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Species of Two Paleoendemic Sap Beetle Genera of the Tribe Nitidulini (Nitidulidae: Coleoptera) from the Baltic and Dominican Amber

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Abstract—*Omositoidea gigantea* Schaufuss, 1892 is redescribed; *O. pubescens* sp. nov. from the Baltic amber, *Palaeometopia dominicana* gen. et sp. nov. and *P. colorata* gen. et sp. nov. from the Dominican amber are described. The taxonomic position of the two genera and their probable bionomy are discussed.

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INTRODUCTION

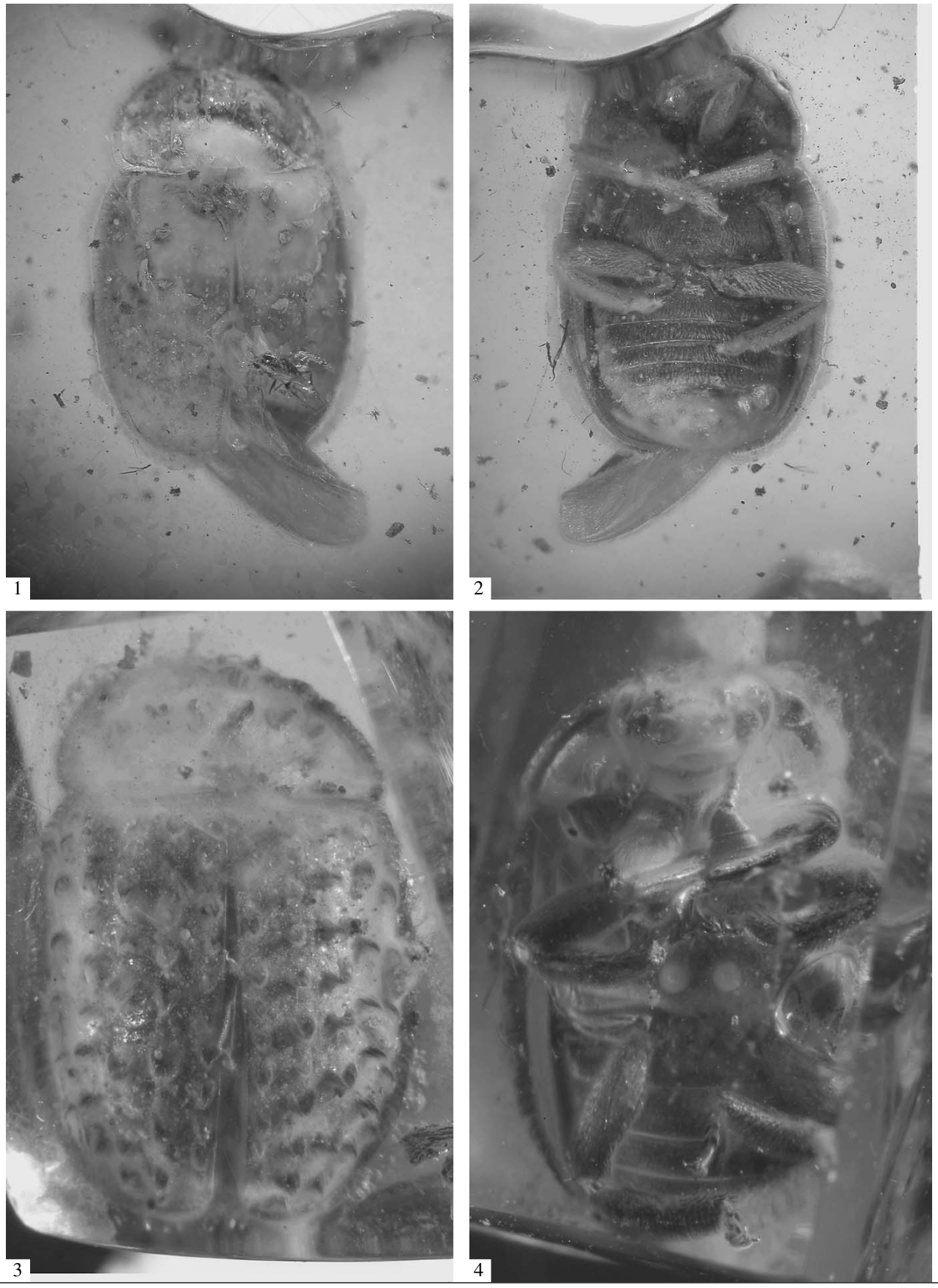
Sap beetles are probably an archaic group of the relatively young superfamily Cucujoidea. They appear for the first time in the Lower Cretaceous, and data on earlier occurrences are probably in error (Kirejtshuk and Ponomarenko, 1990). The carpophiline lineage of this family is recorded somewhat earlier (*Crepuraea* Kirejtshuk in Kirejtshuk et Ponomarenko, 1990, Eastern Siberia, Baisa locality; Middle Neocomian) than the nitiduline lineage (*Cyllolithus* Kirejtshuk in Kirejtshuk et Ponomarenko, 1990, Eastern Siberia, Obeshchayushchii locality; Cenomanian). The majority of fossil specimens come from the Baltic amber (Klebs, 1910; Larsson, 1978; Spahr, 1981; Hieke and Pietrzeniuk, 1984), where all subfamilies of the family Nitidulidae, except for Amphicrossinae and Cillaeinae, have been found. The Cillaeinae are recorded in the Late Paleogene Florissant locality (*Colopterus pygidialis* (Wickham, 1913)). Fossil sap beetles from sedimentary beds and amber have been collected. Some new taxa are described below, and some will be described in the future. For the complete list of known sap beetles, see the catalogue *Beetles (Coleoptera) and Coleopterologists* (Ponomarenko and Kirejtshuk, 2006; http://www.zin.ru/Animalia/Coleoptera). In the present paper, new extinct sap beetle species are described; one comes from the Baltic amber and two are from the Dominican amber; their significance is discussed. As the original description of *Omositoidea gigantea* Schaufuss, 1892 is incomplete, diagnostic species and generic characters and characters required for taxonomic interpretation are absent, the holotype of this species is redescribed.

The holotype of *O. gigantea* comes from the Baltic amber of Palmniken and is housed in the Geological–Paleontological Institute and Museum at Hamburg University. The amber specimen enclosing the holotype of the new species of *Omositoidea* comes from the same locality. This specimen was cut and polished to facilitate examination. The Baltic amber is dated approximately Late Eocene (40 Ma), when the climate was more or less subtropical or moderately warm (Poinar, 1992; Weitschat and Wichard, 2002). In particular, M.A. Akhmetiev (2004) analyzed paleobotanic data and concluded that, as early as the middle of the Eocene, northern Europe acquired a paratropical climate, with periodic winter frosts.

