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A key to the species of *Nanoplebeia*, with descriptions of four new species (Hymenoptera: Apidae)

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Abstract. Four new species of the subgenus *Nanoplebeia* Engel (genus *Plebeia* Schwarz) are described and figured as: ***Plebeia* (*Nanoplebeia*) *pleres*** Engel, new species, from Venezuela; ***P.* (*N.*) *asthenes*** Engel, new species, from Bolivia; ***P.* (*N.*) *orphne*** Engel, new species, from Ecuador and Peru; and ***P.* (*N.*) *chondra*** Engel, new species, from Ecuador. A key is presented to the species of the subgenus.

INTRODUCTION

The subgenus *Nanoplebeia* Engel was introduced recently for a group of distinctive minute species of the widespread and complex genus *Plebeia* Schwarz (Engel *et al*., 2021). Given that an account of the subgenus was only recently published, there is no further information to add and I refrain from repeating that material here. Instead, the purpose of the present contribution is to present a key to the species of the subgenus as well as descriptions of four new species alluded to in that initial account.

MATERIAL AND METHODS

All material discussed herein is deposited in the Division of Entomology, University of Kansas Natural History Museum, Lawrence, Kansas, USA (SEMC). Morphological terminology for the descriptions generally follows Engel (2001) and Michener (2007), although terms of orientation for the metatibia are adopted from Engel *et al*.

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(2021). Photographs were taken with a Canon EOS7D digital camera and measurements prepared with an ocular micrometer on an Olympus SZX-12 stereomicroscope. Translingual symbols for castes and vein nomenclature follows Rasmussen *et al*. (2017).

SYSTEMATICS

Genus *Plebeia* Schwarz
Subgenus *Nanoplebeia* Engel

Plebeia* (*Nanoplebeia*) *pleres Engel, new species

ZooBank: urn:lsid:zoobank.org:act:FBEE9187-D910-4E9D-AA50-4C67875FE137

(Figs. 3, 9, 16)

DIAGNOSIS: This new species, as well as the others presented herein (*vide infra*), belongs to that group of species superficially similar to *Plebeia* (*Nanoplebeia*) *minima* (Gribodo), in that they differ from the wholly orange to yellow orange bodies of *P*. (*N*.) *franki* (Friese) (Figs. 5, 12) and the extensively maculated pleura and wholly yellow or yellow orange metasoma and legs of *P*. (*N*.) *margaritae* Moure (Figs. 1, 4, 11). From these and all other species, *P*. (*N*.) *pleres* has the basal area of the propodeum smooth rather than reticulate to microreticulate. Among the remaining species, *P*. (*N*.) *pleres* is distinguished by the combination of yellow to tawny maculation (rather than more lemon yellow or white of some other species) (Figs. 9, 16); the more extensive maculation of the mesoscutellum (Fig. 16), which extends to the axillae or, in some individuals, nearly occupies the entire mesoscutellum; the generally absence of large brown patches on the clypeus (Fig. 9), the sparse and fine punctation of the face (Fig. 9), the more diffuse pubescence of the face and largely simple setae of the clypeus (Fig. 9), and the more faint but still elongate markings of the paraocular area (Fig. 9).

DESCRIPTION: ♀: Total body length approximately 2.65–3.45 mm, forewing length (including tegula) 2.65–3.43 mm. Head wider than long, width 1.23–1.46 mm, length 1.12–1.23 mm; compound eye length 0.90–0.98 mm; upper interorbital distance 0.77–0.88 mm, lower interorbital distance 0.53–0.73 mm. Scape length 0.40–0.54 mm. Malar area nearly linear, anteriorly about 0.17–0.20× flagellar diameter. Preoccipital ridge weakly present dorsomedially, absent laterally. Mesoscutellum low, weakly convex, extending beyond metanotum and over propodeal base in profile, posterior margin semicircular. Metatibia with proventral margin comparatively straight, superior distal angle acute; metabasitarsus apical margin diagonal, superior distal angle acutely rounded, extending to about 0.75× length of metatarsomere II.

