, dorsal; **10**, id., lateral; **11-20**, *E. (E.) gulstafsoni* sp. n., holotype (11-17) and paratype (19-20): **11**, body with outline of explanate sides of pronotum and elytra, dorsal; **12**, fore part of head with exposed labral lobes, dorsal; **13**, antennal club; **14**, male middle tibia, dorsal; **15**, tegmen, ventral; **16**, id., lateral; **17**, **19**, penis trunk, dorsal; **18**, **20**, id., lateral. Scales: A – to Figs 1, 11; B – to Figs 2-6, 12-14; C – to Figs 7-10, 15-20.

dorsally and ventrally; unicolourous straw reddish; dorsum with a weak fat lustre; ventral surface moderately shiny; dorsum with subrecumbent, fine and slightly conspicuous yellow greyish hairs, nearly twice as long as distance between their roots; underside with sparser, shorter and less conspicuous hairs.

Head and pronotal surface with punctures not quite distinct, somewhat larger than eye facets, interspaces between them nearly as 1/4-1/3 puncture diameter, very finely and densely microreticulated. Elytral surface with somewhat larger and sparser punctures, interspaces between them microreticulated as on head and pronotum. Pygidium with denser and rather distinct punctures, narrow interspaces between them conspicuously and densely microreticulated. Sclerites of ventral surface with smaller, denser and more distinct punctures, interspaces between them more smoothly microreticulated, but prosternal surface with reduced punctation and obsolete sculpture.

Head about 3/4 as long as distance between eyes, flattened and with a transverse depression between antennal insertions; eyes composed of moderately small facets. Antennae somewhat longer than head breadth, their club nearly 1/3 of total antennal length. Pronotum with gently and slightly sloping sides, very narrowly explanate at edges. Scutellum subtriangular with a widely rounded apex. Elytra 1.08 times as long as combined width; their sides gently sloping and moderately explanate at edges (width of explanate area equals to thickness of antennal flagelli); apices subtruncate, forming a shallow sutural angle. Pygidium scarcely exposed from under elytra and with a truncate apex, whereunder, in turn, a very widely rounded apex of anal sclerite is exposed.

Antennal grooves steeply convergent and rather distinct behind mentum; a short transverse postocular fossa well expressed behind each temple (visible from below). Prosternal process along fore coxae strongly curved before widely rounded apex and approached to moderately excavate surface of mesosternum. Distance between fore coxae somewhat less and the distance between hind coxae almost twice greater than that between middle ones. Metasternum flattened medially and with a suture along middle in distal half before its hind edge which is angularly excised between coxae. Hypopygidium subtruncate at apex. Epipleura 1.5 times as wide as antennal club and elevated laterally.

Fore tibiae slightly narrower, but middle and hind ones much narrower than antennal club, subtriangular with a scarcely projecting subapical corner. Femora with fore and hind edges gently convex, fore and middle ones about 1.5 times, hind ones more than twice as wide as the respective tibiae. Fore tarsi about twice narrower than fore tibiae, middle and hind ones much narrower; 5th tarsomere much longer than 1st-4th combined; claws long and narrow, not toothed.

Aedeagus moderately sclerotized.

Female. Differs from male only in pygidium with narrowly rounded apex. Ovipositor with sclerites of usual shape and weakly sclerotized.

Variations. Length 2.9-4.0 mm. Insignificant variability is observed only in character of punctation, sculpture and pubescence of dorsum.

Comparison. This new species is strongly similar to the holarctic *E. (E.) pallescens*, differing from it only in:

— less convex, more slender and unicoloured straw reddish body;

— somewhat longer head;

— pronotum with more deeply emarginate fore edge and sides more arcuately narrowed at base;

— more narrowly explanate pronotal and elytral sides;

— less distinct dorsal punctation;

— shape of scapus and more oval club in antennae;

— outline of antennal grooves behind mentum;

— sexual dimorphism in shape of tibiae never expressed (middle tibiae in males subtriangular as in females);

— structure of male genitalia, especially shape of tegminal lateral lobes.

Epuraea (Epuraea) gulstafsoni sp. n.
(Figs 11-20)

Holotype. ♂ (USW), USA, "MONT: Gallatin Co., Stone Ck., Bridger Cayon, pitfall, 2 May to 9 Jun 1988, C.E. Seibert colr.".

Paratypes. USA: 4 (USW, ZIN), "MONT: Gallatin Co., Bozeman Cr., 6400′, pitfall trap, May 1987, D.L. Gulstafson col.". Mexico: 1 (BRO), "11 mi W El Salto, MEX., VI.X'64, E.E. Lindquist", "ex pag herbage & wet sod".

Description. Male, holotype. Length 3.2, breadth 1.7, height 0.7 mm. Weakly convex dorsally and ventrally; almost unicolourous

bright reddish, only pronotal disc slightly infuscate; dorsum rather dull; ventral surface with a fat lustre; dorsum with subrecumbent, stout and rather conspicuous yellowish hairs somewhat shorter than distance between their roots; underside with sparser and slightly conspicuous hairs.

Head, pronotal and elytral surface with punctures not very distinct and oval nearly as large as eye facets, interspaces between them nearly as 1/4-1/3 puncture diameter on head and somewhat less than a puncture diameter on pronotum and elytra, very finely and densely microreticulated. Pygidium and sclerites of ventral surface with smaller punctures, interspaces between them more distinctly and cellularly microreticulated, but prosternal surface with reduced punctation and obsolete sculpture.

Head about 3/4 as long as the distance between eyes, convex at vertex and slightly excavate at antennal insertions and along eye edges; eyes composed of moderately small facets and with stout and short interfacetal hairs. Antennae somewhat longer than head breadth, their club nearly 1/3 of total antennal length. Pronotum with gently and slightly sloping sides, widely explanate at edges (slightly wider than antennal club). Scutellum subtriangular with widely rounded apex. Elytra 1.07 times as long as combined width; their sides gently sloping and comparatively widely explanate at edges (explanate area slightly narrower than antennal club), and with apices subtruncate at suture. Pygidium scarcely exposed from under elytra and with a truncate apex, whereunder, in turn, a very widely rounded apex of anal sclerite is exposed.