Specimens of *P. dominicana* sp. nov. were in four separate pieces of Dominican amber. These specimens come from mines of the Dominican Republic (Cordillera Septentrional). The Dominican amber was reworked; therefore, it is difficult to precisely determine the age of the specimens (Poinar and Mastalerz, 2000). It is no younger than 20–15 Ma, as determined by accompanying foraminifers (Iturralde and MacPhee, 1996), and is no older than 45–30 Ma, as determined based on coccoliths (Čepek in Schlee, 1990). The Dominican amber is formed of the resin produced by *Hymenaea protera* Poinar, 1991, a tree of the family Leguminosae. The reconstruction based on fossil inclusions shows that the ecological situation of the Dominican forest was similar to a modern moist tropical forest (Poinar and Poinar, 1999).

The holotypes and paratypes of new species are housed in Oregon State University (OSU) and the Zoological Institute of the Russian Academy of Sciences (ZIN).

Plate 6



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SYSTEMATIC PALEONTOLOGY

Subfamily Nitidulinae Latreille, 1802

Tribe Nitidulini Latreille, 1802

Genus *Omositoidea* Schaufuss, 1892

Omositoidea: Schaufuss, 1892, p. 55.

Type species. *O. gigantea* Schaufuss, 1892, based on monotypy.

Diagnosis. Body relatively large, ovate, moderately convex, with more or less curved lateral margins of pronotum and elytra, both anterior and posterior corners of pronotum widely rounded, incomplete elytra with separately rounded apices, unique type of pubescence on upper side, represented by transverse brushes of dense hairs and long, dense hairs of fringe along sides of pronotum and elytra, and very long, regularly arranged hairs on legs. Coxae of all leg pairs narrowly separated. Middle tibia showing special sexual dimorphism in shape (with sharp preapical projection on internal margin of male). Puncturation distinctly reduced.

Species composition. Type species and *O. pubescens* sp. nov. both known only from the Baltic amber.

Comparison. *Omositoidea* probably belongs to the *Pocadius* complex rather than any other complex of the tribe Nitidulini because it has a more or less distinctive shape of the antennal club and a relatively deeply notched mesosternum (Kirejtshuk, 2006). The genus described occupies a special position in the complex (see diagnosis). The short or reduced tibial spurs are characteristic not only of *Omositoidea* but also of some other representatives of the *Pocadius* complex (such as *Atarphia* Reitter, 1884; *Hyleopocadius* Jelínek, 1977; *Physoronia* Reitter, 1884; and *Pocadites* Reitter, 1884). In addition, in contrast to many other genera of the complex, *Omositoidea* has relatively wide tarsi, short elytra, and relatively short spurs. *Omositoidea*, with its narrowly positioned coxae, moderately narrow epipleura, and widely rounded apices of elytra, is distinct from *Atarphia, Hyleopocadius, Kryzhanovskiella* Kirejtshuk, 2006, and many species of *Physoronia* (which have very wide epipleura and complete elytra). *Omositoidea* is distinguished by the body size, sexual dimorphism, puncturation, and pubescence from *Hebasculinus* Kirejtshuk, 1992, *Hebascus* Erichson, 1843, and *Teichostethus* Sharp, 1891 (incorrectly printed in the original description as *Trichostethus*), with an intermediate width of the epipleura, frequently relatively short elytra, a narrow process of the prosternum, narrowly positioned coxae, and relatively narrow and nonflattened tibiae. *Omositoidea* is also distinguished by the body size, sexual dimorphism, puncturation, and pubescence from *Pocadites* and *Pocadius* Erichson, 1843, which are characterized by the narrow epipleura, narrowly positioned coxae, widely curved lateral sides of the pronotum and elytra, and narrow, simple tibiae.

Remarks. *Omositoidea* shows a certain similarity to *Amphicrossus* Erichson, 1843 (Amphicrossinae); however, this can hardly be the result of close relationship, because the hypopygidium of the former lacks a notch at the apex or a trace of a mobile apical blade. In addition, the mesosternum lacks structures characteristic of Amphicrossinae (such as a medial plate and V-shaped grooves in the anterior part of the mesosternum).

Omositoidea gigantea Schaufuss, 1892

Plate 6, figs. 1 and 2

Omositoidea gigantea: Schaufuss, 1892, p. 55.

Holotype. Geological–Paleontological Institute and Museum at Hamburg University, "Schlee #1", sex is unknown, probably female, the beetle inclusion is covered by a dull coating on the base of the pronotum, elytra, and abdominal apex; the anterior side of the amber piece is close to the head of the beetle and has many microcracks, which complicate the examination, since the head is hardly visible from above or from below; Baltic amber; Late Eocene. Syninclusions are one elytron of Curculionidae (Coleoptera) (left and behind the holotype), a specimen of Nematocera (Diptera) (on the distal half of the right elytron), another specimen of Nematocera is behind the holotype at a distance about half the body length of the beetle, and several stellate hairs of an oak throughout the amber piece.

Description (Figs. 1, 2). The beetle is moderately convex from above and below; brown to black, although the color is mostly masked by pubescence and dull coating. The dorsal side has scattered, moderately pronounced, semirecumbent, very short hairs, which are somewhat shorter than the distance between the points of their attachment; with dense transverse brushes formed of very long and strongly contrasting thick hairs varying in length, the longest hairs are much longer than isolated hairs on the upper surface. The sides of the pronotum and elytra have a dense fringe of long hairs, which are almost four times as long as the isolated semirecumbent hairs on the upper surface.

The head surface is vague. The pronotum has a very dense superficial reticulate microsculpture (almost microgranular), without distinct puncturation. The elytra are rather smooth or shagreened, have widely spaced punctures, which are somewhat larger than the

Explanation of Plate 6

Figs. 1 and 2. *Omositoidea gigantea* Schaufuss, holotype, Geological–Paleontological Institute and Museum at Hamburg University, "Schlee #1", Baltic amber, Upper Eocene: (1) dorsal and (2) ventral views.

Figs. 3 and 4. *Omositoidea pubescens* sp. nov., holotype, male, OSU, no. C-7-392, Baltic amber, Upper Eocene: (3) dorsal and (4) ventral views.

