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Digger Wasps of the Genus *Belomicroides* (Hymenoptera, Crabronidae, Oxybellini): 1. New Species of the World Fauna

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Abstract—Ten new species and 1 new subspecies of digger wasps of the genus *Belomicroides* Kohl are described: *B. alessandroi*, *B. bytinskii*, and *B. krombeini* from Egypt; *B. veronicae* from Ethiopia; *B. rift* from Kenya; *B. clypeatus* from South Africa; and also *B. erythrogaster*, *B. maximiliani*, *B. pictus chrysoptilus*, *B. politus*, and *B. woji* from Namibia.

The present paper describes new taxa of the genus *Belomicroides* on the basis of the material from the following private and museum collections, provided for examination by courtesy of curators: Dr. Alessandro Mochi, Museo Regionale di Scienze Naturali, Torino, Italy (AM); Natural History Museum, London, UK (BMNH); California Academy of Sciences, San Francisco, USA (CAS); Maximillian Schwarz, Ansfelden, Austria (MS); National Collection of Insects, Pretoria, South Africa (PPRI); South African Museum, Cape Town, South Africa (SAM); Tel Aviv University, Tel Aviv, Israel (TAU); and US National Museum of Natural History, Washington, D.C. (USNM).

The following abbreviations are used: IOD, distance between inner eye orbits at the level of median ocellus to that between these orbits at the level of antennal sockets ratio; OOD : OD : POD, distance between inner eye orbit of vertex and lateral ocellus to diameter of lateral ocellus to distance between lateral ocelli ratio; *d*, intervals between punctures; ∅, diameter of punctures. All measurements were made at 50 × magnification.

Belomicroides alessandroi Antropov, sp. n.

Material. Holotype ♂, "Egytto, Gel. Asfer, 4.VI. 1937 (A. Mochi)" (AM).

Description. Male. Head rounded in front view; inner eye orbits parallel; IOD = 35 : 35; frons with shallow median depression; vertex plates weakly projecting, oval, slightly concave anteriorly, shining; OOD : OD : POD = 7 : 6 : 14; median lobe of clypeus oval and truncate along lower margin, bounded by lateral angles (Fig. 1, *1a*); flagellar segments wider than long, except ultimate one (Fig. 1, *3*). Pronotal carina without deep median depression; mesoscutum with weakly convex median costa in posterior part; admedian lines very fine, reaching as far as 1/4 of mesoscutum length; parapsidial lines appearing as short indistinct grooves; adlateral lines hardly noticeable; scutellum uniformly convex, without lateral carinae; metanotum convex, depressed in anterior part, with smoothed lateral carinae (Fig. 1, *4*); hypersternaulus in the form of a groove not longer than 1/3 of length of mesopleura. Propodeum with lateral carinae in dorsal part, with narrow median pit on posterior surface. Basal pubescent pits developed on abdominal tergites III–IV (Fig. 1, *7*).

Body shining, with mainly uniform punctation. Median lobe of clypeus with smooth, sparsely punctate area in lower part (d = 1–3 ∅); middle of frons finely and uniformly punctate ($d \geq$ ∅); apex of vertex with smooth punctures. Mesoscutum densely and uniformly punctate (d = 1.0–1.5 ∅), in latero-posterior parts with fine striae; scutellum with similar punctures and striae; sides of mesopleura with same punctures as mesoscutum, these punctures smoother ventrally. Apex of propodeum with radial costae; middle of propodeum, its sides and posterior part with fine pores, bearing regular striae along border between sides of propodeum and its posterior part. Abdominal tergites with micropunctures at bases of hairs, tergites VI–VII with coarser punctures ($d \approx$ ∅).

Pubescence silvery, short, appressed, concealing sculpture on sides of clypeus and lower part of frons; metanotum with short hairs; on temples, setae of psammophore as long as or shorter than basal width of mandibles (Fig. 1, *1b*); on mandibles, these setae 1.2

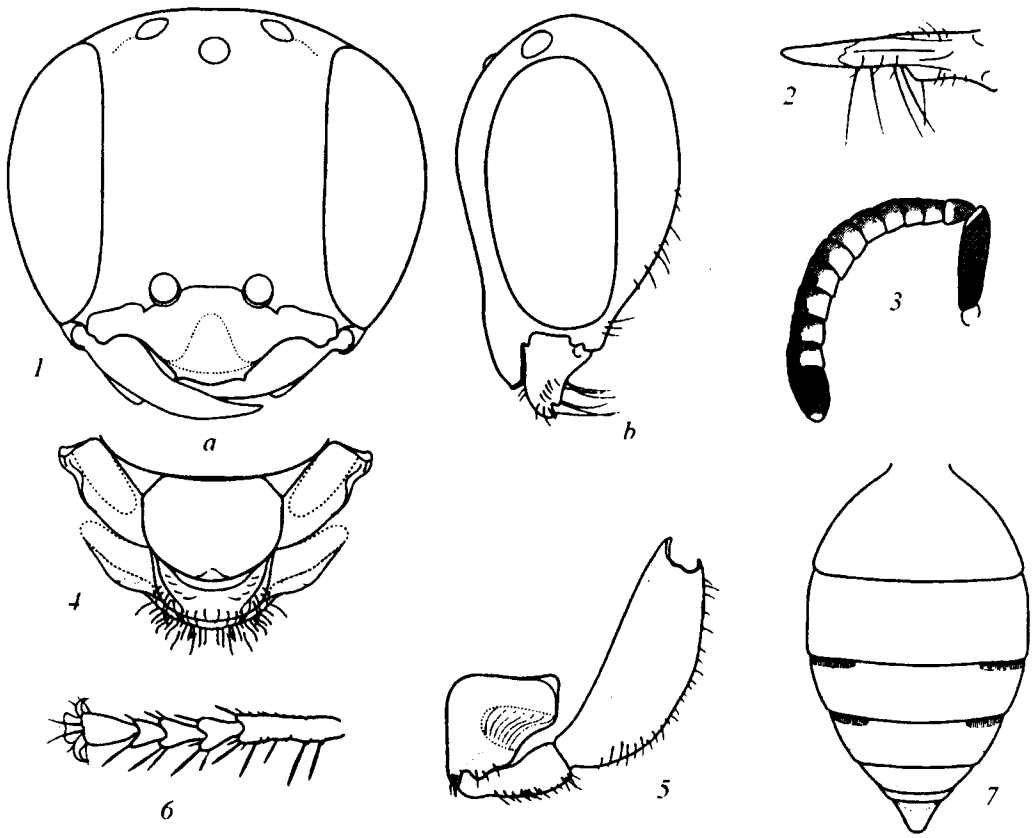

Fig. 1. *Belomicroides alessandroi* sp. n., male: (*1*) head in (*a*) front and (*b*) lateral view; (*2*) mandible, dorsal view; (*3*) antenna, front view; (*4*) scutellum and metanotum, dorsal view; (*5*) fore coxa, trochanter, and femur, ventral view; (*6*) fore tarsus; (*7*) abdomen, dorsal view.

times as long as basal width of mandibles (Fig. 1, *1*); setae on fore trochanter and femur undeveloped (Fig. 1, *5*); digging comb of fore tarsus weak, consisting of 5 erect setae of 1st segment (1.5 times as long as segment width) and dorsal apical setae of 2nd–4th segments (Fig. 1, *6*).