Antennal grooves steeply convergent and indistinct behind mentum; postocular fossa scarcely expressed behind each temple (visible from below). Mentum with rounded corners, nearly 4 times as wide as long. Last segment of labial palpi scarcely longer than wide and slightly narrowed at apex. Prosternal process along fore coxae strongly curved before a transverse apex and approached to moderately excavate surface of mesosternum. Distance between fore coxae slightly less and distance between hind ones almost twice greater than that between middle ones. Metasternum flattened medially and with a suture along the middle in distal half before its hind edge angularly excised between coxae. 1st ventrite considerably longer than hypopygidium and much longer than 2nd-4th ventrites combined. Hypopygidium very widely rounded, subtruncate at apex. Epipleura 1.75 times as wide as antennal club and moderately elevated laterally.

Fore tibiae slightly narrower, but middle and hind ones much narrower than antennal club, fore tibiae weakly subtriangular, middle ones with feebly raised subapical dilatation on inner edge and hind ones straight and narrowmost. Femora with fore and hind edges gently convex, fore femora less, but middle and hind ones more than twice as wide as the respective tibiae. Fore tarsi about twice narrower than hind tibia, middle and hind ones much narrower; 5th tarsomere much longer than 1st-4th ones combined, claws long and narrow, not toothed.

Aedeagus moderately sclerotized.

Female. Differs from male only in pygidium slightly depressed in posterior half and with widely rounded, almost subtruncate apex. Ovipositor with sclerites of usual shape and weakly sclerotized.

Variations. Length 2.9-3.2 mm. Insignificant variability observed only in coloration, character of punctation and sculpture of dorsum. Some paratypes with paler explanate sides of pronotum and elytra.

Comparison. A peculiar character of this new species is stout and short interfacetal hairs. This character has been observed in different groups of the subfamily Nitidulinae, but unknown among the subfamily Epuraeinae. Perhaps, this new species is similar to *E. (E.) fulvescens* Horn, 1879 (unknown to the authors), though it differs from the latter in the moderately arcuate pronotal sides and oblique elytral apices. On the other hand, this new species seems to be closely related to the Palaearctic *E. (E.) hilleri* Reitter, 1877 and *E. (E.) durula* Reitter, 1894 in the common character of body shape, slightly excavate dorsal surface of head, punctation and sculpture of dorsal sclerites. The pubescence in *E. (E.) gulstafsoni* sp. n. is as in *E. (E.) variegata* (Herbst, 1793). However, the shape of labral lobes, antennal grooves, male middle tibiae, aedeagal structure of all the palaearctic species mentioned above are quite different from those of this new nearctic form.

Epuraea (Epuraea) interposita sp. n.
(Figs 21-28)

Holotype. ♂ (BRO), Canada, "Kanosee, Sask., 7.VI. 1958, A.R. Brooks".

Paratypes. **Canada:** 1 ♀ (BRO), "Pine Falls, Man., Life Table Plot, 15/VI.1967"; 1 ♀ (ZIN), "ONT., Thunder Bay Distr., Schreiber, 25.IX.1971, S. Peck", "Ber. 227, mixed forest litter".

Additional specimen. **Mexico:** 1 ♀ (BRO), "15 mi. SSW Salto, Dgo., MEX., VII.3.64, E.E. Lindquist, coll.", "spruce duff".

Description. Male, holotype. Length 2.3, breadth 1.0, height 0.5 mm. Weakly convex dorsally and ventrally; bright reddish with somewhat darker head, metasternum and ventrites, but elytra, except translucent sides and apices, chestnut brown; dorsum rather shiny; ventral surface with fat lustre; dorsum with subrecumbent, stout and rather conspicuous yellowish hairs about as long as distance between their roots; underside with sparser and slightly conspicuous hairs.

Head, pronotal and elytral surface with more or less distinct and rather deep oval punctures of diameters about twice that of eye facets, interspaces between them nearly as 1/2-2/3 puncture diameter on head and pronotum where they are finely and densely, but somewhat smoothly microreticulated; interspaces on elytra approximately 1/3 puncture diameter, with smoothed alutation. Pygidium and sclerites of ventral surface with shallower and indistinct punctures about as large as eye facets, interspace between them ranging between half and one puncture diameter, more distinctly and cellularly microreticulated, but prosternal surface with reduced punctation and obsolete sculpture.

Head about 2/3 as long as distance between eyes, convex at vertex and slightly excavate at antennal insertions and along eye edges; eyes composed of moderately small facets. Antennae slightly longer than head breadth, their club nearly 2/7 of total antennal length. Pronotum with gently and slightly sloping sides, widely explanate at edges (explanate areas more than twice as wide as antennal flagelli). Scutellum subtriangular with widely rounded apex. Elytra 1.13 as long as combined width; their sides gently sloping and comparatively widely explanate at edges (explanate area distinctly wider than antennal flagelli), and with apices separately rounded and forming well outlined sutural angle. Pygidium scarcely exposed from under elytra and with a truncate apex, whereunder, in turn, a very widely rounded and slightly angular apex of anal sclerite is exposed.

Antennal grooves steeply convergent and indistinct behind mentum; postocular fossae not pronounced behind temples. Mentum with rounded corners, nearly 4 times as wide as long. Last segment of labial palpi somewhat shorter than wide and slightly narrowed at apex. Prosternal process along fore coxae strongly curved before a widely rounded apex and approached to moderately excavate surface of mesosternum. Distance between fore coxae slightly less and distance between hind ones almost twice broader than that between middle coxae. Metasternum flattened medially and with a suture along middle in distal half before its hind edge, the latter angularly excised between coxae. 1st ventrite considerably longer than hypopygidium and nearly as long as 2nd-4th ventrites combined. Hypopygidium very widely angular at apex. Epipleura slightly wider than antennal club and moderately elevated laterally.