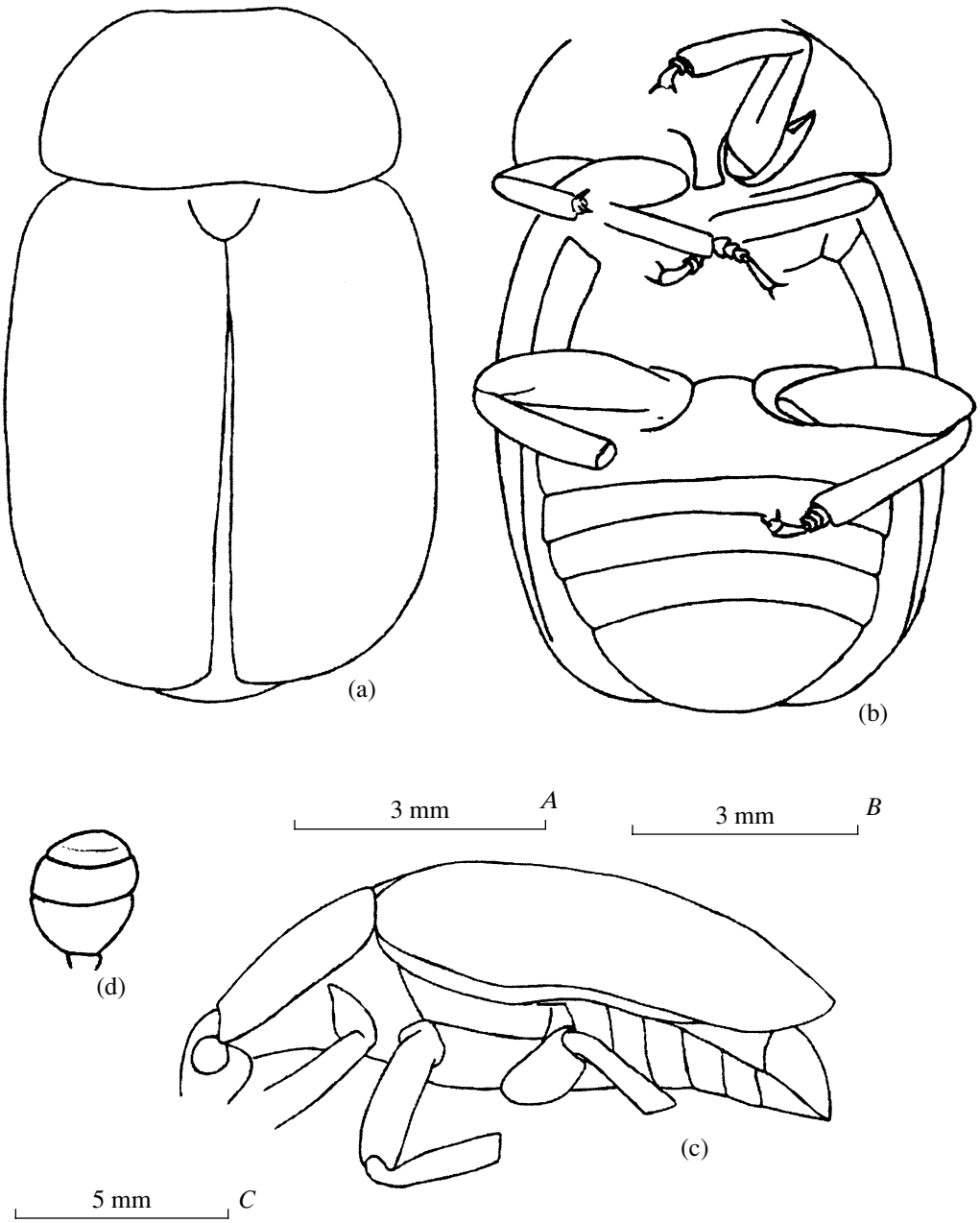


Fig. 1. *Omositoidea gigantea* Schaufuss, holotype: (a) body, dorsal view; (b) body, ventral view; (c) body, lateral view; and (d) antennal club. Scale bars: (*A*) Figs. 1a and 1b; (*B*) Fig. 1c; and (*C*) Fig. 1d.

eye facets and arranged in longitudinal rows; the distances between the punctures in a row is 4–7 times longer and between the rows 6–10 times longer than the diameter of the punctures. The lower surface has fine and contrasting microsculpture, with distinct punctures approximately equal in diameter to eye facets; the distances between the punctures are 2–6 times as long as the puncture diameter.

The mandibles are probably moderately developed. The pronotum is almost twice as wide as long, with an evenly convex disk, weak longitudinal depressions, and wide, slightly curved sides. Its anterior margin is double-notched, the posterior margin is straight in the middle and oblique at the posterior corners, the lateral margins are roundly narrowed anteriorly, the anterior and posterior corners are widely rounded. The scutellum is transverse, rounded at the apex. The length of the elytron is approximately 1.3 times greater than the width of both elytra, with rounded sides and widely rounded apices, which form an open sutural angle; the sutural lines are invisible. The apex of the pygidium is widely rounded.

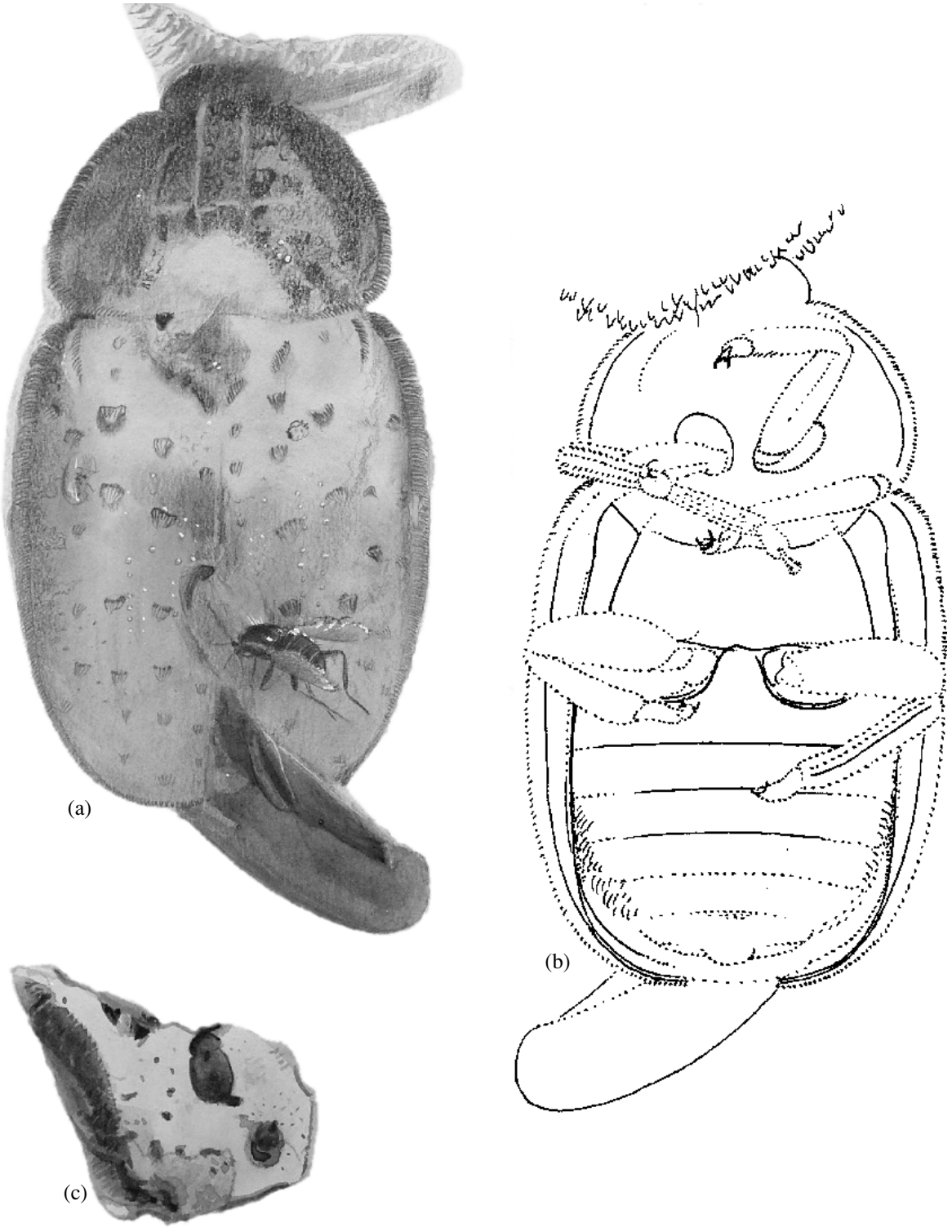


Fig. 2. *Omositoidea gigantea* Schaufuss, holotype: (a) body, dorsal view; (b) body, ventral view; and (c) amber specimen with the holotype.