Integument of head and mesosoma generally black to dark brown; labiomaxillary complex yellowish brown; mandible and labrum yellow except mandibular apex reddish brown; clypeus yellow except yellowish brown to brown along proximal and lateral borders; supraclypeal area tawny; scape yellow, pedicel and flagellum brown except apical half of first flagellomere tawny; lower paraocular area largely yellow to tawny except dark brown mesially near antennae and clypeal base from anterior tentorial pit to torulus, yellowish marking much broader than dark brown area; upper face dark brown to black except narrow extension of yellowish marking along compound eye to about level of inward arch in ocular margin; gena dark brown and blending to brown ventrally; postgena brown, like lower part of gena. Pronotum and propleura yellow; mesoscutum black with thin stripes of yellow to tawny along lateral borders;

Figures 1–3. Lateral habitus of select species of *Nanoplebeia* Engel, workers. **1.** *Plebeia* (*Nanoplebeia*) *margaritae* Moure. **2.** *P.* (*N.*) *orphne*, new species. **3.** *P.* (*N.*) *pleres*, new species.

axilla yellow to tawny; mesoscutellum dark brown with yellow to tawny along rounded posterior margin, yellow maculation about as broad as lateral stripe of mesoscutum posteriorly, with transverse paralateral patches of yellow to tawny laterally in transverse anterior mesoscutal furrow; legs yellow except brown to light brown on prolateral surfaces of metatibia and metabasitarsus except often proximally on metatibia in fundus somewhat yellow brown and sometimes inferiorly along proventral border yellow to yellow brown; wing membranes hyaline clear, veins brown; metasoma dark brown to brown except lighter brown to yellowish brown on discs of terga I and II, sometimes disc of tergum III, except laterally blending to brown and dark brown.

Integument typically smooth and shining between minute, widely spaced punctures except as noted; clypeus with coarser, shallow, setiferous punctures separated by less than a puncture width; supraclypeal area with sparse, minute punctures; lower and upper face with minute, setiferous punctures separated by 3–5× a puncture width, such punctures becoming even sparser in ocellocular space; vertex and gena as on upper face although punctures closer and somewhat coarser bordering compound eye; postgena smooth and nearly glabrous. Mesoscutum smooth, shining, with minute, setiferous punctures separated by 3–5.5× a puncture width; similar punctures on axilla except shallower and closer anteriorly; punctures of mesoscutellum as on mesoscutum except sparser in anterior two thirds, in posterior third punctures shallower, coarser, and closer, giving a somewhat roughened appearance; mesepisternum smooth, shining, with minute, setiferous punctures separated by 2–6× a puncture width, particularly sparse on hypoepimeral area and sparser posteriorly and ventrally; metepisternum smooth with somewhat shallower and coarser setiferous punctures; basal area of propodeum smooth, shining, glabrous; lateral surface of propodeum with shallower setiferous punctures; posterior surface of propodeum smooth and nearly glabrous. Metasoma smooth and shining, except faintly and finely reticulate-imbricate in marginal zones of terga II–V and most of tergum VI; sterna largely smooth to faintly reticulate-imbricate.

Pubescence generally white to yellowish; clypeus with numerous, short, suberect, simple setae intermixed with sparser, suberect, short, minutely branched setae; supraclypeal area with similar setation as on clypeus except sparser; lower face with short, suberect, plumose setae predominant but rather diffuse and clearly not obscuring integument, such setae similar on upper face except sparser; scape with minute, erect, simple setae and sparser long, erect, simple bristles, bristles nearly as long as scape diameter; vertex with setae similar to those of upper face except largely simple and intermixed with sparse, long, erect, simple setae; gena with abundant decumbent to suberect, plumose setae, such setae more numerous than those on face but not entirely obscuring integument, such setae becoming simple on lowermost part of gena; postgena with sparsely scattered, long, erect, simple setae, such setae most numerous along hypostoma. Mesoscutum with abundant, fine, suberect, short, laterally directed (directed obliquely posteriorly away from midline), simple setae, such setae infrequently with one or two minute branches, along anterior border elongate, erect setae with minute branches along rachis; mesoscutellum with sparse, fine, suberect to erect, short, simple setae, posteriorly with abundant elongate, erect setae with minute branches along one side of rachis; mesepisternum with scattered, short, decumbent to suberect, plumose setae, such setae becoming sparser ventrally and posteriorly, intermixed with long, erect, largely simple setae, such setae slightly shorter dorsally and with a few minute branches, becoming more numerous and longer ventrally; hypoepimeral area with plumose setae more numerous; metepisternum with dense, moderate-length, decumbent, plumose setae, largely obscuring integument; basal area of propodeum glabrous, posterior surface largely glabrous except exceedingly sparse, erect, simple setae, lateral surface as on metepisternum. Setae and bristles of legs largely simple and yellow; metatibial fringe setae elongate, simple except setae at superior distal angle plumose; penicillum, inferior parapenicillum, and rastellum more amber golden; bristles of retrolateral surface of metabasitarsus amber golden. Setae of metasomal terga rather sparse, discs of terga I–IV nearly glabrous, with minute, decumbent, simple setae laterally and apically, such setae progressively more numerous and longer on terga IV–VI; sternal discs with long, erect, simple setae with arched apices, laterally with minute, simple, decumbent to suberect setae.