Head and thorax mainly black, abdomen fuscous. Middle of tegulae and translucent apical stripes of abdominal tergites I–V, all white. Humeral calli, fore and middle tibiae on outer surface, apex of fore femur, spots on apex of fore coxa, and discolored bases of wing veins, all yellow-white. Base of mandible, small spots laterally to metanotum, hind tibia on outer side, and hind femur apically, all yellow. Preapical transverse stripe on median lobe of clypeus, lower surface of flagellum (except for ultimate segment), apex of ultimate flagellar segment, all tarsi, fore tibia mainly, apex of middle femur, and middle of pterostigma, all yellow-rufous. Middle of mandible and middle tibia mainly rufous. Translucent apical stripe of clypeus and narrow preapical band on abdominal tergite I, all rufous-fuscous. Apex of mandible and abdominal tergite VII, all red-fuscous. Large spots on inner surface of hind tibia and all femora, all mainly fuscous.

Body length 4.5 mm.

Female unknown.

Differential diagnosis. The male of *B. alessandroi* sp. n. is most similar to that of *B. clypeatus* sp. n.; differing in the less projecting and apically smooth median lobe of the clypeus and mainly yellow-white middle and hind tibiae and tarsi.

Etymology. The species is named in memory of a talented Italian collector of aculeate Hymenoptera, Dr. Alessandro Mochi.

Belomicroides bytinskii Antropov, sp. n.

Material. Holotype ♂, "Sinai, Oasis Furan, 22.V. 1974 (Bytinski-Salz)" (TAU).

Description. Male. Head rounded in front view; inner eye orbits parallel; IOD = 35 : 35; frons weakly

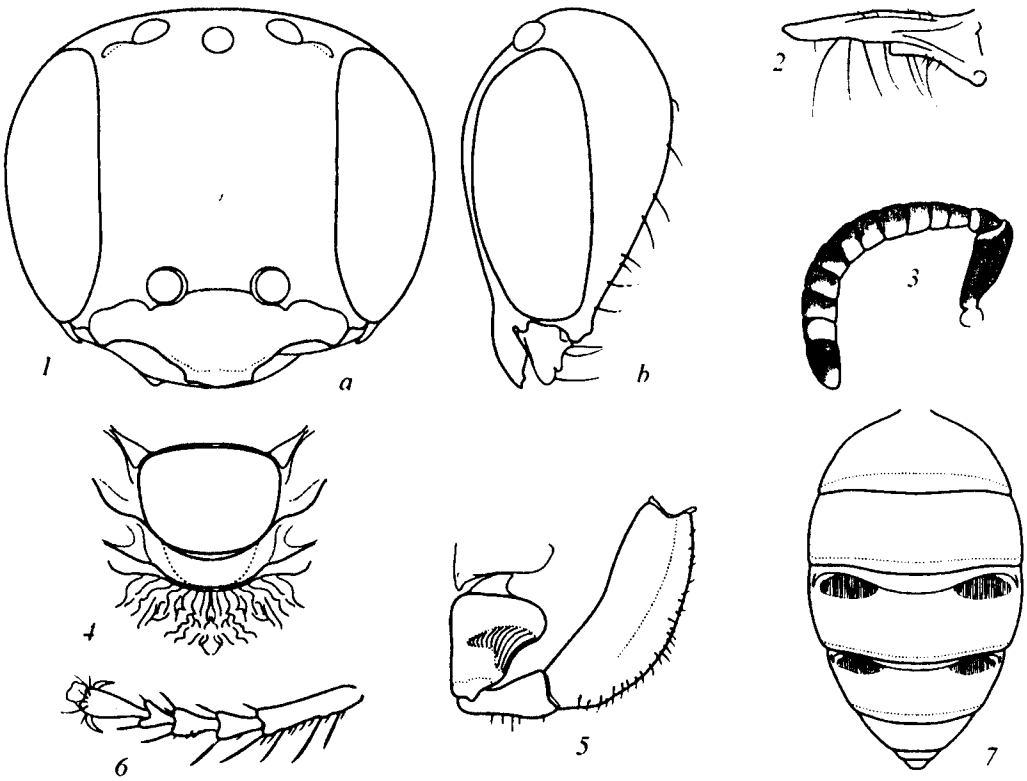

Fig. 2. *Belomicroides bytinskii* sp. n., male. Designations as in Fig. 1.

convex, with shallow median depression; vertex plates smooth, slightly convex, unbounded; OOD : OD : POD = 7 : 5 : 15; median lobe of clypeus oval-truncate, with lateral angles and stripe separated by row of punctures (Fig. 2, *1a*); flagellar segments somewhat wider than long, except for ultimate segment (Fig. 2, *3*). Pronotal carina without median depression; admedian lines fine, reaching as far as 1/4 of mesoscutum length; parapsidial lines indistinct; adlateral lines appearing as hardly noticeable grooves; scutellum uniformly convex, without lateral carinae; metanotum slightly depressed in anterior part, without lateral carinae (Fig. 2, *4*); hypersternaulus appearing as deep longitudinal groove reaching to 1/3 of mesopleura. Propodeum with lateral carinae in dorsal part. Basal pubescent pits developed on abdominal tergites III–IV (Fig. 2, *7*).

Body shining, with uniform punctation. Frons with fine, dense punctures (d = ∅); middle of vertex with vanishing punctures, smooth; median lobe of clypeus smooth in the middle, with coarser sparse punctures (d = 3–5 ∅). Mesoscutum densely punctate (in anterior part, $d \leq$ ∅; in the middle, d = 1.5–2.0 ∅), laterally and in posterior part with fine rugulae; posterior part of mesoscutum and scutellum with similar punctures; metanotum with dense microsculpture, matte; mesopleura densely punctate (d = 1–2 ∅), with fine oblique grooves; ventrally, mesopleura with micropunctures at bases of hairs. Propodeum with short and more or less irregular radial folds dorsally at base; rest of propodeum with micropunctures, posterior part with shallow median pit pointed ventrally. Abdominal tergites I–II mainly with transverse micro-strokes, scarcely punctate; tergites III–V with micropunctures at bases of hairs; tergite VI densely and coarsely punctate ($d \leq$ ∅), tergite VII with several large sparse punctures ($d \leq 5$ ∅).

Pubescence silvery, short, and mainly appressed; on vertex and metanotum, pubescence weakly erect, concealing sculpture on sides of clypeus and basal part of frons. On temples, setae of psammophore slightly longer than half basal width of mandibles (Fig. 2, *1b*); on mandibles, these setae as long as basal width of mandibles (Fig. 2, *2*); on fore trochanter and femur, absent (Fig. 2, *5*); digging comb of fore tarsus weak, consisting of 4 erect setae of 1st segment (1.5 times as long as segment width) and dorsal apical setae of 2nd–4th segments (Fig. 2, *6*).