The prosternum is convex medially, with an intercoxal process strongly curved along the coxae, slightly extending behind the coxae, and strongly widened anterior to the transversely cut apex. The distances between the hind, middle, and fore coxae are in a ratio of approximately 3 : 2 : 1. The mesosternum is moderately notched. The metasternum is convex, its anterior margin is straight, while the posterior margin is slightly

angularly notched. Ventrite 1 is more than twice as long as each of ventrites 2–4 and is much longer than the hypopygidium, which has a widely rounded apex.

The femora are typical in outline, 2.5–3.0 times as wide as the tibiae, have puncturation and relatively long hairs. The tibiae are relatively narrow, approximately equal in width, about two-thirds as wide as the antennal club, with weak longitudinal borders along the external margin and very dense, relatively long hairs, which are irregular and not forming longitudinal rows. The tarsi are moderately long, approximately three-quarters of the width of the tibiae. The claws are long, simple, without a distinct empodium.

Measurements, mm. Body length, 10.6; width, 6.2; height, 3.2.

Comparison. *O. gigantea* differs from *O. pubescens* sp. nov. in the more convex and larger body, the fewer transverse brushes of dense hairs on the upper surface, the finer and more widely spaced puncturation on the upper side, the smaller and almost spherical antennal club, the considerably narrower and less curved tibiae, the closer positioned hind coxae, well-developed sculpturing on the pronotum, the distinct microsculpture and more irregular puncturation of the elytra, the widely curved sides of the pronotum, and in the longer elytra.

Material. Holotype.

Omositoidea pubescens Kirejtshuk et Poinar, sp. nov.

Plate 6, figs. 3 and 4

Etymology. From the Latin *pubescens* (fuzzy, covered with hair).

Holotype. OSU, "C-7-392", beetle inclusion, head, pronotum, and margins of elytra and prosternum covered with dull coating; Baltic amber; Late Eocene.

Description (Fig. 3). Male. The head and prothorax are inclined slightly downwards. The body is moderately convex from above and from below; brown; the upper side has widely spaced, moderately contrasting, semirecumbent, relatively long hairs, which are slightly shorter than the distance between their bases. The rounded brushes of hairs are located along the eye borders; two small brushes are on each side of the head. The dorsal side has transverse and dense oblique brushes of very long and strongly contrasting thick hairs varying in length; the longest hairs are longer than isolated semirecumbent hairs. The ventral side has moderately dense contrast hairs, which are approximately as long as isolated hairs on the dorsal surface. The lateral sides of the pronotum and elytra have a dense fringe of relatively long hairs, which are approximately twice as long as the isolated semirecumbent hairs on the dorsal surface.

The head has punctures, almost half as large as eye facets, the distances between the punctures are approximately half as long as the diameter of a puncture, or shorter. The pronotum seems relatively smooth, with superficial, hardly visibly punctures, which are similar to those on the head but are much more widely spaced. The elytra have widely spaced punctures of approximately uniform size, which are larger than the eye facets, becoming smaller towards the apices and forming longitudinal rows. The distances between the punctures are approximately 5 or 6 times as long as the diameter of a puncture. The spaces between these rows contain a row of less distinct, smaller punctures; the spaces between them are smoothed or shagreened. The rows of punctures are combined with five rows of V- or U-shaped brushes of brownish hairs. The ventral side has distinct, irregularly arranged punctures, which are smaller than on the head; the distances between these punctures are approximately equal to, or greater than, the diameter of a puncture; the spaces between them have a fine microsculpture or shagreen, while on the ventrites, they are microgranular. The metasternum has two large, ovate, elevated foramina (apparently glands).

The head is flattened, slightly longer than the distance between the eyes, which are relatively small and consist of moderately small facets. The labrum projects slightly from under the frons and has a medial notch. The mandibles project slightly dorsally, ordinary in shape, pointed at the apex; their bases have rows of brown short hairs. The antennal length is slightly greater than the head width, the club is about three-eighths of the antenna length; the third and fourth segments are approximately equal. The lengths of the antennomeres are (2nd) 180 μm, (3rd) 230 μm, (4th) 210 μm, (5th) 180 μm, (6th) 150 μm, (7th) 130 μm, (8th) 100 μm, (9th) 280 μm, (10th) 210 μm, and (11th) 360 μm. Segments 1–9 are silvery, smooth, except for small brushes; the club is compact, covered with fine pubescence, with brushes along the lower margin of segments 10 and 11. The pronotum is twice as wide as long, indistinctly bordered at the margins, evenly convex on the disk, with moderately curved sides (the curved part is approximately equal in width to the scape). The anterior margin is moderately notched, and the posterior margin is slightly convex, the sides are roundly narrowed anteriorly, the anterior and posterior corners are widely rounded. The scutellum is transverse and widely rounded at the apex. The length of the elytra is almost 1.5 times greater than their combined width; they have rounded, abruptly descending and only slightly curved sides, with separately rounded apices and an open sutural angle; the sutural lines are invisible. Most of the pygidium projects from under the apices of elytra and is widely rounded at the apex.

The mentum is apparently longitudinal. The last segment of the maxillary palpi is short and narrowed towards the apex; the blade has short coarse hairs, and the apex apparently has a tooth. The last labial palpomere is somewhat narrowed towards the apex. The antennal grooves are poorly pronounced, have hardly visible margins, converge slightly. The prosternum is slightly medially convex, with an intercoxal process, which is curved along the coxae, elongated posterior to