Figures 4–7. Faces of select species of *Nanoplebeia* Engel, workers. **4.** *Plebeia* (*Nanoplebeia*) *margaritae* Moure. **5.** *P.* (*N.*) *franki* (Friese). **6.** *P.* (*N.*) *orphne*, new species. **7.** *P.* (*N.*) *minima* (Gribodo).

♀: *Latet*.

♂: *Latet*.

Holotype: ♀, Venezuela: T.F. Amazonas, Dpto. Atures, Caño Ucata, Fibral nr. San Juan [near east shore of Rio Orinoco], [no date], 4°20'N, 67°45'W [4.333, -67.75], F. Guanchez coll. (SEMC).

Paratypes: 15♀♀, Venezuela: T.F. Amazonas, Dpto. Atures, Caño Ucata, Fibral nr. San Juan [near east shore of Rio Orinoco], [no date], 4°20'N, 67°45'W [4.333, -67.75], F. Guanchez coll. (SEMC).

Variation: In some individuals the metasoma is significantly lighter, with nearly all terga tawny, and the extent of yellow or yellow brown on the prolateral surface of the metatibia can vary. Similarly, the mesoscutellum can be largely yellowish with an anterior medial brown patch, although such individuals have the same extent of maculation on the mesoscutum and axillae. There can also be a brown patch dorsoapically on the scape, while the underside of the flagellum can be lighter brown. The supraclypeal area can have at times more extensive yellow along the epistomal sulcus.

Etymology: The specific epithet is taken from the Ancient Greek adjective *plḗrēs*

(πλήρης, meaning, "complete"), and refers to the complete yellow maculation of the mesoscutellar apical margin.

Plebeia* (*Nanoplebeia*) *asthenes Engel, new species
ZooBank: urn:lsid:zoobank.org:act:D990F05D-8E4A-49BC-A874-DE93E768DB5F
(Figs. 8, 15)

DIAGNOSIS: This species, as well as the two that follow (*infra*), have the mesoscutellar maculation confined to the medioapical margin as well as a distinctly yellow or white coloration (Fig. 15) and reticulate or microreticulate propodeum. Like *P.* (*N.*) *orphne* and *P.* (*N.*) *chondra* the facial punctation is coarser and denser, unlike that of *P.* (*N.*) *minima*. In addition, the facial maculation is rather faint and does not extend along the ocular margin as far as the other species (Fig. 8).

DESCRIPTION: ♀: As described for *P.* (*N.*) *pleres* (*vide supra*) except as follows: Total body length approximately 2.79–3.06 mm, forewing length (including tegula) 2.75–2.88 mm. Head wider than long, width 1.21–1.25 mm, length 1.08–1.13 mm; compound eye length 0.85–0.88 mm; upper interorbital distance 0.81–0.85 mm, lower interorbital distance 0.67–0.71 mm. Scape length 0.42–0.44 mm. Preoccipital ridge absent. Metabasitarsus apical margin diagonal, superior distal angle rounded, extending to about 0.33–0.40× length of metatarsomere II.

Mandible yellow except base dark brown and mandibular apex reddish brown; clypeus yellow with brown patches on either side of broad midline, yellow midline nearly as broad as supraclypeal area, subtriangular apicolateral corners yellow to yellowish brown; supraclypeal area yellow with narrow area of brown above at tangent of upper margin of antennal toruli; scape yellow except brown to dark brown dorsally, pedicel and flagellum brown except ventral surface of apicalmost flagellomeres lighter brown; lower paraocular area with faintly yellow to tawny triangular area, with black mesially near antenna and clypeal base from anterior tentorial pit to torulus, yellow disappearing at or slightly above tangent of upper margin of antennal toruli, sometimes continuing a bit further as a thin, faint, dark brown strip along ocular margin but completely gone before arch in ocular margin. Pronotum and propleura brown, with yellow on pronotal lobe and transverse paralateral patches of yellow on either side of midline on dorsal collar bordering mesoscutum; mesoscutum black with thin stripes of pale yellow along lateral borders; axilla pale yellow to tawny; mesoscutellum black to reddish brown with yellow medioapically along rounded posterior margin, sometimes patch medially divided forming paralateral patches on either side of midline, yellow maculation separated from axillae by about axillar length; legs largely dark brown to brown except trochanters and tarsi yellow, although meso- and metabasitarsus dark brown to brown, with yellow on retrolateral surfaces and yellow on superior distal angle and inferiorly near proventral margin of metabasitarsus, and yellow proximally on tibiae near articulation with femora, metatibia with apical patch of yellowish brown to yellow on corbicula; wing membranes hyaline clear, veins brown to light brown; metasoma brown to dark brown, sometimes lighter on lower portion of anterior-facing surface of metasomal tergum I.