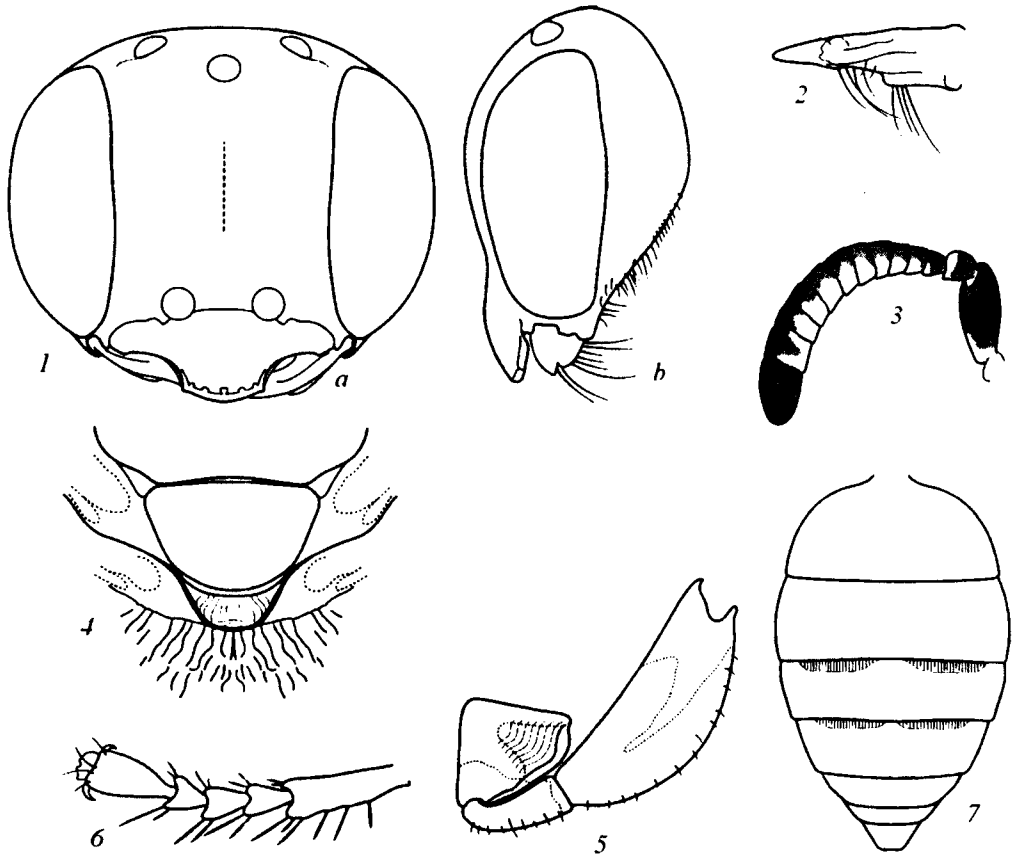

Fig. 3. *Belomicroides clypeatus* sp. n., male. Designations as in Fig. 1.

Body mainly black. Base of hind tibia and apical stripes of abdominal tergites I–V, all white. Base of middle tibia and wing veins yellow-white. Base of mandible, fore and middle tibiae on outer surface, apex of femur, and wing scales laterally, all yellow. Lower side of flagellum (except for ultimate segment), apex of ultimate flagellar segment, all tarsi, and apex of hind tibia, all yellow-rufous. Middle of mandible, apex of ultimate flagellar segment, fore tibia on inner surface, and spot in the middle of wing scales, all rufous. Apical stripe of clypeus and middle tibia on inner surface, all rufous-fuscous. Apex of mandible and abdominal tergite VII, all red-fuscous. Hind tibia mainly dark fuscous, pale fuscous on outer surface. Upper side of flagellum, ultimate segment mainly, fore coxa, all femora mainly, and abdominal tergites I–II, all fuscous. Humeral calli and abdominal tergites III–IV, all black.

Body length 4.4 mm.

Female unknown.

Differential diagnosis. The male of *B. bytinskii* sp. n. is similar to that of *B. pictus* Arnold 1927; differing in the middle flagellar segments of nearly equal length and diameter, the presence of longitudinal grooves on the mesoscutum and scutellum, and weakly convex metanotum without lateral carinae.

Etymology. The species is named in memory of a well-known Israeli entomologist, Dr. Hanan Bytinski-Salz.

Belomicroides clypeatus Antropov, sp. n.

Material. Holotype ♂, "South Africa, S. Cape, N 1 * miles NE of Touws River, Dec. 1962 (S.A. Museum Expedition)" (SAM no. A017797). Paratype ♂: "S. Africa, Cape Province, Swellendam, 9–14.XII.1931 (R.E. Turner. Brit. Mus. 1932–3)" (BMNH).

Description. Male. Head rounded in front view; inner eye orbits subparallel; IOD = 41 : 39; frons flatly convex, with shallow median depression; vertex plates without distinct bordering, small, weakly convex, punctate; OOD : OD : POD = 7 : 7 : 18; median lobe of clypeus strongly projecting, rounded apically, with lateral angles (Fig. 3, *1a*); flagellar segments wider than long (Fig. 3, *3*). Pronotal carina with shallow

median groove; admedian lines fine, bounding deep median depression, reaching as far as 1/3 of length of mesoscutum; parapsidial lines absent; adlateral lines appearing as fine distinct grooves; scutellum uniformly convex, without lateral carinae; metanotum with distinct lateral carinae, weakly depressed in posterior part (Fig. 3, *4*); hypersternaulus appearing as shallow groove shorter than 1/4 of mesopleura. Propodeum with fully developed lateral carinae. Abdominal tergites III–IV with large basal pubescent pits nearly fusing on tergite IV (Fig. 3, *7*).

Body with very dense uniform punctation; intervals between punctures matte, slightly shining on frons and mesoscutum. Frons with dense punctures (d = 1.0–1.5 ∅); vertex with coarser punctures; occiput with transverse micro-rugae; median lobe of clypeus with coarse sparse punctures ($d \geq$ ∅), except for fine apical stripe. Mesoscutum densely punctate, punctures coarser than those on frons ($d \leq$ ∅), with weak oblique grooves in posterior part; scutellum also densely punctate, with weak oblique grooves laterally; metanotum shining in anterior part; mesopleura with dense regular punctures ($d \leq$ ∅), with longitudinal folds in anterior part and oblique folds in posterior part; mesopleura in lower part with micropunctures at bases of hairs. Propodeum dorsally with coarse lateral and finer middle fold; rest of surface micro-punctate, matte, with wide, ventrally pointed and apically emarginate pit on posterior surface. Abdominal tergites I–IV with very dense transverse micro-hatches, with micropunctures at bases of hairs, semi-matte; tergite V with coarser puncture, shining; tergites V–VI shining; tergite VI coarsely punctate ($d <$ ∅); tergite VII with coarsest, longitudinally elongate punctures.

Pubescence silvery, short, appressed; in upper part of frons, on vertex and metanotum, pubescence erect, rather dense, concealing sculpture on sides of clypeus and lower part of frons. On temples, setae of psammophore slightly longer than diameter of anterior ocellus (Fig. 3, *1b*); on mandibles, these setae no shorter than basal width of mandibles (Fig. 3, *2*); on fore trochanter and femur, setae absent (Fig. 3, *5*); digging comb of fore tarsus weak, consisting of 4–5 erect setae of 1st segment (1.2 times as long as segment width) and dorsal apical setae of 2nd–4th segments (Fig. 3, *6*).

Body mainly black. Humeral calli and base of forewing posterior veins, all white-yellow. Basal half of mandible, spots on scape at base and on lower side at apex, apex of fore coxa, large ventral apical spot on fore femur, fore tibia on outer surface, apical ventral spot on middle femur, bases of middle and hind tibiae, apex of hind femur, and middle of tegulae, all yellow. Lower side of flagellum (except for ultimate segment) and wing scales yellow-rufous. Middle part of mandible, base of fore femur, fore tibia on inner surface, apex of middle tibia, spot on apex of hind tibia, and sides of tegulae, all rufous. Fore tarsus rufous-fuscous. Apex of mandible red-fuscous. Narrow translucent apical stripes on abdominal tergites I–V pale fuscous. Ultimate flagellar segment entirely, apical stripe of clypeus, middle of fore femur, middle tarsus, middle tibia, and femur mainly, hind tibia on inner surface, bases of tegulae, spots on wing scales, and fore-wing veins anteriorly, all fuscous. Hind femur mainly, hind tarsus, and abdominal tergite VII, all dark fuscous.