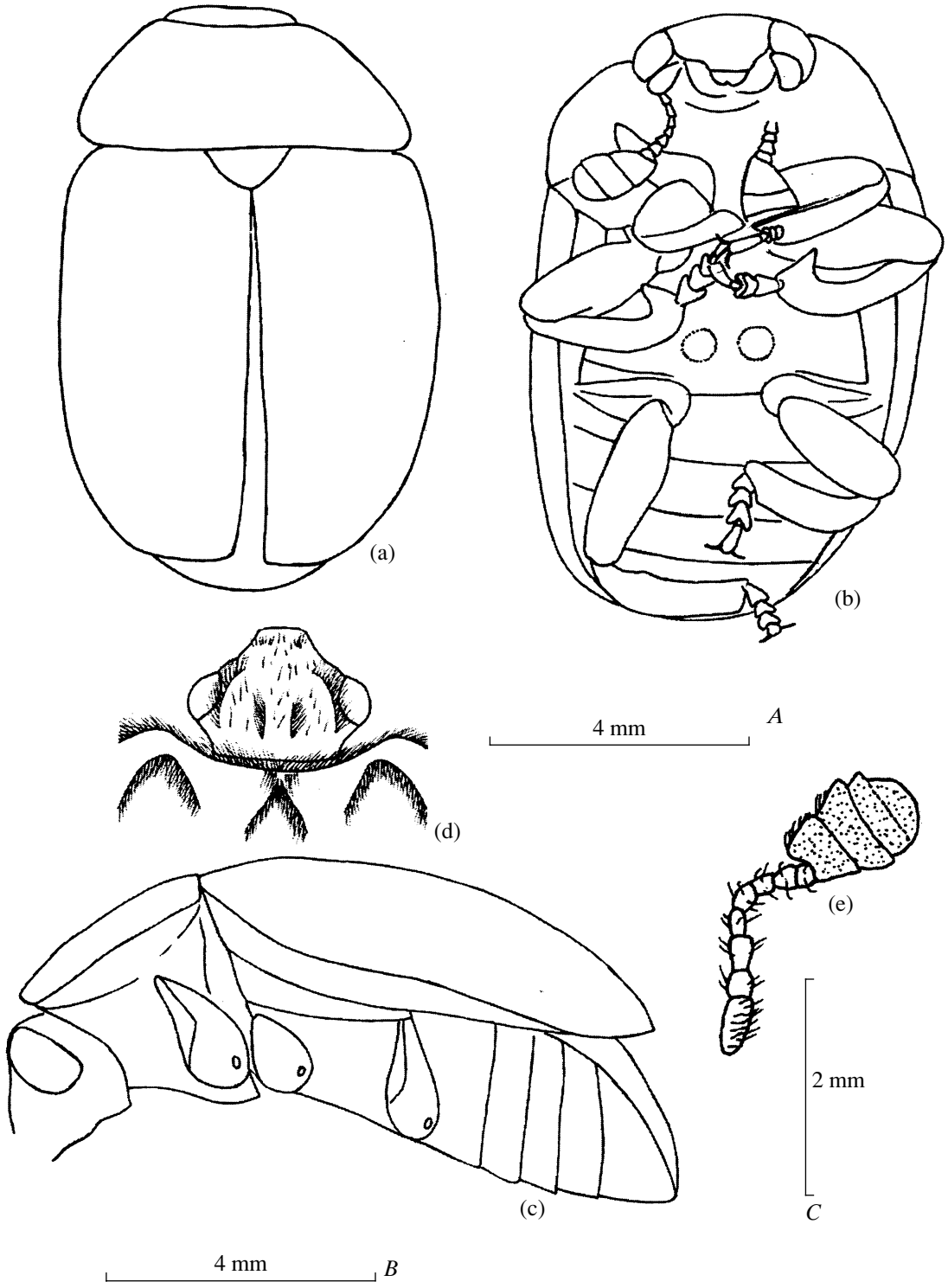
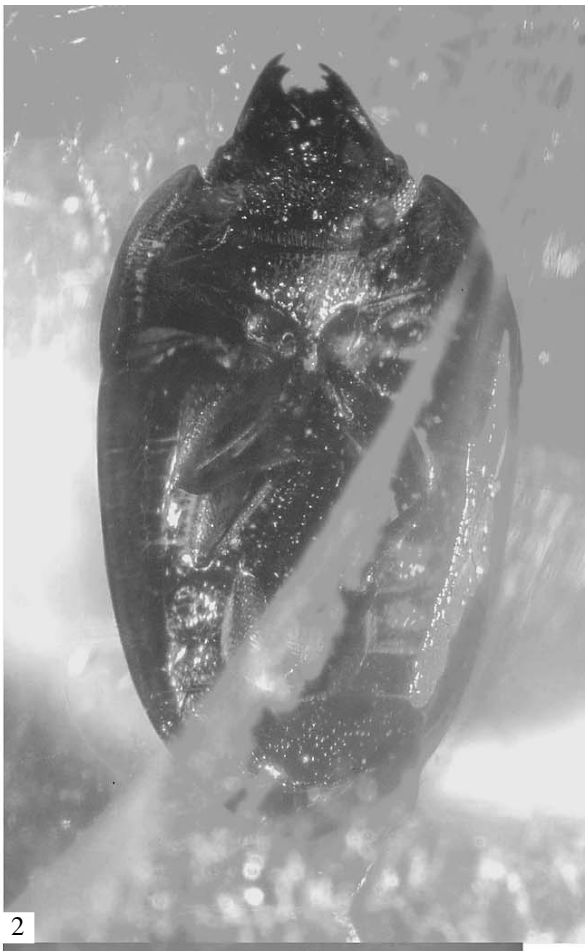


Fig. 3. *Omositoidea pubescens* sp. nov., holotype: (a) body, dorsal view; (b) body, ventral view; (c) body, lateral view; (d) anterior margin of the pronotum and head, anterodorsal view; and (e) antenna. Scale bars: (*A*) Figs. 3a and 3b; (*B*) Figs. 3c and 3d; and (*C*) Fig. 3e.

them, and slightly expanded anterior to the transverse apex. The distances between the middle, hind, and fore coxae are in a ratio of 4 : more than 5 : 1. The mesosternum is apparently moderately notched. The metasternum is approximately as long as the prosternum and mesosternum taken together, with two paramedial, elevated foramina of glands behind the middle; its anterior margin is straight, while the posterior margin is angu-

Plate 7

1



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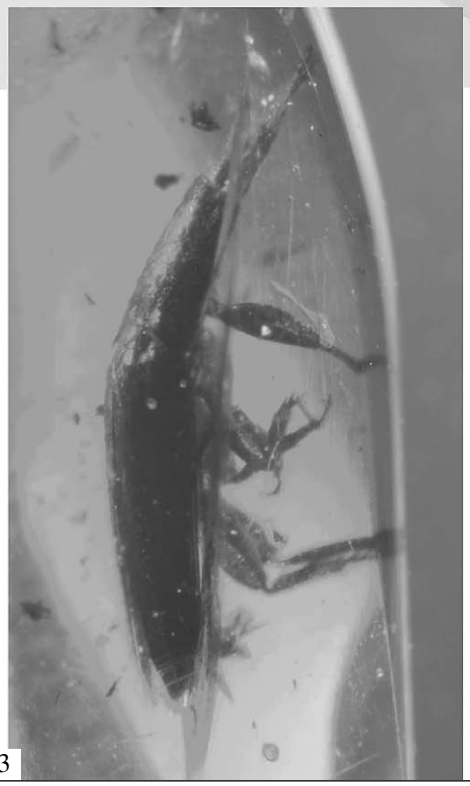

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4

larly notched. Ventrite 1 is approximately 1.5 times as long as each of ventrites 2–4 and approximately equal in length to the hypopygidium. The hypopygidium is widely rounded at the posterior margin.