Tibiae narrow, 2/3 as wide as antennal club, fore and hind ones weakly subtriangular, middle ones slightly curved and with a sharp process in posterior half. Femora with fore and hind edges gently convex, about twice as wide as the respective tibiae. Fore tarsi about twice narrower than hind tibiae, middle and hind ones much narrower; 5th tarsomere much longer than 1st-4th ones taken together; claws long and narrow, not toothed.

Aedeagus weakly sclerotized.

Female. Differs from male only in widely rounded hind edge of pygidium and hypopygidium. Ovipositor with sclerites of ordinary shape and weakly sclerotized.

Variations. Length 2.3-2.5, breadth 1.0-1.1 mm (specimen from Mexico respectively 2.5 and 1.2). The paratype from Ontario is as the holotype in character of coloration, punctation and sculpture of dorsum, though less shiny. The other paratype (from Manitoba) nearly unicolourous dull reddish with dorsal surface somewhat similar to that in *E. (E.) planulata.*

The additional specimen from Mexico differs from the specimens included in the type series in the much more convex body, not so strongly arcuate pronotal sides, less distinct punctation and less conspicuous pubescence on dorsum, scapus about 2/3 as wide as long.

Comparison. This new species can be distinguished among nearctic species with elongate flattened bodies and distinct punctation according to the following table of characters:

E. (E.) interposita sp. n.:
(1) body more robust and oval;

(2) labral lobes slightly exposed and rounded with a shallow excision between them;
(3) 3rd-5th antennal segments subequal and moderately elongate (as in *E. (E.) truncatella*), scapus about 4/5 as wide as long;.
(4) pronotum considerably wider than elytra, with widely explanate sides, its fore edge as wide as posterior one, moderately and gently arcuate at lateral edges;
(5) elytra not more than twice as long as pronotum, widely explanate at sides (explanate area wider than antennal flagelli) and with separately rounded apices;
(6) punctation of dorsum rather dense, deep and distinct, integument smoothed or somewhat dull;
(7) dorsal pubescence consisting of subrecumbent, stout and rather conspicuous hairs, about as long as the distance between their roots (as in *E. (E.) planulata*);
(8) postocular fossae not pronounced;
(9) male middle tibiae rather enlarged along inner edge;
(10) pygidial apex of females rather projecting and widely rounded;
(11) penis trunk moderately long with widely rounded apex.

E. (E.) angustula (Sturm, 1844) distributed in the both Palaearctic and Nearctic parts of the Northern Hemisphere (Figs in Kirejtshuk, 1992 – 64, *8-11*):
(1) body more slender and parallel-sided;
(2) labral lobes as in *E. (E.) interposita* sp. n.;
(3) 3rd antennal segment rather elongate and 4th-8th ones comparatively short, scapus about 2/3 as wide as long (both as in *E. (E.) planulata*);
(4) pronotum not wider than elytra, usually with narrowly explanate sides, its fore edge slightly narrower than posterior one, slightly arcuate at lateral edges;
(5) elytra more than twice as long as pronotum, very narrowly explanate at sides (explanate area narrower than antennal flagelli) and with separately rounded apices;
(6) punctation of dorsum moderately dense, shallow and indistinct, integument more or less shiny;
(7) dorsal pubescence consists of recumbent, fine and slightly conspicuous hairs, much longer than distance between their roots (as in *E. (E.) truncatella*);
(8) postocular fossae usually very short but distinct;
(9) male middle tibiae simple;
(10) pygidial apex of females rather projected, very slightly rounded, almost transversely abrupt;
(11) penis trunk very short with widely abrupt apex.

E. (E.) planulata Erichson, 1843 (Figs 36-38):
(1) body more slender and parallel-sided;
(2) labral lobes rather prolonged and subacute with deep excision between them;
(3) 3rd antennal segment rather elongate and 4th-8th ones comparatively short, scapus about 2/3 as wide as long (as in *E. (E.) angustula*);
(4) pronotum not wider than elytra, with widely explanate sides, its fore edge distinctly narrower than posterior one, slightly arcuate at lateral edges;
(5) elytra more than twice as long as pronotum, widely explanate at sides (explanate area wider than antennal flagelli) and with oblique apices;
(6) punctation of dorsum very dense, deep and distinct, integument more or less dull;
(7) dorsal pubescence consisting of subrecumbent, stout and rather conspicuous hairs, about as long as distance between their roots (as in *E. (E.) interposita* sp. n.);
(8) postocular fossae rather large;
(9) male middle tibiae rather enlarged along inner edge;
(10) pygidial apex of females moderately projecting and widely rounded;
(11) penis trunk moderately long with subacute apex.

E. (E.) truncatella Mannerheim, 1946 (Figs 39-41):
(1) body more slender and parallel-sided;
(2) labral lobes as in *E. (E.) interposita* sp. n.;
(3) 3rd-5th antennal segments subequal and moderately elongate (as in *E. (E.) interposita* sp. n.), scapus about 2/3 as wide as long (as in *E. (E.) planulata*);
(4) pronotum not wider than elytra, usually with moderately explanate sides, its fore edge slightly narrower than posterior one, slightly arcuate at lateral edges;
(5) elytra more than twice as long as pronotum, narrowly explanate at sides (explanate area as wide as antennal flagelli) and with separately rounded apices;
(6) punctation of dorsum rather dense, shallow and indistinct, integument more or less shiny;

(7) dorsal pubescence consisting of recumbent, fine and slightly conspicuous hairs, much longer than distance between their roots (as in *E. (E.) angustula*);
(8) postocular fossae rather large;
(9) male middle tibiae fairly enlarged along inner edge;
(10) pygidial apex of females sufficiently projecting and subacute;
(11) penis trunk moderately long with widely rounded apex.

E. (E.) alticola Sharp, 1890 is probably similar to the above species, but according to its original description characterized by broader body, pronotum with weakly curved sides and slightly narrowed behind, and stout antennae with large and darker club.