Integument typically smooth and shining between minute punctures except as noted; clypeus with coarser, shallow, ill-defined, contiguous, setiferous punctures giving a faintly roughened appearance; supraclypeal area as on clypeus; lower and upper face with minute, well-defined, setiferous punctures separated by 1–3× a puncture width, such punctures becoming less distinct and a bit more spaced in ocellocular area;

Figures 8–10. Faces of select species of *Nanoplebeia* Engel, workers. **8.** *Plebeia* (*Nanoplebeia*) *asthenes*, new species. **9.** *P.* (*N.*) *pleres*, new species. **10.** *P.* (*N.*) *chondra*, new species.

vertex and upper gena with shallow, coarse, ill-defined, contiguous to nearly contiguous punctures; punctures become a bit more defined and smaller on gena, separated by a puncture width or less, but remain shallow and giving a somewhat reticulate appearance, punctures blending to impunctate integument on postgena. Mesoscutum smooth, shining, with minute, setiferous punctures separated by 2–5×, less frequently by a puncture width; punctures of mesoscutellum as on mesoscutum except sparser in anterior half, blending to more faintly reticulate integument with exceedingly sparse, minute punctures; basal area of propodeum faintly reticulate, glabrous.

Pubescence generally white; clypeus with numerous, short, nearly decumbent, plumose setae, not obscuring integument, intermixed with sparse, erect, simple setae, such simple setae more numerous and suberect on supraclypeal area; lower and upper face with similar setation as on clypeus except somewhat denser, but not obscuring integument, such setae becoming sparser in ocellocular area, upper face with sparse, erect, short, simple setae intermixed; vertex with erect, largely simple (sometimes with minute branches) setae more numerous and longer and plumose setae disappearing; gena with abundant minute, decumbent, minutely plumose setae, blending to simple setae posteriorly and ventrally, setae becoming sparse by postgena; postgena with

sparsely scattered, long, erect, simple setae. Penicillum, inferior parapenicillum, and rastellum golden yellow; bristles of tarsi golden.

♀: *Latet*.

♂: *Latet*.

HOLOTYPE: ♀, Bolivia: Cochabamba, Cochabamba, 67.5 km NE, Est. Biol. Valle del Sajita, Univ. de San Simón, 300 m, 17°6′33′′S, 64°47′52′′W [-17.1092, -64.7978], 7–9 Feb 1999, R. Hanley, ex: flight intercept trap (SEMC).

PARATYPES: 5♀♀, Bolivia: Cochabamba, Cochabamba, 67.5 km NE, Est. Biol. Valle del Sajita, Univ. de San Simón, 300 m, 17°6′33′′S, 64°47′52′′W [-17.1092, -64.7978], 7–9 Feb 1999, R. Hanley, ex: flight intercept trap (SEMC); 2♀♀, Bolivia: Cochabamba, Cochabamba, 67.5 km NE, Est. Biol. Valle del Sajita, Univ. de San Simón, 300 m, 17°6′33′′S, 64°47′52′′W [-17.1092, -64.7978], 9–13 Feb 1999, F. Genier, ex: flight intercept trap (SEMC).

ETYMOLOGY: The specific epithet is taken from the Ancient Greek adjective *asthenḗs* [ἀσθενής, meaning, "weak", "feeble", or "insignificant", and a combination of *a–* (ἀ–, alpha privativum), *sthénos* (σθένος, meaning, "strength"), and the adjectival suffix *–ḗs* (–ής)], and refers to the faint, thin yellow of the face.