The legs are moderately developed and covered with dense hair. The femora are more than twice as wide as the hind tibiae, with puncturation and short brushes. The fore tibia is slightly curved, expanding at the apex, with a rounded external apical angle; it is approximately two-thirds as wide as the antennal club. The middle tibia is almost as wide as the fore tibia, but has a large triangular projection at the internal apical angle. It is hardly probable that the hind tibia is wider than the fore or middle tibiae; its sides are almost parallel. The tibiae lack distinct rows of setae on their external margins, but have dark brown, long, dense brushes along this margin and dense hairs over the entire surface. The fore tarsus seems slightly narrower than its corresponding tibia, the middle tarsus is slightly wider, and the hind tarsus is narrower than the fore tarsus. The claws are simple and narrow.

Measurements, mm. Body length, 9.2; body width, 6.0; height at the metathorax, 3.0; abdominal length, 5.4; abdominal width, 4.7; head length, 1.5; head width, 2.3; antennal length, 2.43.

Comparison. The new species differs from the type species in the smaller, less convex body, the larger number of transverse brushes of dense hairs on the upper surface, the coarser and denser puncturation of the upper side, the large asymmetrical antennal club, wider and more curved tibiae, more widely positioned hind coxae, smooth sculpture of the pronotum, smoother microsculpture and pronounced traces of puncturation on the elytra, the narrower curved lateral margins of the pronotum, and in the shorter elytra.

Material. Holotype.

Genus *Palaeometopia* Kirejtshuk, gen. nov.

Etymology. From the Greek παλαιός (ancient) and the generic name *Prometopia*; feminine gender.

Type species. *P. dominicana* sp. nov.

Diagnosis. Body elongated ovate, slightly convex dorsally and ventrally, with fine scattered pubescence on dorsal side. Pronotum widest at base, with deep notch in anterior margin, widely curved lateral sides of pronotum and elytra, complete elytra with jointly pointed apices and moderately wide epipleura (located in body plane). Labrum bilobed, projecting anteriorly. Mentum relatively small. Palpi long. Antennal grooves roundly converging on lower surface of head. Process of prosternum moderately narrow. Middle and hind coxae positioned narrowly. Submesocoxal and submetacoxal lines not deviating from posterior margins of coxal depressions. Legs simple narrow, with lobate tarsomeres 1–3.

Species composition. Two new species from the Dominican amber.

Comparison. The new genus is apparently closely related to *Prometopia* Erichson, 1843 (*Soronia* generic complex), but differs in the relatively narrow process of the prosternum, which only extends slightly beyond the fore coxae, in the narrowly positioned middle and hind coxae, the relatively wide tibiae, the submesocoxal and submetacoxal lines, which do not deviate from the posterior margins of coxal depressions, and in the relatively short mentum. The hypopygidium of male *P. dominicana* sp. nov., in contrast to that of *Prometopia*, has paramedial brushes of long hairs at the apex. The pattern on the elytra of *P. colorata* sp. nov. is similar to that of extant *Prometopia porcina* Sharp, 1890 of Central America; this supports the close relationship of the new genus and *Prometopia*.

Remarks. *Palaeometopia* is similar to *Platychora* Erichson, 1843 (*Ipidia* complex) in the short and very wide mentum, the long maxillary blades, the long maxillary palpi compared to the labial palpi, and the shape of the middle and hind tibiae and differs in the complete elytra, widely curved lateral sides of the pronotum and elytra, and the narrow process of the prosternum. It is highly probable that the *Soronia* and *Ipidia* complexes are closely related; the characters of *Palaeometopia* corroborate this point of view.

Prometopia depiles Scudder, 1877, which was collected in the Lower Oligocene deposits on the left bank of the Fraser River near the town of Quesnel (British Columbia), was described based on an incomplete specimen with a damaged thorax and without a head. This specimen lacks any trace of hairs and is much larger (elytra are 3.75 mm long) than the species of *Palaeometopia* described here. Therefore, even if this species belongs to the new genus, it is diagnosed with confidence based on the large body and probably the absence of pubescence on the dorsal surface.

Palaeometopia dominicana Kirejtshuk et Poinar, sp. nov.

Plate 7, figs. 1–4

Etymology. From the Dominican Republic.

Holotype. OSU, C-7-401B, male inclusion, with partially projecting internal sac for the penis; Dominican amber; Early Miocene.

Description (Fig. 4). The beetle is elongated ovate; the upper side is slightly convex; the lower side

Explanation of Plate 7

Figs. 1–4. *Palaeometopia dominicana* gen. et sp. nov.: (1) paratype, male, Zoological Institute of the Russian Academy of Sciences, no. C-7-401A, body, dorsal view; (2, 4) paratype, female, OSU, no. C-7-401C, body: (2) ventral and (4) lateral views; (3) holotype, male, OSU, no. C-7-401B, body, lateral view; Dominican amber, Lower Miocene.