Body length 5.2 mm.

Female unknown.

Differential diagnosis. The male of *B. bytinskii* sp. n. is similar to that of *B. alessandroi* sp. n.; differing in the strongly projecting and coarsely and densely punctate median lobe of the clypeus and the dark fuscous or black middle and hind tibiae and tarsi.

Etymology. The species name originates from Latin "clypeus."

Belomicroides erythrogaster Antropov, sp. n.

Material. Holotype ♀, "S.W. Africa: Gobasis, 16.XII.1933, (J. Ogilvie B.M. 1934–78)—*Belomicroides* pictus" (BMNH). Paratypes: 1 ♀: Namibia: Karibib: 65 km SW Usakos 21.2.1990 (Max. Schwarz): (MS); 2 ♀: "Namibia: Swakopmund District: 63 km E Swakopmund, 22°24′S 15°02′E, 15 Feb. 1966 (W.J. Pulawski)" (CAS).

Description. Female. Head rounded in front view; inner eye orbits slightly converging to the middle at base; IOD = 38 : 37; frons with distinct median depression and smoothed groove; vertex plates oval, slightly depressed, shining; OOD : OD : POD = 7 : 6 : 15; median lobe of clypeus flattened, rather narrow, with acute lateral angles (Fig. 4, *1a*). Pronotal carina with median groove (Fig. 4, *3*); admedian lines very fine, unclear, drawn together, reaching as far as 1/3 of mesoscutum length; parapsidial lines absent; adlateral lines appearing as fine short grooves; scutellum uniformly convex, with weak lateral carinae; metanotum strongly depressed in anterior part, with sharp lateral carinae (Fig. 4, *4*); hypersternaulus distinct near deep episternal suture; rest of hypersternaulus appearing as

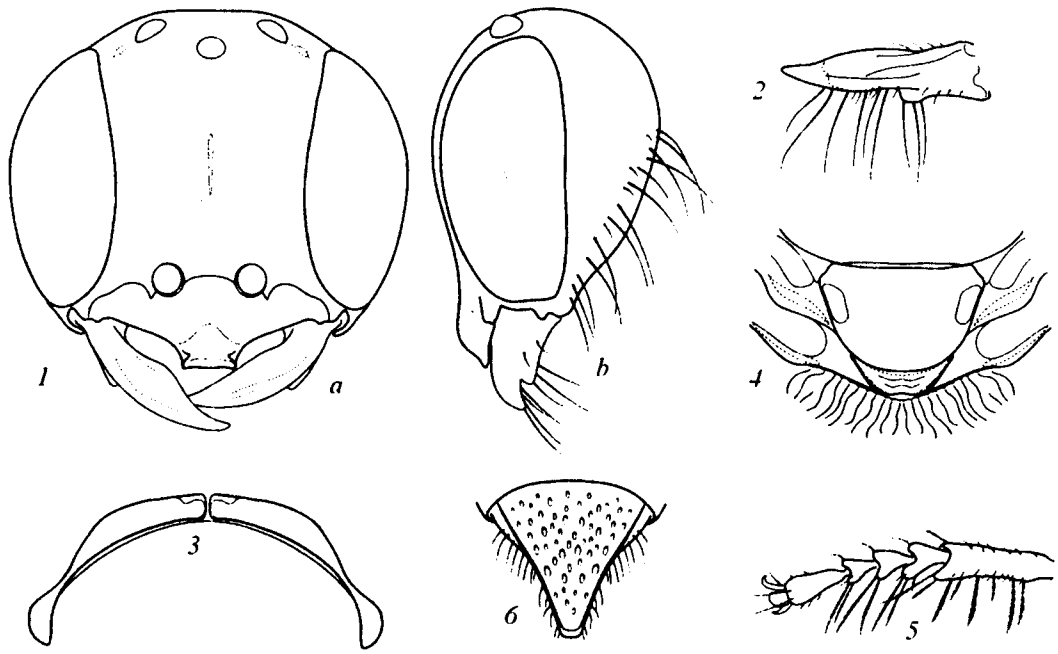

Fig. 4. *Belomicroides erythrogaster* sp. n., female. (*1*) head, (*a*) front and (*b*) lateral view; (*2*) mandible, dorsal view; (*3*) pronotum, dorsal view; (*4*) scutellum and metanotum, dorsal view; (*5*) fore tarsus; (*6*) abdominal tergite VI.

wide smoothed depression; fore femur with smoothed ventral costa. Propodeum with fully developed lateral carinae, with oval, ventrally pointed median pit on posterior surface. Abdominal tergite II transversely depressed basally; tergite IV elongate, pointed apically (Fig. 4, *6*); sternite VI weakly compressed laterally.

Body with fine punctation. Frons and vertex with uniform punctures ($d = 0$ and $d \geq \varnothing$ on frons and vertex, respectively); median lobe of clypeus with shining triangular area; mesoscutum strongly shining, uniformly punctate ($d \geq \varnothing$) at lateral angles and in anterior and posterior parts at sides; middle of mesoscutum with sparse punctures ($d > 5\,\varnothing$) and short hatched stripe; scutellum shining, uniformly punctate ($d = 2$–$3\,\varnothing$); metanotum smooth in anterior part; mesopleura with dense punctures ($d = 1$–$3\,\varnothing$), semi-matte, with fine longitudinal micro-hatches laterally; propodeum with oblique micro-hatches laterally and uniform and dense micro-hatches in posterior part; dorsally with fine regular radial folds, matte; abdominal tergites shining, tergites I–IV with fine, tergite V with coarser punctures ($d \geq \varnothing$) ; tergite VI with coarsest and longitudinally elongate punctures.

Pubescence silvery, very short, appressed or semi-erect; on sides of lower part of frons and on clypeus, pubescence concealing sculpture; on temple and mandible, setae of psammophore approximately 1.5–2.0 times as long as basal width of mandibles (Figs. 4, *1b*; 4, *2*); on fore trochanter and femur, these setae approximately 1.5–2.0 times as long as width of 1st segment of fore tarsus; digging comb of fore tarsus consisting of 6–7 erect setae of 1st segment (twice as long as segment width) and long dorsal apical setae of 2nd–4th segments (Fig. 4, *5*).

Head and thorax mainly black, abdomen red. Fore, middle, and hind tibiae on anterior surface, distal part of fore femur on anterior surface, apex of hind femur, bases of tegulae, and wing scales, all cream-yellow. Mandibles mainly, scape on lower surface, lower side of flagellum, large spots on pronotal carina, and humeral calli, all yellow. Lower half of median lobe of clypeus, tarsi mainly, and tibiae on inner surface, all rufous. Upper side of scape and flagellum, fore femur on posterior surface, and hind femur mainly, all rufous-fuscous. Apex of mandible red-fuscous. Weakly bordered lateral spots on scutellum, base of abdominal tergite VI, and spots on apical abdominal sternites, all fuscous.

Body length 4.9 mm.

Male unknown.