Plebeia* (*Nanoplebeia*) *orphne Engel, new species

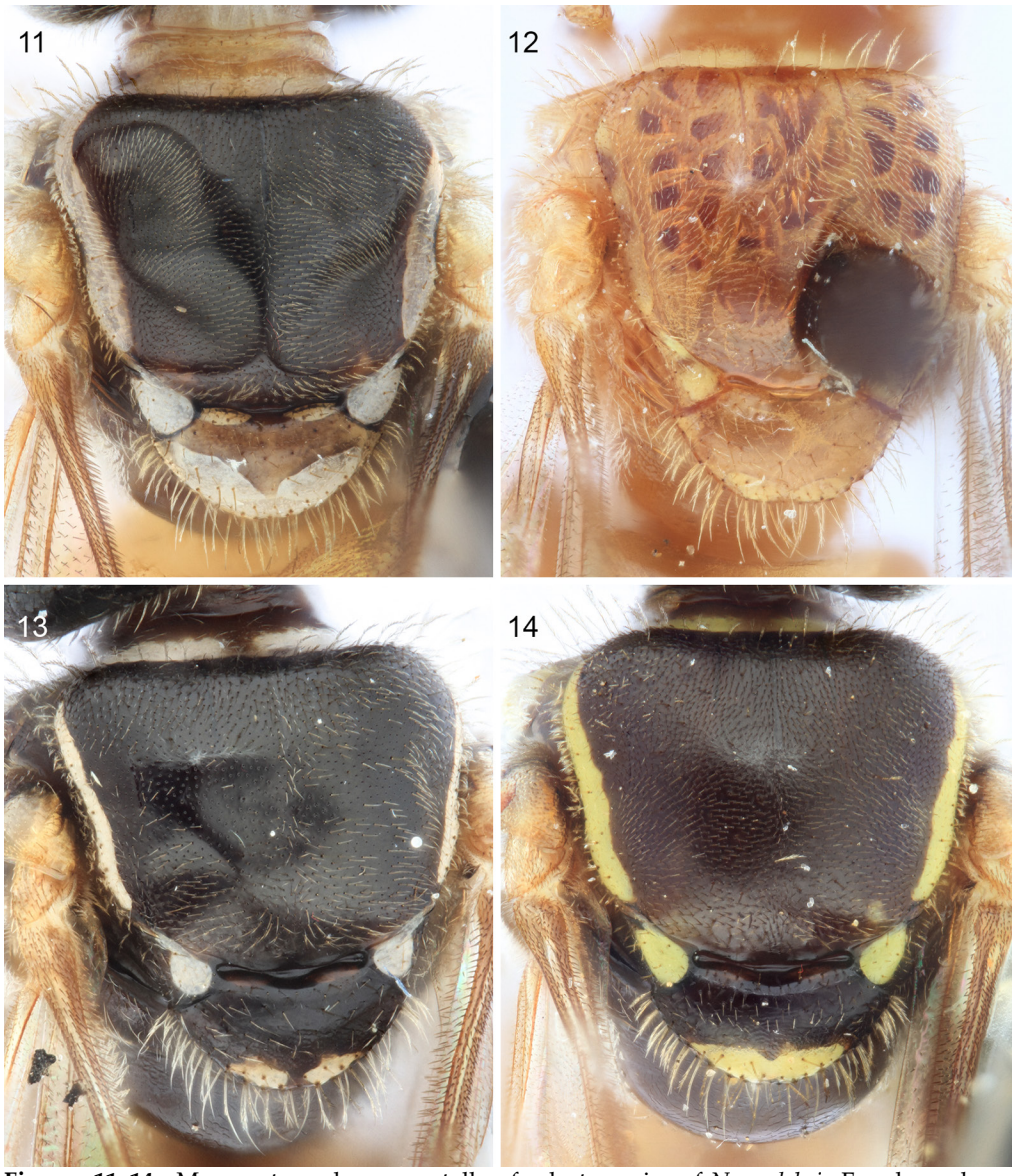
ZooBank: urn:lsid:zoobank.org:act:82B2D71A-BC30-45A0-A310-0CA6A8F0973B

(Figs. 2, 6, 13)

DIAGNOSIS: The new species is most similar to *P*. (*N*.) *minima* but has the punctures of the upper face, particularly mesially, coarser and denser (*cf*. Figs. 6 vs. 7), the mesosomal maculation white to pale yellow (Fig. 13), mesosomal punctures more distinct (Fig. 13), and longer setae on the mesoscutum (Fig. 13).

DESCRIPTION: ♀: As described for *P*. (*N*.) *pleres* (*vide supra*) except as follows: Total body length approximately 2.88–3.18 mm, forewing length (including tegula) 2.71–3.08 mm. Head wider than long, width 1.27–1.33 mm, length 1.05–1.09 mm; compound eye length 0.85–0.86 mm; upper interorbital distance 0.81–0.83 mm, lower interorbital distance 0.69–0.71 mm. Scape length 0.42–0.44 mm. Preoccipital ridge absent. Metabasitarsus apical margin diagonal, superior distal angle broadly rounded, extending to about 0.33× length of metatarsomere II.