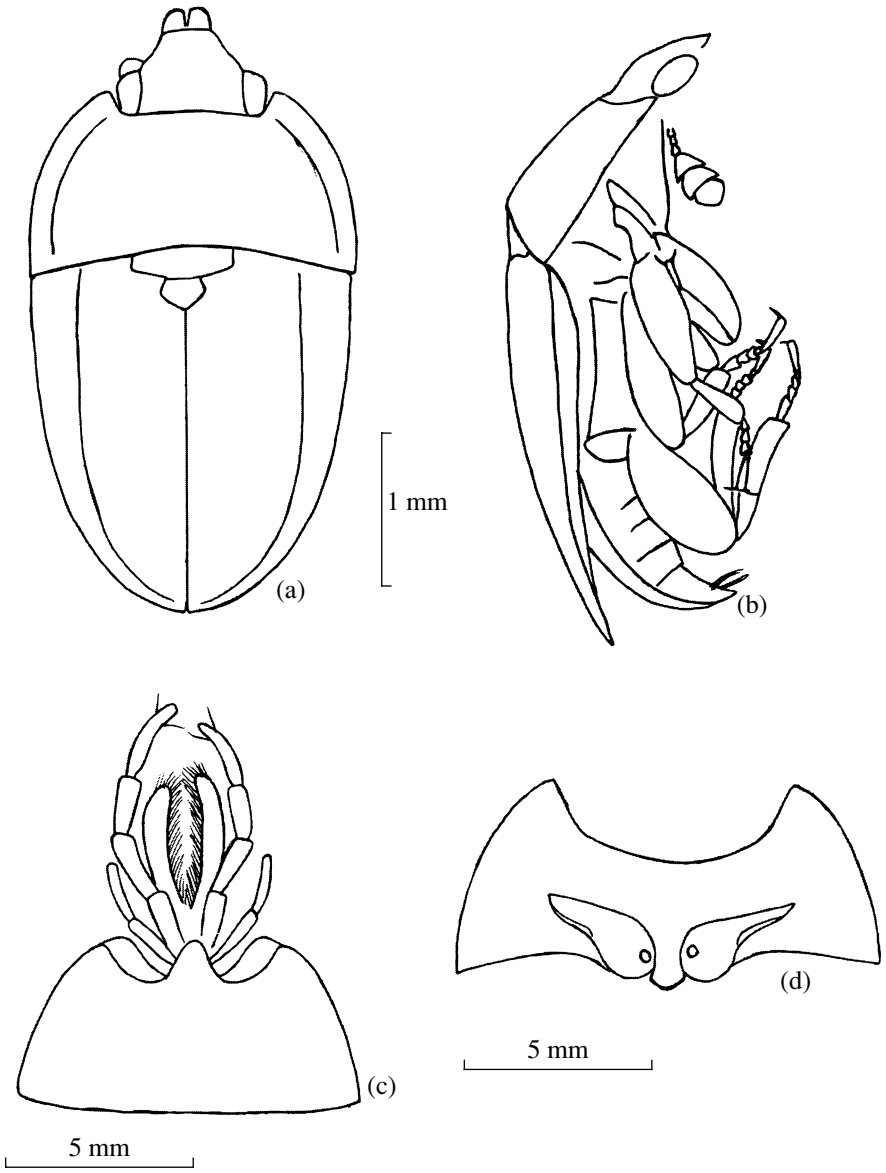

Fig. 4. *Palaeometopia dominicana* gen. et sp. nov., paratype ZIN, C-7-401A, male: (a) body, dorsal view; (b) body, lateral view; (c) prothorax, ventral view; and (d) mentum, labial, and maxillary palpi, ventral view.

is flattened. It is black, shiny, with blackish appendages. The upper side has hardly discernible, posteriorly inclined hairs 30 μm long, which are arranged in irregular rows at a distance of 30–40 μm. The margins of the pronotum and elytra have short (10–13 μm), partially inclined hairs positioned at a distance of 10–20 μm from each other.

The upper and lower surfaces have a vague irregular puncturation, although some punctures on the sides of the pronotum and elytra are relatively large, with distinct outlines; the lower surface has a denser puncturation; the spaces between the punctures have fine, dense shagreened surfaces.

The head is flattened, with a distinct parocular groove along the internal border of the eye. The eyes are somewhat elongate. The labrum is bilobed, projecting far from under the frons. The mentum is wide, not closing the mouthparts. The mandibles are directed anteriorly, with two distal and three subapical teeth. The last maxillary palpomere is the longest. The last two labial palpomeres are very long, 4 or 5 times as long as wide. The antennal grooves are roundly converging. The antennae are bare; in the holotype, they are 1.15 mm long, with three-segmented, elliptical, not quite compact club. In the holotype, the club is approximately 1.5 times as long as wide, while in the paratypes, this ratio is two. The scape is inflated, the third segment is the longest. The lengths of the antennomeres of the holotype are (1st) 137 μm, (2nd) 82 μm, (3rd) 192 μm, (4th) 55 μm, (5th) 68 μm, (6th) 55 μm,

(7th) 55 μm, (8th) 96 μm, (9th) 137 μm, (10th) 96 μm, and (11th) 151 μm. The prosternum has a narrow process, extending slightly beyond the coxal depressions. The pronotum is almost twice as wide as long. The sides of the pronotum are widely curved; the anterior margin is notched and partially bordered at the anterior corners, the posterior margin is distinctly notched and bordered. The mesosternum is notched medially. The scutellum is moderately developed, almost triangular, with a rounded apex. The elytra are complete, with widely curved sides and pointed apices, which do not form a sutural angle. The metasternum is flattened in both sexes, its posterior margin is slightly notched between the coxae. The distance between the middle, hind, and fore coxae are in a ratio of approximately 2 : 3.5 : 1. The submesocoxal and submetacoxal lines are indiscernible. The legs are moderately developed. The femora are moderately wide; the fore and middle femora are 2.0–2.5 time as wide as respective tibiae, while the hind femur is 3.0–3.5 times as wide as the hind tibia. The tibiae are narrow; the fore tibia is almost triangular, while the lateral margins of the middle and hind tibiae are almost parallel; they are approximately three-quarters of the width of the antennal club. The fore tibia has a distinct external apical corner, the middle and hind tibiae have rows of short black setae along the external margin. Tarsomeres 1–3 are lobate. The claws are simple and relatively long. Metatarsomere 5 is long, slightly shorter than metatarsomeres 1–3 combined. The length of the abdomen slightly exceeds its width. Ventrite 1 is approximately as long as ventrites 2–4 combined. The pygidium is almost triangular, with a narrowly rounded apex. The hypopygidium is relatively short, particularly in males; its apex is rounded. The anal sclerite of male has two narrow brushes of long hairs.

Measurements, mm. Length/width: specimen A, 4.1/2.1; specimen B (holotype), 4.7/2.6; specimen C, 5.1/2.6; specimen D, 4.2/2.3; height, 0.4; head length, 0.8–1.0; head width, 1.1–1.3; length of pronotum, 0.75–1.07; width, 2.1–2.7; length/width of abdomen, 2.8/2.6 (A), 3.1/2.6 (B), 2.4/2.1 (C), 2.4/2.3 (D).

Material. The holotype and paratypes: C-7-401A, C-7-401C, C-7-401D, beetle inclusions in the Dominican amber; the paratypes are housed in OSU and ZIN.

Three specimens (C-7-401A, male; C-7-401B, male, holotype; and C-7-401C, female) are complete, and one (C-7-401D, male) has a foramen between the elytra and pronotum (the disk of the pronotum, the bases of elytra and prosternum are partially absent). Specimen C-7-401A is in a square piece of amber ($12 \times 12 \times 4$ mm). Specimen C-7-401B is in a triangular 7-mm-thick piece of amber, with the sides 1, 10, and 12 mm. Specimen C-7-401C is in a rectangular piece of amber ($4 \times 10 \times 4$ mm). Specimen C-7-401D is in an irregularly shaped piece of amber, with the greatest length 13 mm, the greatest width 7 mm, and the thickness 5 mm.

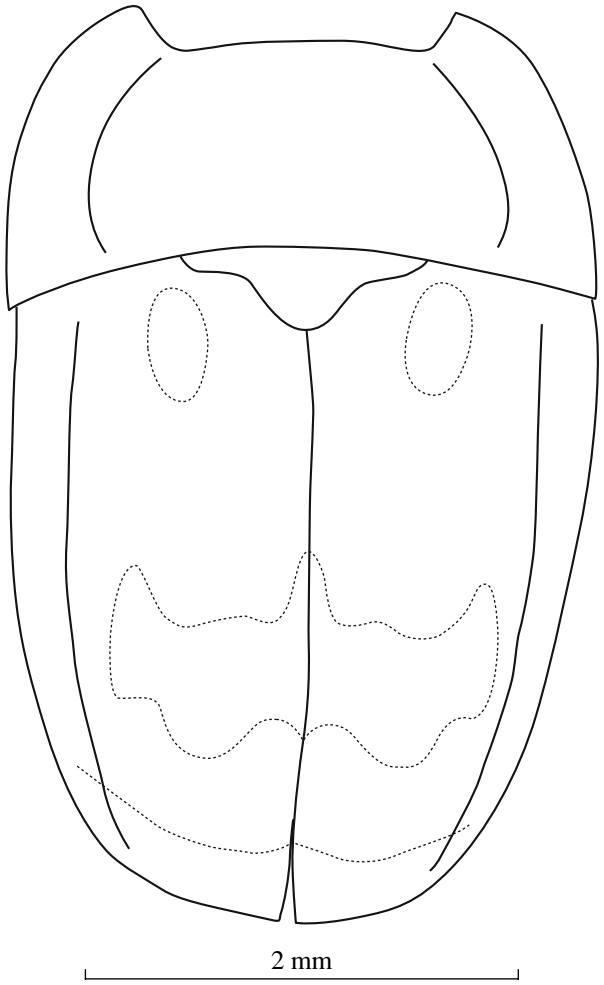

Fig. 5. *Palaeometopia colorata* sp. nov., holotype, ?female, body, dorsal view.