Epuraea (Epuraea) pallescens labilis Erichson, 1843, stat. n.
(Figs 29-35)

Epuraea labilis Erichson, 1843.
Epuraea erichsoni Reitter, 1873, syn. n.

Lectotype of *Epuraea labilis*, here designated, ♂ (MHB), probably originating from Pennsylvania.
Other specimens examined (more than 600). Canada: New Brunswick (BRO, ZIN, ZMM), Nova Scotia (BRO), Quebec (USW, BRO), Ontario (FMC, BRO), Manitoba (BRO), British Columbia (BRO), Saskatchewan (BRO), (on *Physalis heterophina*, under bark). USA: Maine (BRO), New York (USW, FMC), New Jersey (USW), Delaware (USW), Virginia (USW, FMC), Maryland (USW, FMC), West Virginia (USW), Ohio (ZIN), Michigan (USW, FMC, BRO), Indiana (USW, FMC), Illinois (USW, FMC, BRO), Wisconsin (FMC), Iowa (USW), Kentucky (USW), Missouri (BRO), North Carolina (USW), Florida (USW, BRO), Colorado (USW), Idaho (FMC), Arkansas (FMC, USW), Louisiana (USW), Texas (USW), Washington (USW), Oregon (USW), California (USW), Alaska (USW).

Notes. In the Parsons' key (1943), *E. (E.) labilis* and *E. (E.) erichsoni* are separated mainly by differences in the shape of male middle tibia, though in redescriptions some additional characters are listed (pronotal shape). However, the examined specimens allow to trace a wide variability in the mentioned features and in many others, including the shape of penis trunk. At present we cannot find any evidence in structural peculiarities to distinguish the forms traditionally interpreted as 2 species. Therefore, synonymy of both names is here admitted as evident. On the other hand, structural similarity of nearctic and palaearctic forms [*E. (E.) pallescens* (Stephens, 1832)] poses difficulties in estimation of their conspecific or subspecific status. The only difference of the nearctic form from the palaearctic one consists in the tegminal lateral lobes on the average less declined ventrally, though this character is rather variable in both cases. As a result, our interpretation of subspecific status should be regarded as preliminary, requiring a more detailed study.

Parsons (1943) registered the distribution of *E. (E.) labilis* from Ontario and Quebec to Georgia, west to Texas, Kansas and Manitoba while that of *E. (E.) erichsoni* from Ontario and Quebec, south to Florida, west to Texas, Nebraska, Manitoba. Sharp (1890) recorded *E. labilis* from Mexico. The recent study shows a much wider distribution of this form (see above). Moreover, the nearctic form under consideration is very similar to the palaearctic one [*E. (E.) pallescens pallescens*] with an extremely wide distribution covering most of the Palaearctic region, except the arid territories of Arabian Peninsula, Middle and Central Asia (Kirejtshuk, 1992; Audisio, 1993).

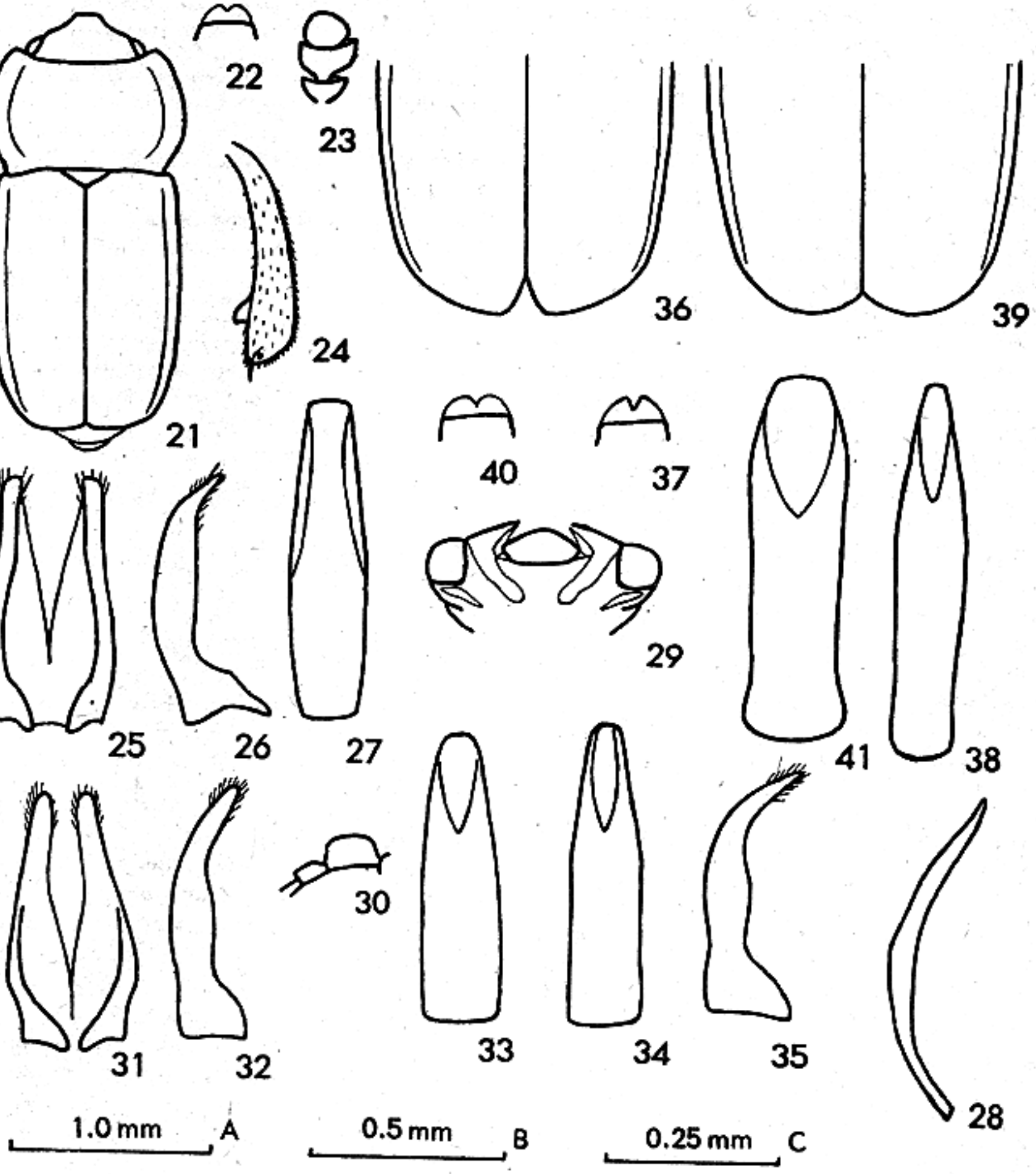
Parsons (1943) recorded this species from beneath bark and at sap in early spring and from different flowers later. This peculiarity is an additional fact supporting the relation between this species and the palaearctic *E. (E.) pallescens pallescens*, whose imagines are collected from fermenting tree sap of *Betula* spp. and *Tilia* spp., under bark, and also usually from various flowers while their larvae frequently breed in tree sap (Kirejtshuk, 1992).