Mandible yellow except base dark brown and mandibular apex reddish brown; clypeus yellow with brown patches on either side of midline, yellow midline hourglass shaped, triangular apicolateral corners yellow; supraclypeal area yellow with narrow area of brown above at tangent of upper margin of antennal toruli; scape yellow except brown to dark brown dorsally, pedicel and flagellum brown; lower paraocular area with strong yellow maculation, with black mesially near antenna and clypeal base from anterior tentorial pit to torulus, yellow tapering and transition to tawny or light brown just before arch in ocular margin, then continuing as thin faint brown line to and sometimes through arch in ocular margin. Pronotum and propleura brown, with pale yellow to white on pronotal lobe and transverse paralateral patches of pale yellow to white on either side of midline on dorsal collar bordering mesoscutum; mesoscutum black with thin stripes of pale yellow to nearly white along lateral borders; axilla pale yellow to white with black lateral margin; mesoscutellum black with pale yellow or white maculation medioapically along rounded posterior margin, frequently patch medially divided forming paralateral patches on either side of midline, maculation separated from axillae by about axillar length; legs largely brown to light brown except trochanters and tarsi yellow, although meso- and metabasitarsus brown



Figures 11–14. Mesoscuta and mesoscutella of select species of *Nanoplebeia* Engel, workers. **11.** *Plebeia* (*Nanoplebeia*) *margaritae* Moure. **12.** *P.* (*N.*) *franki* (Friese). **13.** *P.* (*N.*) *orphne*, new species. **14.** *P.* (*N.*) *minima* (Gribodo).

to dark brown, yellow proximally on tibiae near articulation with femora although more extensively on protibia, sometimes extending for three quarters of length, yellow sometimes present on mesobasitarsus apically and metabasitarsus inferiorly apically and along superior margin; metatibia sometimes with patch of light brown to yellowish brown on prolateral surface; wing membranes hyaline clear, veins brown to light brown; metasoma brown to dark brown, sometimes lighter on discs and disc of dorsal-facing surface of metasomal tergum I and on more proximal sterna.

Integument typically smooth and shining between minute punctures except as noted; clypeus with coarser, shallow, ill-defined, contiguous, setiferous punctures giv-

ing a faintly roughened appearance; supraclypeal area as on clypeus; lower and upper face with minute, well-defined, setiferous punctures separated by 1–3× a puncture width, punctures of upper face, particularly mesially, somewhat coarser than those of lower face, punctures becoming less distinct and a more spaced in ocellocular area; vertex and upper gena with shallow, coarse, ill-defined, contiguous to nearly contiguous punctures; punctures become a bit more defined and smaller on gena, separated by a puncture width or less, but remain shallow and giving a somewhat reticulate appearance, punctures blending to impunctate integument on postgena. Mesoscutum smooth, shining, with minute, setiferous punctures separated by 2–6× a puncture width; punctures of mesoscutellum as on mesoscutum except sparser anteriorly, blending to more faintly reticulate integument with exceedingly sparse, minute punctures posteriorly; basal area of propodeum faintly reticulate, glabrous.

Pubescence generally white; clypeus with numerous, short, nearly decumbent, plumose setae, not obscuring integument, intermixed with sparse, erect, simple to minutely branched setae, such simple setae more numerous and suberect on supraclypeal area; lower and upper face with similar setation as on clypeus except somewhat denser, but not obscuring integument, such setae becoming sparser in ocellocular area, upper face with sparse, erect, short, simple setae intermixed; vertex with erect, largely simple setae, sometimes with minute branches, more numerous and longer; gena with abundant minute, decumbent, minutely plumose setae, blending to simple setae posteriorly and ventrally, setae becoming sparse by postgena; postgena with sparsely scattered, long, erect, simple setae. Penicillum, inferior parapenicillum, and rastellum golden yellow; bristles of tarsi golden.

♀: *Latet*.

♂: *Latet*.

HOLOTYPE: ♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 13–23.III.1994, Hibbs, ex: malaise (SEMC).

PARATYPES: 2♀♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 22.II–4.III.1994, Hibbs, ex: malaise (SEMC); 2♀♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 14–24.III.1994, Hibbs, ex: malaise (SEMC); 5♀♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 12–22.III.1994, Hibbs, ex: malaise (SEMC); 1♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 13–23.III.1994, Hibbs, ex: malaise (SEMC); 4♀♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 4–14.III.1994, Hibbs, ex: malaise (SEMC); 1♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 3–13.IV.1994, Hibbs, ex: malaise (SEMC); 3♀♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 3.IV–4.V.1994, Hibbs, ex: malaise (SEMC); 3♀♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 13–23.VI.1994, Hibbs, ex: malaise (SEMC); 1♀♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 13–25.VI.1994, Hibbs, ex: malaise (SEMC); 1♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 23.VI–3.VII.1994, Hibbs, ex: malaise (SEMC); 2♀♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 3–13.VII.1994, Hibbs, ex: malaise (SEMC); 1♀, Ecuador: Sucumbios, Sacha Lodge, 0.5°S, 76.5°W [-0.4721, -76.4590], 270 m, 30.IX–10.X.1994, Hibbs, ex: malaise (SEMC); 2♀♀, Peru: Dept. Loreto, 1.5 km N Teniente Lopez, 2°35.66'S, 76°06.92'W [-2.5943, -76.1153: note that the coordinates on the labels indicate a position much further north in Loreto than the location of Teniente Lopez, S-SE of Yurimaguas. Interestingly, if one considers the degrees to be 5° rather than 2°, then the resulting position is only about 8 km N-NW of Teniente Lopez.