Palaeometopia colorata **Kirejtshuk et Poinar, sp. nov.**

Etymology. From the Latin *colorata* (color).

Holotype. OSU, no. C-7-41, incomplete beetle inclusion, probably female, with the head and its appendages lost, the mesosternum and metasternum hardly visible because of air bubbles; the piece of amber is elliptical, 12 mm long, 8 mm wide, and 6 mm high; the amber has several cracks on the right of the inclusion and air bubbles along its lower surface, so that the structures of the beetle are uncertain; Dominican amber; Early Miocene.

Description (Fig. 5). The beetle is elongated ovate, almost square; the upper side is moderately convex; the lower side is flattened; stramineous, with small dark paramedial spots at the base of the elytra, a dark undulating band in the distal half, and a darkish tint along the apices; completely dull. The upper side has hardly discernible, posteriorly directed hairs.

The upper and lower sclerites have indistinct puncturation. The upper side has several superficial, widely spaced punctures; the entire surface is covered by fine,

dense shagreen. The pronotum appears to be twice as wide as long; its sides are broadly curved, the posterior corners are distinct, the anterior margin is distinctly notched and bordered at the anterior corners, the posterior margin is notched and bordered. The scutellum is moderately developed, almost triangular, with a rounded apex. The elytra are complete, with very widely curved lateral sides and transversely oblique apices, which do not form a sutural angle. The pygidium is almost triangular, narrowly rounded at the apex. The prosternum has a narrow process, which extends slightly beyond the hind coxae. The distance between the hind coxae is almost equal to, or slightly less than, the width of the hind femur. The legs are moderately developed. The tibiae are narrow; the fore tibia are almost triangular, while, in the middle and hind tibiae, the lateral margins are almost parallel. The fore tibia has a distinct external apical corner, the middle and hind tibiae have rows of short setae on the external margin. The femora are moderately wide, the hind femur is approximately three times as wide as the hind tibia. Tarsomeres 1–3 are moderately lobate; the claws are simple and relatively long; metatarsomere 5 is relatively long, longer than metatarsomeres 1–3 combined. The length of the abdomen slightly exceeds its width. Ventrite 1 is approximately as long as ventrites 2–4 combined. The hypopygidium is relatively short, rounded at the apex.

Measurements, mm. Body length without head, 4.8; width, 3.5; height, 1.2.

Comparison. The new species differs from the type species in the relatively large and light-colored body, with dark spots on the elytra, the less narrowed apices of the elytra, the less bright integument, and the less distinct puncturation on the upper side. In *P. dominicana*, metatarsomere 5 is slightly shorter than metatarsomeres 1–3 combined, while, in *P. colorata*, it is relatively long, much longer than metatarsomeres 1–3. In addition, the hind femur of *P. dominicana* is narrower than the distances between the hind coxae, while the hind femur of *P. colorata* is wider.

Remarks. Although the head (with its important generic level characters) is absent from the holotype, the specimen examined has a narrow prosternal process, which is characteristic of the type species of *Palaeometopia*.

Material. Holotype.

DISCUSSION

The Nitidulidae are represented in the Baltic amber by the subfamilies Epuraeinae (*Epuraea* Erichson, 1843, including the subgenus *Epuraeanella* Crotch, 1874); Carpophilinae (*Carpophilus* Stephens, 1829); Meligethinae (*Meligethes* Stephens, 1830 and *Pria* Stephens, 1830); Nitidulinae (*Nitidula* Fabricius, 1775, *Omositoidea* Schaufuss, 1892, *Soronia* Erichson, 1843, and *Cyllodes* Erichson, 1843); Cryptarchinae (*Cryptarcha* Shuckard, 1839); and Cybocephalinae (*Cybocephalus* Erichson, 1844) (Klebs, 1910; Larsson, 1978; Spahr, 1981; Hieke and Pietrzeniuk, 1984; Ponomarenko and Kirejtshuk, 2006). None of the papers cited are accompanied by appropriate descriptions or figures, except for *O. gigantea* (Schaufuss, 1892). However, this list is incomplete.

The first author has examined specimens from the collections of the Amber Society of the Geological–Paleontological Institute and Museum at Hamburg University and the Zoological and Paleontological institutes of the Russian Academy of Sciences (St. Petersburg and Moscow). He recognized about 40 representatives of this family in the Baltic amber, which, in addition to the previously established taxa, belonged to a new genus of the tribe Epuraeini (which is similar to *Amystrops* Grouvelle, 1906) and the genera *Soronia, Phenolia* Erichson, 1843, *Aethina* Erichson, 1843, *Cryptarcha*, a new genus of the tribe Platyarchini (Cryptarchinae), and *Cybocephalus* (Cybocephalinae). The composition of Nitidulidae in the Baltic amber resembles that of the modern fauna of southeastern Asia, particularly because of the diversity of the genera *Soronia* and *Aethina* and probable presence of anthophilous species that are related to the extant genus *Amystrops*, the genus *Phenolia*, and the new genus of the tribe Platyarchini (Kirejtshuk, 2005). The majority of sap beetles of the Baltic Fauna were probably connected with wood fungi, or at least with forest habitats (if Baltic-amber species correspond in bionomy to extant species of the same genera and their close relatives), although many extant species of *Pria* and *Meligethes* are connected with flowers of herbaceous angiosperms. The same is probably true of species of the genus *Omositoidea*, since all species of the *Pocadius* complex with known bionomy show close relationships with fungi that grow on tree trunks or branches or, at least, with fungi that occur in forest rather than grasslands (such as *Pocadius* connected with Lycoperdaceae (Basidiomycetes)).

Sap beetles from the Dominican amber remain poorly understood, they are considered here for the first time. The authors examined inclusions of *Mystrops* Erichson, 1843 and *Pallodes* Erichson, 1843, housed in Oregon State University, which will be described in further publications. *Palaeometopia* gen. nov. is apparently closely related to extant *Prometopia*. All living species of the genera *Prometopia, Mystrops*, and *Pallodes* inhabit trees and feed on fungi or palm inflorescences.

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