Subgenus **Epuraeanella** Crotch, 1874

Epuraeanella Crotch, 1874. Type species *Epuraea helvola* Erichson, 1843 (by monotypy).
Omosiphora Reitter, 1875. Type species *Nitidula rufa* Say, 1825 (here designated).

In the Nearctic fauna, in addition to the two type species, *E. (E.) obtusicollis* Reitter, 1873 (= *ovata* Horn, 1879) belongs to this subgenus (formerly not placed therein).

Notes. Reitter (1875) included in his genus *Omosiphora* the species *Epuraea rufa, E. helvola, E. limbata* (Fabricius, 1787) and *Omosiphora scalitzkyi* Reitter, 1875, the first two of which are from North America and the other two from the Palaearctic region. The fauna of the Palaearctic region is reviewed by Kirejtshuk (1992) and Audisio (1993), but the spe-



Figs 21-41. Genus *Epuraea*, subgenus *Epuraea* s. str. 21-28, *E. (E.) interposita* sp. n.: **21**, body with outline of explanate sides of pronotum and elytra, dorsal; **22**, fore part of head with exposed labral lobes, dorsal; **23**, antennal club; **24**, male middle tibia, dorsal; **25**, tegmen, ventral; **26**, id., lateral; **27**, penis trunk, dorsal; **28**, id., lateral; **29-34**, *E. (E.) pallescens labilis* stat. n.: **29**, ventral surface of head, with outline of antennal grooves and postocular fossae; **30**, scapus; **31**, tegmen, ventral; **32**, id., lateral; **33**, penis trunk, dorsal; **34**, penis trunk of another specimen, dorsal; **35**, *E. (E.) pallescens pallescens*, tegmen, lateral; **36-38**, *E. (E.) planulata*: **36**, elytral apices with outline of explanate sides; **37**, fore part of head with exposed labral lobes, dorsal; **38**, penis trunk, dorsal; **39-41**, *E. (E.) truncatella*: **39**, elytral apices with outline of explanate sides; **40**, fore part of head with exposed labral lobes, dorsal; **41**, penis trunk, dorsal. Scales: A – to Figs 21, 36, 39; B – to Figs 22-24, 29-30, 37, 40; C – to Figs 25-28, 31-35, 38, 41.

cies from the Afro-Madagascarean regions formerly included in *Epuraeanella* should be regarded as members of the endemic subgenus (or genus) *Africaraea* Kirejtshuk, 1989. Whereas the Palaearctic and Indo-Malayan species of the group under consideration (see also Kirejtshuk, in press) share a set of characters allowing to assume their probable common origin,

the representatives of the Nearctic fauna have combinations of features making separation of the subgenus problematic.

In contrast to the species from the Eastern Hemisphere, *E. helvola* and *E. rufa* have the middle tibiae in males with dilatation before apex, but *E. obtusicollis* has no dilatation like the species from the Eastern Hemisphere. Widely separated metacoxae can be observed not only among *Epuraeanella* but also among some other nearctic groups. This is a reason why some specialists did not recognize *Epuraeanella* (for instance, Parsons, 1943; etc.). However, the pronotal and elytral shape, antennal grooves, prosternal process and male genitalia of the 3 nearctic species mentioned above are quite characteristic for the group uniting the *Epuraeanella* of the Old World as well. Some other comments to this subgenus will be made below (see notes to *Amedanyraea* gen. n.).

All the known species of this subgenus from both Eastern and Western Hemispheres are associated with arboreal fungi (mainly with fruit bodies). All nearctic species seem to be mainly distributed in temperate nemoral forests of New England, Laurentian, Middle Atlantic, Middle States and Southeast.

Epuraea (Epuraeanella) helvola Erichson, 1843

Parsons, 1943 (Manitoba, New Hampshire, Iowa, Kentucky, Pennsylvania, Virginia).

Types examined. 1 ♂, ? syntype (MHB), "Pensylv. Schaut...", "Coll. Schilsky", "*helvola* Er." and 1 ♀, ? syntype (MHB), "Pensylvanien", "Coll. Schilsky".

Additional specimens examined (more than 300). **Canada**: New Brunswick (BRO), Quebec (BRO), Ontario (BRO), Manitoba (BRO), Saskatchewan (BRO). **USA**: Massachusetts (FMC, BRO), New York (FMC), Indiana (FMC), Kentucky (BRO), Kansas (FMC), West Virginia (BRO), Virginia (BRO), South Dakota (BRO), North Carolina (BRO, ZIN), Tennessee (FMC, BRO), South Carolina (BRO), Georgia (BRO), Alabama (BRO).

Notes. The specimens regarded here as ambiguous syntypes from the Berlin Museum have been labelled as originating from the Schilsky's collection, though the type series was taken from the Hoffmannsegg's collection.