Figures 15–17. Mesoscuta and mesoscutella of select species of *Nanoplebeia* Engel, workers. **15.** *Plebeia* (*Nanoplebeia*) *asthenes*, new species. **16.** *P.* (*N.*) *pleres*, new species. **17.** *P.* (*N.*) *chondra*, new species.

Perhaps there was a transcription error when labels were made or there is an independent and seemingly untraceable "Teniente Lopez" in northwestern Loreto near the border with Ecuador], 18 July 1993, 210–240 m, Richard Leschen, ex: flight intercept trap (SEMC).

Etymology: The specific epithet is taken from the Ancient Greek adjective *orphnós* [ὀρφνός, meaning, "dusky", feminine *orphnḗ* (ὀρφνή); in Greek mythology Orphne (Ὀρφνή) was a nymph living with Hades], and refers dark brown of the coxae.

Plebeia* (*Nanoplebeia*) *chondra Engel, new species
ZooBank: urn:lsid:zoobank.org:act:3C232A2A-FD9D-4FB5-B06B-D5BED6921337
(Figs. 10, 17)

DIAGNOSIS: The new species is most similar to *P.* (*N.*) *orphne* but has the metabasitarsal superior distal angle acutely rounded and a slightly broader metatibia (refer to Key, *infra*).

DESCRIPTION: ♀: As described for *P.* (*N.*) *pleres* (*vide supra*) except as follows: Total body length approximately 2.75 mm, forewing length (including tegula) 2.67 mm. Head wider than long, width 1.21 mm, length 1.01 mm; compound eye length 0.81 mm; upper interorbital distance 0.83 mm, lower interorbital distance 0.65 mm. Scape length 0.39 mm. Preoccipital ridge absent. Metabasitarsus apical margin concave, superior distal angle acutely rounded, extending to about 0.33× length of metatarsomere II.

Mandible yellow except base dark brown, blending to tawny in apical half, apex reddish brown; clypeus brown except black along epistomal sulcus, with broad mediolongitudinal band of yellow and apicolateral corners of mixed yellow to brown; supraclypeal area largely yellow except becoming brown apically at upper tangent of antennal toruli; scape largely yellow except light brown dorsally in apical half; pedicel and flagellum brown except light yellow brown on ventral surfaces of more apical flagellomeres and lighter brown ventrally on first flagellomere; lower paraocular area largely yellow except black mesially near antenna and clypeal base from anterior tentorial pit to torulus, yellowish marking broader at border at tangent of tentorial pits and below, then narrower than black area and extending along ocular margin until level of about compound eye midlength or about 1.3× torular diameters above upper margin of antennal torulus; gena black except slightly lighter near postgena; postgena dark brown. Pronotum dark brown except pronotal lobe yellow and with transverse paralateral patches of yellow on either side of midline on posterior dorsal collar bordering mesoscutum; propleura brown; mesoscutum black with thin stripes of pale yellow along lateral borders, extending nearly to axillae; axilla pale yellow; mesoscutellum dark brown, contrasting against black of mesoscutum, with yellow medially along rounded posterior margin, yellow maculation broadly separated from axillae by nearly length of axillae; legs light brown yellow except coxae and trochanters yellow, tarsi yellow except metabasitarsus light brown, retrolateral surface of metatibia yellow except mediolongitudinal brown patch, and yellow at tibial bases near articulation with femora; metasoma dark brown to brown except yellowish brown along apical margin and base of anterior-facing surface of tergum I and proximal sterna largely yellowish brown.

Integument typically smooth and shining between minute punctures except as noted; clypeus with coarser, shallow, nearly contiguous, setiferous punctures with a somewhat microgranulose appearance; supraclypeal area as on clypeus; lower face with minute, setiferous punctures separated by 1–3× a puncture width, such punctures becoming sparser and more indistinct on upper face except mesially punctures coarser, shallow, and separated by less than a puncture width; ocellocular space with punctures as on lateral part of upper face, *i.e.*, minute, indistinct, and sparse; vertex and upper gena with coarse, shallow, nearly contiguous punctures; gena with minute, indistinct punctures separated by 1–3× a puncture width. Punctures of mesoscutellum much sparser and more indistinct throughout than on mesoscutum; basal area of propodeum faintly reticulate, shining, glabrous.