Differential diagnosis. The female of *B. erythrogaster* sp. n. is similar to that of *B. politus* sp. n. in the red coloration of the abdomen; differing in the smooth

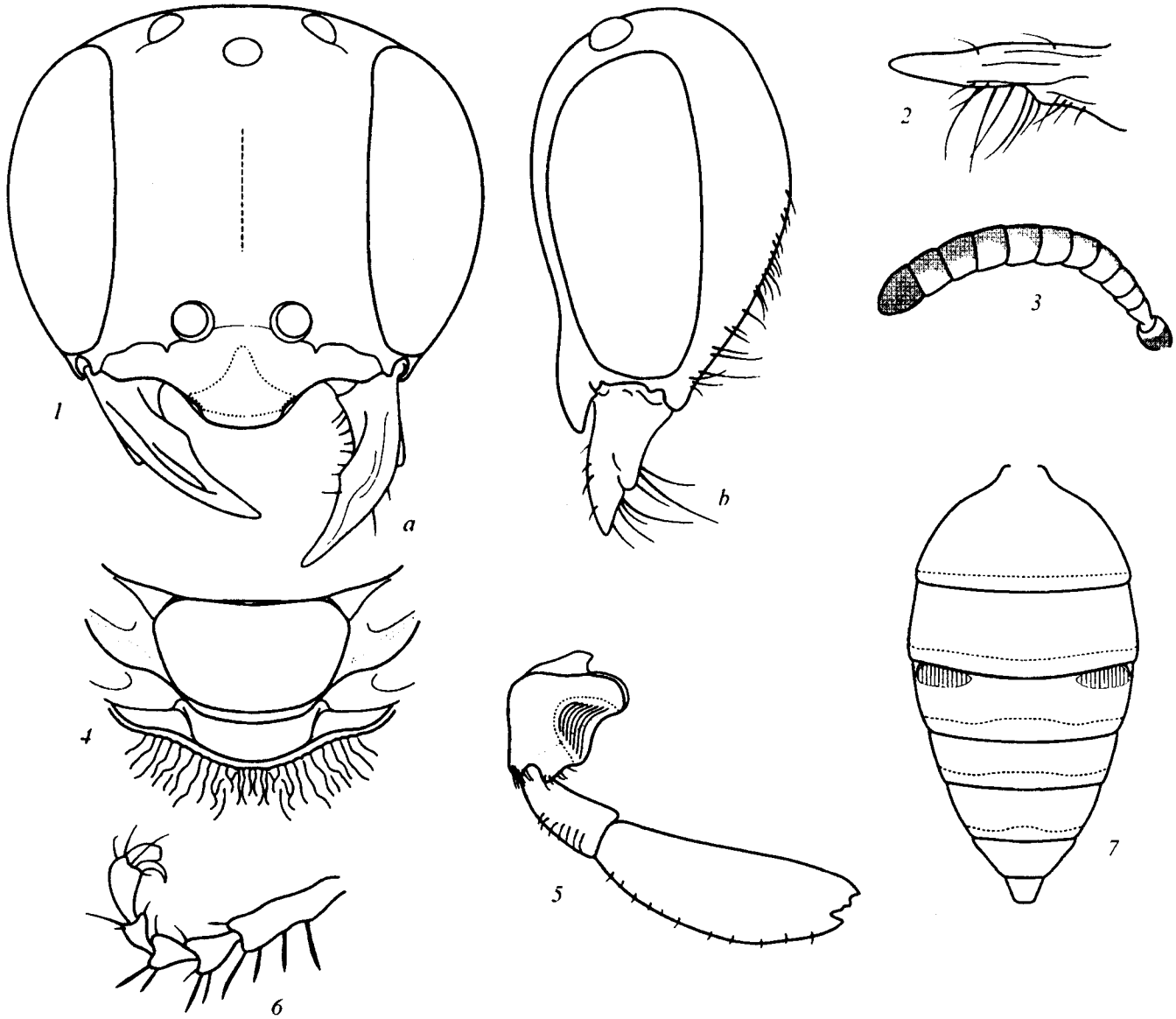

Fig. 5. *Belomicroides krombeini* sp. n., male. Designations as in Fig. 1.

and glabrous part of the median lobe of clypeus, shining vertex plates, more strongly punctate mesoscutum, entirely black metanotum with a hardly noticeable translucent fringe, finely and regularly costate apex of the propodeum, and smoothed ventral margin of the fore femur. The female of *B. erythrogaster* sp. n. is similar to that of *B. maximiliani* in the structure and sculpture of the body; differing in the red abdomen and more distinct light coloration of antennae and legs.

Etymology. The species name emphasized the red color of abdomen (ερυθρός, Greek for red; γαστρός, Greek for abdomen).

Belomicroides krombeini Antropov, sp. n.

Material. Holotype ♂, "Egypt, Ain Sokhna Apr 21, 1965 (K.V. Krombein)" (USNM).

Description. Male. Head rounded in front view; inner eye orbits parallel; IOD = 38 : 39; frons with indistinct median groove; vertex plates slightly convex, semi-matte; OOD : OD : POD = 6 : 6 : 16; median lobe of clypeus widely rounded along lower margin, with smooth apical stripe, without acute lateral angles (Fig. 5, *1a*); flagellar segments as wide as long or slightly wider than long, ultimate segment 1.2 times as long as wide (Fig. 5, *3*). Pronotal carina somewhat depressed in the middle; admedian lines very fine,

reaching as far as 1/3 of length of mesoscutum; admedian lines bordering fine depression; parapsidial lines absent; adlateral lines appearing as smoothed grooves; scutellum slightly depressed in the middle of posterior part; scutellum uniformly convex, without lateral carinae; metanotum short, widely depressed in the middle, without lateral carinae (Fig. 5, *4*). Propodeum with lateral carinae in dorsal part. Abdominal tergites without basal depressions; basal pubescent pits developed only on tergite III (Fig. 5, *7*).

Body densely, uniformly, and finely punctate; on head and thorax, intervals between punctures shining. Median lobe of clypeus with shining, smooth triangular area with coarse punctures along margins; lower part of frons and vertex with fine, uniform punctures ($d \geq \varnothing$). Mesoscutum also finely but more densely punctate ($d = \varnothing$); sides of mesoscutum with indistinct striae in posterior part; punctures on scutellum similar to those on frons; ventrally in anterior part, these points finer, smoothed. Propodeum with distinct radial costae dorsally, rest of propodeum with dense micropunctures and with shallow oval-triangular pit on posterior surface. Abdominal tergites with dense and uniform micropunctures at bases of hairs.

Pubescence silvery, short, mainly semi-erect, not concealing sculpture. On temple, setae of psammophore shorter than basal width of mandibles (Fig. 5, *1b*); on mandibles, these setae slightly long than basal width of mandibles (Fig. 5, *2*); on fore trochanter and femur, setae of psammophore absent (Fig. 5, *5*); digging comb of fore tarsus weak, consisting of 4 erect setae of 1st segment (1.2–1.5 times as long as segment width) and short dorsal apical setae of 2nd–4th segments (Fig. 5, *6*).

Body mainly black. Spots on sides of metanotum, base of middle tibia, and wing veins, all white. Fore tibia on outer surface yellow-white. Apex of scape, lower side of flagellum (excluding ultimate segment), and apical spots on inner surface of fore femur, all yellow. Base of mandible, humeral calli in posterior part, all tarsi, apex and base of hind tibia, and transverse apical spots on abdominal sternites I–V, all yellow-rufous. Middle of mandible, fore tibia on inner surface, and apex of ultimate abdominal segment, all rufous. Median lobe of clypeus, middle tibia mainly, and apical stripes of abdominal tergites, all rufescent fuscous. Apex of mandible red-fuscous. Upper side of flagellum, humeral calli, and hind tibia, all mainly fuscous. Middle and hind femora black-fuscous.