Epuraea (Epuraeanella) obtusicollis Reitter, 1873

Parsons, 1943 (Alberta, Manitoba, Quebec, Maine, Nebraska, Colorado, California, Arizona, Indiana, Pennsylvania, North Carolina).

Specimens examined (more than 200). **Canada**: British Columbia (BRO, ZIN), Ontario (BRO, ZIN). **USA**: New York (FMC), Washington (BRO), Illinois (FMC), Indiana (FMC), Massachusetts (BRO, FMC), California (BRO, ZIN), Tennessee (FMC), North Carolina (BRO, ZIN).

Epuraea (Epuraeanella) rufa (Say, 1825)

Parsons, 1943 (Ontario, Quebec, Minnesota, Pennsylvania, Nebraska, Kansas, Missouri, Georgia).

Specimens examined (more than 250). **Canada**: Ontario (BRO, ZIN), Quebec (BRO, ZIN). **USA**: Washington (FMC), Oregon (FMC), Wisconsin (FMC), Michigan (FMC), Illinois (BRO, FMC, ZIN), Indiana (BRO, FMC), Ohio (FMC), New York (FMC), Massachusetts (FMC), D.C. (FMC), Maryland (BRO, FMC), Tennessee (FMC).

Subgenus Orthopeplus Horn, 1879, stat. n.

Epuraea (Orthopeplus) quadricollis Horn, 1879, comb. n.

Orthopeplus quadricollis Horn, 1879.

Parsons, 1943 (Colorado, New Mexico, Arizona).

Specimens examined (about 50). **USA**: New Mexico (USW), Arizona (FMC, BRO). **Mexico** (BRO), collected "ex *Abies concolor*", "ex dead *Pinus*", "ex salt marsh vegetation", "sift fir litter".

Notes. The only distinct feature allowing to regard *Orthopeplus* as a separate taxon is the prosternal process with apex not widened and not projecting on the surface of the mesosternum. This character is quite unusual in the subfamily Epuraeinae. Even the aedeagal structure of *Orthopeplus quadricollis* looks like that in many forms with generalized structure of genitalia. This species is rather similar and probably related to the holarctic *oblonga*-group represented in the Nearctic region by 4 species with distinct punctation (considered above), as well as *E. (E.) linearis* Maklin, 1853 and *E. (E.) prolixa* Sharp, 1890 with dense and obsolete punctation on dorsum. In contrast to other members of both groups mentioned above, *Orthopeplus quadricollis* is characterized by excavate frons, strongly convex pronotum steeply sloping anteriorly, pronotal and elytral sides steeply sloping and almost non-explanate, distance between each pair of coxae subequal and short, outer corner of tibiae rather projecting, and lack of sexual dimorphism in the structure of tibiae. However, *E. (E.) rapax* Reitter, 1884 has a rather deep

excavation on frons surrounded by long hairs (Kirejtshuk, 1992). Besides, the considered species is also close to the palaearctic *laeviuscula*-group (particularly in the strongly convex body and non-explanate pronotal and elytral sides, absence of sexual dimorphism in middle tibia: Kirejtshuk, 1992; Audisio, 1993) differing in the excavate frons, strongly convex pronotum steeply sloping anteriorly, subequal short distance between coxae of all pairs and rather projecting outer corner of tibiae. Therefore it seems reasonable to lower the rank of the taxon *Orthopeplus* to subgenus in the genus *Epuraea* Erichson, 1843.

Parsons (1843) recorded this species also from Colorado ex *Pinus ponderosa*.

Subgenus **Horniraea** subgen. n.

Type species *Epuraea scaphoides* Horn, 1879.

Notes. The appearance of the type species of the new subgenus is quite different from all the representatives of the subfamily, in particular in the elevated pronotal and elytral sides and deeply excised sutural angle. Distance between coxae of each pair is comparable and short (as in *E. (Orthopeplus) quadricollis*). Epipleura are very wide, elevated outwards (as in the species of subgenera *Epuraeanella, Africaraea* and *Amedanyraea*). Some resemblance of *E. scaphoides* to the members of the above subgenera is manifested in the shape of prosternal process, and to unadvanved representatives of these subgenera also in the simple legs, narrow lateral lobes of tegmen. However, poorly outlined antennal grooves and postocular fossae and approached hind coxae allow to distingish *Horniraea* from the above three subgenera (among the *Africaraea* species a tendency to reduction of antennal grooves is traced and postocular fossae are obsolete).

Etymology. The subgeneric name for this form is given after G.H. Horn who contributed much to the knowledge of the Nearctic entomofauna.

Epuraea (Horniraea) scaphoides Horn, 1879, comb. n.
(Fig. 42)

Parsons, 1943 (Colorado).

Specimens examined. **Mexico**: 2 (BRO), "10 mi. W. El Salto Dgo, Mexico, 9000', 4.VII.1964, J.E.H. Martin" (1.VIII); 9 (BRO, ZIN), "10 mi. W. El Salto Dgo, MEX, VI.26.1964, H.F. Howden" (VII.5, VII.1).

Subgenus **Amedanyraea** subgen. n.

Type species *Stelidota extranea* Sharp, 1890.

Comparison. Sharp (1890) noted that *S. extranea* is "very dissimilar in appearance from the typical species of the genus" *Stelidota* (subfamily Nitidulinae). Some *Stelidota* from Central and South America resemble representatives of the subgenus *Amedanyraea*, but elytra in the species of the first are more or less costate and those in the second are with diffuse punctation and to a certain extent tuberous.