Clypeus with numerous, short, nearly decumbent, plumose setae, not obscuring integument and not intermixed with simple setae; lower face similar setation as on clypeus except somewhat denser, but not obscuring integument, such setae becoming sparser on upper face except mesially, before becoming more numerous again, albeit not as dense on lower face, on uppermost face bordering ocelli, ocellocular area, and compound eye, upper face also with sparse, erect, short, simple setae intermixed; vertex with erect simple setae more numerous and longer and plumose setae disappearing; gena with abundant minute, decumbent, plumose setae on anterior half toward compound eye, blending to simple setae in posterior half, plumose setae denser than simple setae, but not entirely obscuring integument, such setae becoming sparse by postgena; postgena with sparsely scattered, long, erect, simple setae. Penicillum, inferior parapenicillum, and rastellum more golden yellow; bristles of retrolateral surface of metabasitarsus golden.

♀: *Latet*.

♂: *Latet*.

Holotype: ♀, Ecuador: Napo [today in Orellana Province], Yuturi Lodge, Rio Napo, 270 m, -0°32′54′′S, 76°2′18′′W [0.5483, -76.0383], 20 March 1999, R. Brooks, ex: Xylariaceae (SEMC).

Etymology: The specific epithet is taken from the Ancient Greek adjective *khondrós* [χονδρός, meaning, "coarse", feminine *khondrā̃* (χονδρᾶ̃)], and refers to the coarser punctures of the frons.

Simplified Key to Species of *Nanoplebeia*
(worker caste)

1. Body largely black to light brown, sometimes with extensive yellow or yellowish orange on pleura, legs, and metasoma (*e.g.*, Figs. 1–3, 11, 13–17) 2
—. Body entirely yellowish orange to orange (*e.g.*, Figs. 5, 12) .... *P.* (*N.*) *franki* (Friese)
2(1). Mesepisternum, metepisternum, and propodeum brown to black (*e.g.*, Figs. 2, 3); metasoma brown to black; legs variable but never wholly yellowish orange to orange 3
—. Mesepisternum, metepisternum, and propodeal lateral surface with extensive yellow to yellowish-orange (Fig. 1); legs and metasoma wholly yellowish orange to orange (Fig. 1) ..... *P.* (*N.*) *margaritae* Moure
3(2). Mesoscutellum with whitish to yellowish maculation restricted to medioapical margin (Figs. 13–15, 17); basal area of propodeum microreticulate, sometimes faintly so 4
—. Mesoscutellum with maculation extending along entire margin, meeting axillae laterally (Fig. 16); basal area of propodeum smooth ..... *P.* (*N.*) *pleres*, n. sp.
4(3). Yellow maculation in paraocular area strong and distinct, clearly extending upward along inner orbit above tangent of antennal toruli upper margins (Figs. 6, 7, 10) 5
—. Yellow maculation in paraocular area fainter, disappearing at tangent of antennal toruli upper margins (Fig. 8) ..... *P.* (*N.*) *asthenes*, n. sp.
5(4). Punctures on frons comparatively coarse (Figs. 6, 10); mesosomal maculation white to pale yellow (Figs. 13, 17); mesosomal punctures more distinct (Figs. 13, 17); fine, short, mesoscutal setae largely 0.75–1.0× width of mesoscutal lateral yellow stripe (Figs. 13, 17) 6

—. Punctures on frons comparatively fine (Fig. 7); mesosomal maculation typically lemon yellow (Fig. 14); mesoscutal punctures more indistinct (Fig. 14); fine, short, mesoscutal setae largely less than half width of mesoscutal lateral yellow stripe (Fig. 14) ..... *P.* (*N.*) *minima* (Gribodo)

6(5). Metabasitarsal superior distal angle broadly rounded; metatibial length 2.4–2.5× width ..... *P.* (*N.*) *orphne*, n. sp.

—. Metabasitarsal superior distal angle projecting and acutely rounded; metatibial length 2.3× width ..... *P.* (*N.*) *chondra*, n. sp.

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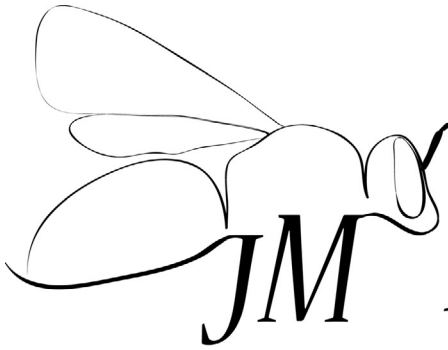

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