Body length 5.0 mm.

Female unknown.

Differential diagnosis. The male of *B. krombeini* sp. n. differs from all other known males of the genus in the presence of pubescent pits only at the base of abdominal tergite III, and also in the rounded apically median lobe of the clypeus without lateral angles.

Etymology. The species is named for Dr. Karl V. Krombein, a well-known American entomologist and specialist in Hymenoptera, the US National Museum of Natural History, Washington D.C.

Belomicroides maximiliani Antropov, sp. n.

Material. Holotype ♀, "Namibia: Karibib: 65 km SW of Usakos, 1.III.1990 (Max. Schwarz)" (MS). Paratypes: 1 ♂: "Namibia: Karibib: 65 km SW of Usakos, 21.II.1990 (Max. Schwarz)"; 1 ♂, "Namibia: Swakopmund 12.II.1983 (M. Schwarz)" (MS).

Description. Female. Head rounded in front view; inner eye orbits slightly converging in lower part; IOD = 40 : 38; frons moderately convex medially, with distinct median pit and smoothed median groove; vertex plates narrow, oval, slightly convex, smooth; OOD : OD : POD = 8 : 6 : 17; median lobe of clypeus convex in the middle, with glabrous flattened plate at apex, truncate along lower margin, with acute lateral angles (Fig. 6, *1a*). Pronotal carina with weak median groove; admedian lines fine, drawn together, reaching as far as 1/3 of length of mesoscutum; parapsidial lines absent; adlateral lines appearing as fine short grooves; scutellum uniformly convex, with weak lateral carinae; metanotum strongly depressed in anterior part, with sharp, semi-translucent lateral carinae (Fig. 6, *6*); hypersternaulus distinct in anterior third, posteriorly appearing as wide smoothed depression; fore femur with smoothed ventral carina. Propodeum with completely developed lateral carinae; on posterior surface, with oval, ventrally pointed median pit. Abdominal tergite II with transverse depression at base, tergite VI elongate, narrowing apically (Fig. 6, *10*); sternite VI weakly compressed laterally.

Head finely and densely punctate (on frons, $d \leq \varnothing$; on vertex and sides of head, $d = 1.5–2.0\ \varnothing$); glabrous part of clypeus smooth. Mesoscutum in lateral corners, in anterior part, and at sides with more or less uniform punctures ($d \leq \varnothing$), in the middle with double sparse puncture ($d > 5–6\ \varnothing$); in anterior third, with punctured longitudinal median pit. Scutellum with double

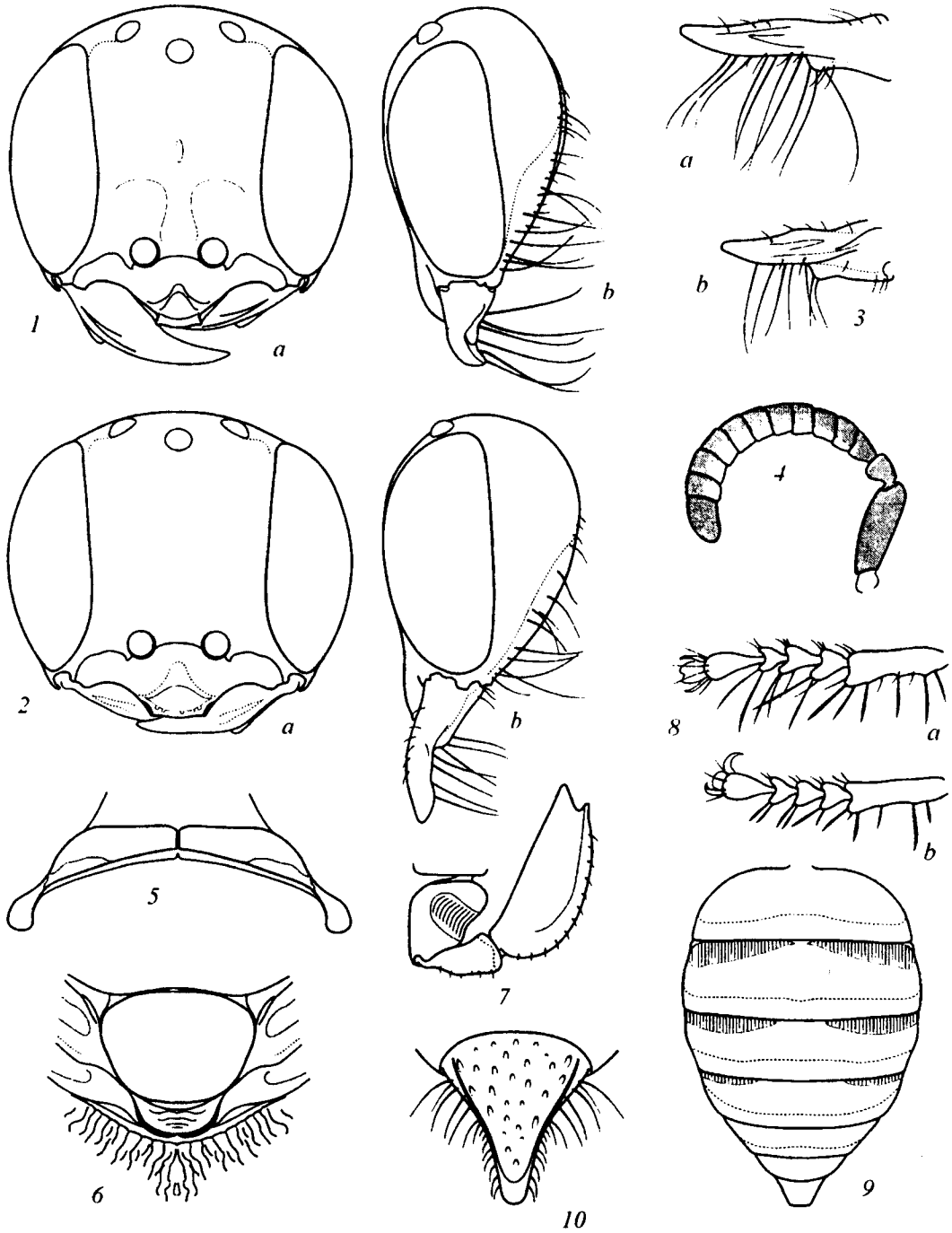

Fig. 6. *Belomicroides maximiliani* sp. n.: (*1*) head of female, (*a*) front and (*b*) lateral view; (*2*) head of male; (*3*) mandible, dorsal view, in (*a*) male and (*b*) female; (*4*) male antenna, front view; (*5*) female pronotum, dorsal view; (*6*) scutellum and metanotum, dorsal view; (*7*) male fore coxa, trochanter and femur, ventral view; (*8*) fore tarsus in (*a*) female and (*b*) male; (*9*) male abdomen, dorsal view; (*10*) female abdominal tergite VI, dorsal view.

sparse puncture (d = 2–3 ∅); striate in posterior part. Mesopleura with dense and uniform punctures (d = 2–4 ∅); sides of mesopleura also with dense striae. Propodeum matte, with fine and regular radial costae dorsally, with micropunctures at sides and on posterior surface. Abdominal tergites I–IV with fine punctures (d = 2–3 ∅), tergite V with sparser and coarser punctures (d = 2–4 ∅), tergite VI with sparse and longitudinally elongate coarse punctures.