The combination of diagnostic features of this subgenus includes a more or less tuberous surface of pronotum and elytra (small tubercles are known in one of Indochinese species of the subgenus *Micrurula* Reitter, 1884 and slightly tuberous pronotal disc in many of *Epuraeanella*), more or less pronounced temples behind eyes (occuring also in some unrelated species of *Epuraea* sensu lato), sharply outlined and almost straight (parallel-sided or convergent posteriorly) antennal grooves (character known only in some *Africaraea* and one species of *Micrurula* from South China: Kirejtshuk, in litt.), strongly widened apex of prosternal process, shallowly emarginate hind edge of metasternum between coxae, comparatively widely separated hind coxae (also in *Epuraeanella, Africaraea* and *Ceratomedia* Kirejtshuk, 1990), distinctly bordered apically and generally very wide epipleura elevated outwards (as in the species of subgenera *Epuraeanella, Africaraea* and *Horniraea*). However, the distance between hind coxae in the species of the *Amedanyraea* is shorter than that between fore and middle coxae. Further, *Amedanyraea* has a rather narrowed base of scutellum, a character rarely occuring among the representatives of the subfamily and among the Nitidulidae in general.

Included species: in addition to the type species, *E. (A.) latebrosa* sp. n. and also about 4-6 species still unpublished from Central America.

Etymology. The subgeneric name is partly formed from "America" and Greek word "danys" (carpet).

Epuraea (Amedanyraea) latebrosa sp. n.
(Figs 43-52)

Holotype. ♂ (USW), **Mexico**, "Tamps. Rancho del Cielo, III-9-1964, J. Reddell", "no host, 69-12594" ("*Stelidota* sp., det.: W.A. Connell").

Paratypes. Mexico: 8 (CMO, ZIN), "OAX.; 37 mi. S Valle Nacional, 8500′, 24.V.1971, S. Peck, Ber 206, leaflitter"; 1 (CMO), "10000′, 56 mi. S. Valle Nacional, Oax., Mex., V.24.1971, H. Howden"; 1 (ZIN), "OAX, 56 mi. S. Valle Nacional, 10.000′, 16-25.V. 1971, S. Peck, T713-15", "Carrion & human dung traps"; 1 (CMO), "Pue; 24 km N Xicotepec de Juares, 17.VI.83, 1070 m, R. Anderson, oak forest litter"; 3 (CMO, ZIN), "Hgo; 18 km E Jacala, nr El Alamo, 10.VI.83, 1700 m, S. & J. Peck, moist oak for. litter"; 1 (FMC), "HGO., 9300′, 7 mi. NE Pachuca, VII.6.71, A. Newton, 263"; 1 (BRO), "10 mi. NE San Christobal, Chis., V.22.1969, J.M. Campbell".

Description. Male, holotype. Length 4.0, breadth 2.2, height 1.1 mm. Moderately convex dorsally and slightly ventrally; bright reddish; epipleura, pronotal and elytral sides with a spotty infuscation indistinctly outlined; legs and antennal flagelli lighter, but tibial apex rather darkened; dorsum with a distinct shine and ventral surface with a fat lustre; dorsum with subrecumbent, rather fine and moderately conspicuous, yellowish grey hairs somewhat longer than the distance between their roots; underside with very short, fine and slightly conspicuous hairs.

Head surface with distinct dense punctures somewhat larger than eye facets; interspaces between them 1/5-1/4 puncture diameter or less, smooth and shiny. Pronotal surface along fore and hind edges nearly as that on head, however disc with larger and sparser punctures becoming still larger and denser towards sides. Elytral surface with distinct and shallow punctures nearly as large as eye facets; interspaces between them 2.5-4.0 puncture diameters, very finely and densely alutaceous, but at sides punctures somewhat larger and denser. Pygidium and sclerites of ventral surface with smaller and deep, distinct punctures (nearly as large as eye facets); interspaces between them less than half puncture diameter, slightly microreticulated on pygidium and almost smooth on ventrites, but metasternum and prosternum with larger and coarser punctation (nearly as on head) and obsolete sculpture; medial part of metasternum and 1st ventrite with rèduced and sparser punctation.

Head about as long as distance between eyes, feebly and evenly convex and slightly elevated at antennal insertions; eyes composed of rather small facets. Labral lobes rather projecting forward and separately rounded. Antennae somewhat longer than head breadht, their club nearly 3/7 of total antennal length. Pronotum with widely explanate sides (explanate area about twice wider than antennal club), its disc with x-shaped excavation in middle, behind it with a raised tubercle. Scutellum subtriangular with a widely rounded apex. Elytra 1.1 times as long as combined width; their sides gently sloping and comparatively widely explanate at edges (explanate area slightly wider than antennal club), with projecting acute apices and two pairs of raised tubercles along suture (behind scutellum and at level of hind femur) forming together a regular quadrangle. Pygidium scarcely exposed from under elytra and with a truncate apex, whereunder, in turn, a very widely rounded apex of anal sclerite is exposed.

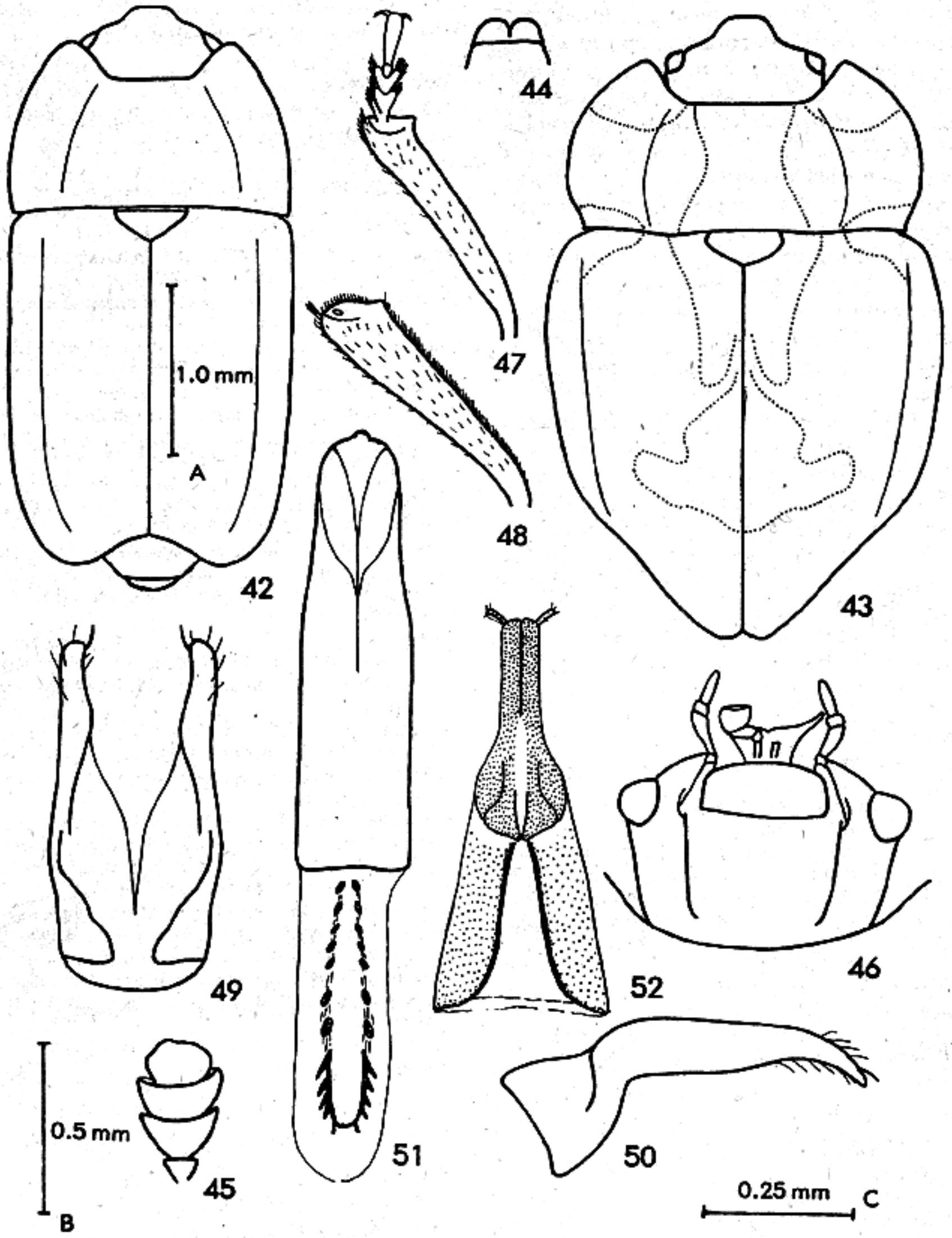
Antennal grooves slightly and rectilinearly convergent; with a distinct temple behind each eye (visible from below). Mentum with rounded corners, nearly 4 times as wide as long. Last segment of labial palpi nearly as long as wide and rather narrowed at apex. Prosternal process moderately curved before a strongly transverse apex along fore coxae and approached to moderately excavate surface of mesosternum. Distance between fore coxae subequal and distance between hind ones about 2.5 times greater than that between middle coxae. Metasternum slightly depressed and with a suture along the middle in distal half before its hind edge which is shallowly and arcuately emarginate between coxae. 1st ventrite 1.33 times as long as hypopygidium and nearly as long as 2nd and 3rd ventrites combined. Hypopygidium very widely bisinuate. Epipleura 2.5 times as wide as antennal club, elevated laterally and distinctly bordered in distal part.

Tibiae slightly widened to apex and somewhat narrower than antennal club, fore and hind ones weakly widened along inner edge before apex, middle ones with a sharp subapical dilatation and a few raised tubercles along inner edge. Femora very narrow at base and apex, with fore and hind edges gently convex, approximately twice as wide as the respective tibiae. All tarsi about twice narrower than hind tibia, middle and hind ones still narrower; 5th tarsomeré not longer than 1st-4th combined; claws long and narrow, not toothed.

Aedeagus moderately sclerotized.

Female. Differs from male only in simple tibiae and flattened pygidium with a rounded apex. Ovipositor with sclerites of usual shape and weakly sclerotized.

Variations. Length 3.0-3.8, breadth 1.6-1.8 mm. Dorsal surface of some paratypes less tuberous to almost even, with gently curved sides. Con-



Figs 42-52. 42, *Epuraea* (*Horniraea* subgen. n.) *scaphoides*, body with outline of explanate sides of pronotum and elytra, dorsal; 43-52, *E. (Amedanyraea) latebrosa* subgen. et sp. n.: 43, body with outline of explanate sides of pronotum and elytra, contours of tubercles on pronotum and elytra and infuscate areas, dorsal; 44, fore part of head with exposed labral lobes, dorsal; 45, antennal club; 46, ventral surface of head, with outline of antennal grooves; 47, male fore tibia, dorsal; 48, male middle tibia, dorsal; 49, tegmen, ventral; 50, id., lateral; 51, penis trunk, dorsal; 52, ovipositor, ventral. Scales: A – to Figs 42, 43; B – to Figs 44-48; C – to Figs 49-52.

siderable variability is observed only in coloration (blackish pigmentation can be reduced or expanded nearly over whole surface and legs). Some degree of variability is traced also in character of punctation and sculpture of dorsum, though upper surface of all the studied specimens rather shiny. The paratype from Pue (CMO) is chacterized by nearly unicoloured dark brown body with very coarse punctation, especially on elytra, where the punctures are more than twice as large as diameter of eye facets and interspaces between them about as broad as puncture diameter.

Comparison. E. (A.) latebrosa sp. n. is characterized by the comparatively compact and oval body, pronotal sides slightly narrowed to base, elytral apices strongly acute, dorsum moderately tuberous and ventral surface rather densely punctured as well as by features of sexual dimorphism in tibiae and structure of aedeagus. This new species differs from *E. (A.) extranea* (Sharp, 1890) in the rather acute and projecting elytral apices, much more tuberous pronotal and elytral surface, more pronounced shine both on dorsal and ventral surface, very dense punctation on head, pygidium and ventral surface, shape of tibiae, not carinate female pygidium and genital structure.

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