Pubescence silvery, mainly short, concealing sculpture on clypeus and lower parts of frons sides. On temple and mandible, setae of psammophore no less than twice as long as basal width of mandibles (Figs. 6, *1b*, *3a*); on fore trochanter and femur, setae of psammophore as long as width of 1st segment of fore tarsus; digging comb of fore tarsus consisting of 5–6 erect setae of 1st segment (twice as long as segment width) and long dorsal apical setae of 2nd–4th segments (Fig. 6, *8a*).

Body mainly black. Fore tibia on outer surface and middle and hind tibia at base, all whitish yellow. Basal half of mandible, pronotal carina, humeral calli, base of tegulae, and preapical dorsal spots at base of fore femur, all yellow. Lower side of flagellum yellow-rufous. Apex of median lobe of clypeus, fore tibia on inner surface, middle and hind tibiae mainly, tegulae, and wing scales, all rufous. All tarsi pale fuscous. Middle femur rufescent fuscous. Apices of mandible and abdominal tergite VI, all red-fuscous. Scape, upper side of flagellum, hind femur mainly, and wing veins, all fuscous. Abdomen from dark fuscous to black.

Body length 5.0 mm.

Male. Similar to female, except of characters associated with sex. IOD = 39 : 38; vertex plates hardly noticeable, oval, shining; OOD : OD : POD = 7 : 7 : 16; median lobe of clypeus with flattened triangular plate at apex, truncate along lower margin, with right lateral angles (Fig. 6, *2a*); 1st flagellar segment longitudinal, 2nd–3rd segments as wide as long, others slightly wider than long; ultimate segment 1.5 times as long as wide (Fig. 6, *4*). Abdominal tergites II–IV transversely depressed at base, with basal pubescent pits adjoining on tergite II (Fig. 6, *9*).

On temple and mandible, setae of psammophore 1.5 times as long as basal width of mandibles (Figs. 6, *2b*, *3b*); on fore trochanter and femur, setae of psammophore absent (Fig. 6, *7*); digging comb of fore tarsus weak, consisting of 5 erect setae of 1st segment (slightly longer than segment width) and short dorsal apical setae of 2nd–4th segments (Fig. 6, *8b*).

Body mainly black. Head, thorax (including pronotal carina and humeral calli), hind tibia mainly, and abdomen, all black. Fore femur mainly fuscous; ventrally, without large yellow spot. Fore tibia rufous, with white stripe on outer surface; middle tibia rufous, with yellow-white base. Apical abdominal tergite dark rufous.

Body length 4.5 mm.

Differential diagnosis. The female of *B. maximiliani* sp. n. is similar to that of *B. erythrogaster* sp. n.; differing in the black abdomen and less distinct pale coloration of the antennae and legs. In the black coloration of the mesothorax and abdomen and finely and regularly plicate dorsal part of the propodeum, the female of *B. maximiliani* is similar to that of *B. schmiedeknechtii* Kohl 1899, differing in the dark fuscous scape, black clypeus, sparse punctures on the mesoscutum and scutellum, coarse punctures on the mesopleura, complete hypersternaulus, and anteriorly depressed metanotum with distinct lateral carinae. The male of *B. maximiliani* sp. n. differs from the known males of other species (with the exception of *B. politus* sp. n.) in the presence of pubescent pits at bases of abdominal tergites II–IV and sparse punctures on the mesoscutum; the new species differs from *B. politus* sp. n. in the absence of translucent stripe of the metanotum, presence of developed hypersternaulus, and finer sculpture of the dorsal part of the propodeum.

Etymology. The species is named for a known Austrian entomologist and collector of aculeate Hymenoptera, Dr. Maximilian Schwarz (Ansfelden, Austria).

Belomicroides pictus chrysoptilus Antropov, ssp. n.

Material. Holotype ♀, "Namibia: Rundu, 29.I. 1993 (M. Schwarz)" (MS).

Description. Female. Head rounded in front view; inner eye orbits parallel; IOD = 37 : 37; frons flatly convex, with shallow median depression; vertex plates oval, convex, smooth; OOD : OD : POD = 7 : 6 : 16; median lobe of clypeus noticeably projecting, oval at apex, with wide apical stripe, and without lateral angles (Fig. 7, *1a*). Pronotal carina with fine median groove (Fig. 7, *3*); admedian lines fine, no longer than 1/4 of length of mesoscutum, twice as long as parapsidial lines; adlateral lines appearing as fine short grooves; scutellum uniformly convex, without lateral carinae; metanotum with basally translucent lateral carinae (Fig. 7, *5*); mesopleura flattened laterally, with fine episternal carina; hypersternaulus appearing as depression near episternal suture; fore femur with sharp ventral carina. Propodeum with completely developed lateral carinae; on posterior surface, with narrow, matte median pit. Abdomen without transverse depressions at bases of tergites. Abdominal tergite VI moderately narrowing at apex (Fig. 7, *7*); sternite VI distinctly compressed laterally.

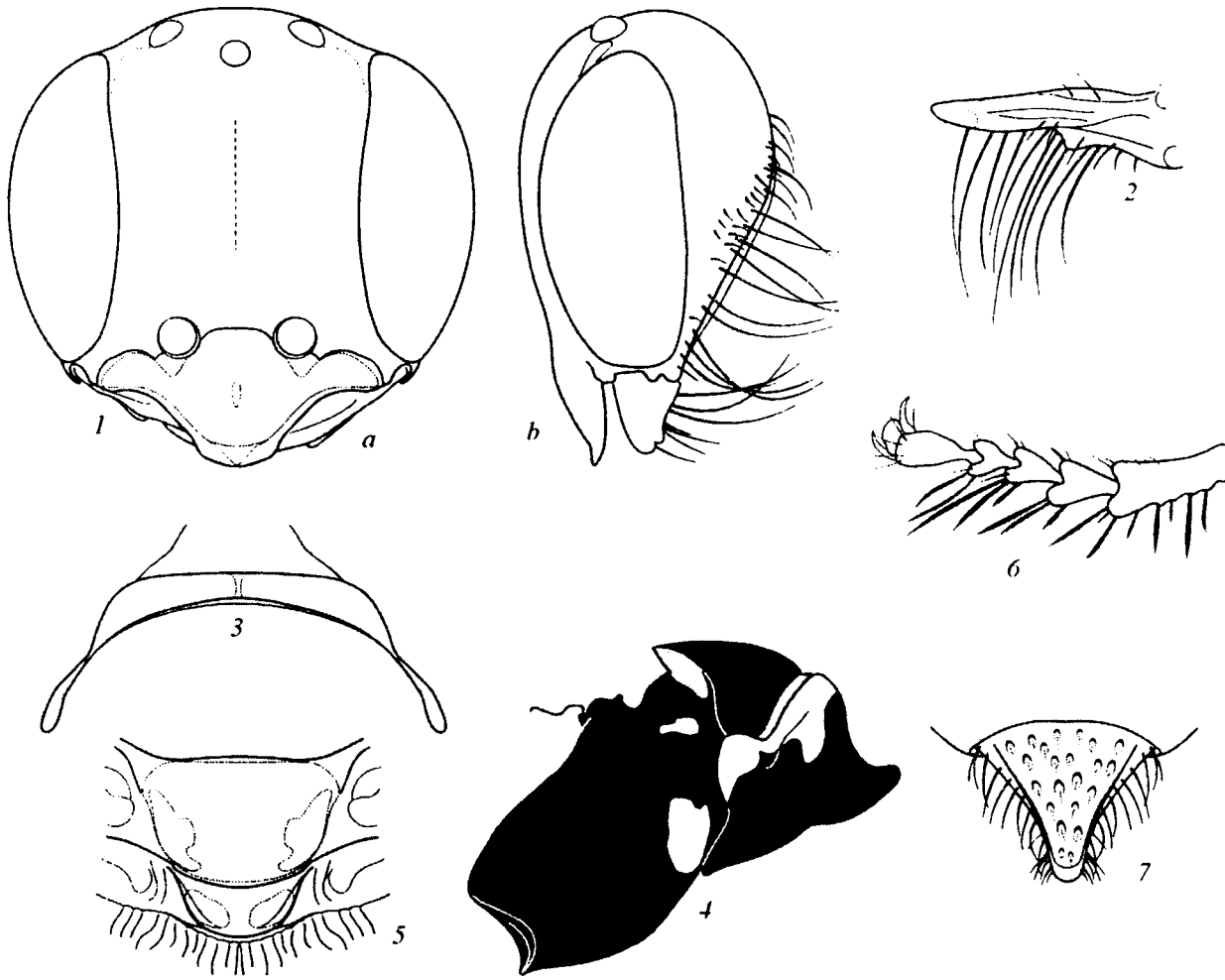

Fig. 7. *Belomicroides pictus chrysoptilus* ssp. n., female: (*1*) head in (*a*) front and (*b*) lateral view; (2) mandible, dorsal view; (*3*) pronotum, dorsal view; (*4*) thorax, lateral view; (*5*) scutellum and metanotum, dorsal view; (*6*) fore tarsus; (*7*) abdominal tergite VI, dorsal view.

Body uniformly, finely, and very densely punctate (on frons, $d < \varnothing$; on vertex, $d \leq \varnothing$); median lobe of clypeus densely punctate laterally and glabrous in the middle and at apex; mesoscutum densely punctate over entire surface ($d < \varnothing$), without striae; mesopleura nearly matte, not hatched, with dense and uniform punctures ($d < \varnothing$); propodeum matte; sides of propodeum with regular and dense micro-hatches; dorsal part of propodeum with fine and regular radial costae, rest of propodeum with micropunctures. Abdominal tergites I–IV uniformly and finely punctate ($d \leq \varnothing$); tergite V with somewhat coarser punctures, tergite VI with coarsest and longitudinally elongate punctures ($d < \varnothing$) and with smoothed striae at apex.

Pubescence dense, mainly appressed, erect on mesoscutum and frons, concealing sculpture only on sides of clypeus and lower part of frons; metanotum with erect hairs on sides; on temple and mandible, setae of psammophore more than twice as long as basal width of mandibles (Fig. 7, *1b*, *2*); on fore trochanter and femur, setae of psammophore as long as, or slightly longer than width of 1st segment of fore tarsus; digging comb of fore tarsus consisting of 6 erect setae of 1st segment (1.5 times as long as segment width) and long dorsal apical setae of 2nd–4th segments (Fig. 7, *6*). Body with silvery pubescence, on frons and clypeus pubescence with golden tint.

Body black with white pattern. Narrow apical band on abdominal tergite I white; pronotal carina, humeral calli, lateral spots on scutellum and metanotum, large ventral and small dorsal spots on mesopleura before episternal suture (Fig. 7, *4*), fore coxa mainly, middle and hind coxae apically, fore femur on lower surface, ventral stripe on middle femur, hind femur apically, fore tibia on anterior surface, middle and hind tibiae at base, and fine vanishing bands on abdominal tergites

II–III, all yellowish white; fore trochanters on lower surface, narrow apical bands on abdominal sternites I–II, all yellow; fore femur on upper surface, middle and hind femora mainly, fore tibia on posterior surface, middle and hind tibiae mainly, abdominal tergites V–VI and sternites IV–V, all rufous; sternite VI dark rufous; all tarsi rufescent fuscous; fore trochanter mainly, middle and hind trochanters entirely, abdominal tergites III–IV mainly, and sternite III in the middle, all fuscous.

Body length 5.0 mm.

Male unknown.

Differential diagnosis. The female of *B. pictus chrysoptilum* ssp. n. differs from those of other species in having pale spots on sides of the thorax, and from the female of the nominotypical subspecies, in having the golden pubescence on the frons and lateral lobes of the clypeus and in the coloration: mainly black pronotum (except for pronotal carina and humeral calli), black propleura, entirely black mesoscutum, black mesopleura (behind the episternal suture) and also in the middle and hind coxae (yellow only at apex) and mainly black middle and hind trochanters.

Etymology. The subspecies name emphasizes the golden tint of the head pubescence (χρυσός, Greek for gold; πτίλόν, Greek for fluff, pubescence).

Belomicroides politus Antropov, sp. n.

Material. Holotype ♀, "South West Africa. Diamond Area No. 1, Klinghardtberge Spitzkuppe Sud. 21 October 1974 (R. H. Watmough), On button daisy" (PPRI). Paratypes: 1 ♀, "South West Africa. Diamond Area No. 1, Klinghardtberge Spitzkuppe Sud. 21 October 1974 (R. H. Watmough), On button daisy"; 1 ♀: "South West Africa. Diamond Area No. 1, Klinghardtberge Spitzkuppe Sud. 19.X.1974 (R. H. Watmough), On prostrate yellow flower"; 1 ♂: "South West Africa. Diamond Area No. 1, Klinghardtberge Spitzkuppe Sud. 19.X.1974 (R. H. Watmough), On prostrate yellow flower" (PPRI). 1 ♂ with head missing was not included into the type series: "Aus. 8–30.XI.1929 S.W. Africa (R.E. Turner., Brit. Mus. 1930–113)" (BMNH).

Description. Female. Head rounded in front view; inner eye orbits slightly converging ventrally; IOD = 50 : 47; frons with median groove; vertex plates narrow, oval, elongate, matte; OOD : OD : POD = 9 : 8 : 20; median lobe of clypeus convex, with glabrous triangular area at apex, truncate along lower margin, with separate apical stripe and right lateral angles (Fig. 8, *1a*). Pronotal carina with fine median groove (Fig. 8, *5*); admedian lines nearly reaching half of mesoscutum, twice as long as parapsidial lines; adlateral lines appearing as fine grooves; scutellum flat-convex, with distinct lateral carinae, slightly depressed in posterior part; metanotum convex, with translucent lateral stripes and apical emargination between them (Fig. 8, *6a*); episternal suture fine; hypersternaulus saddle-shaped, no longer than 1/4 of mesopleura; fore femur flat on outer surface, with sharp ventral costa. Lateral carinae of propodeum fully developed. Abdominal tergites II–III with distinct transverse basal depressions, tergite VI narrowed apically (Fig. 8, *10*); sternite VI weakly compressed laterally.

Frons with dense ($d \leq \varnothing$), vertex with sparse (d = 2–3 $\varnothing$) punctures; glabrous part of median lobe of clypeus with coarse, irregular sculpture; mesoscutum with double puncture: large sparse punctures (d = 4–7 $\varnothing$) and regular micropunctures (d = 3–4 $\varnothing$); mesopleura with denser uniform punctures (d = 1–2 $\varnothing$), longitudinally rugose on sides; sides of propodeum with oblique micro-hatches, with dense, regular, fine radial costae on dorsal side; propodeum; sides of propodeum with regular and dense micro-hatches; posterior part of propodeum laterally to matte triangular median pit with strigae; dorsally to this pit, with striae; abdominal tergites I–V with dense ($d \approx \varnothing$) punctures; tergite V with larger punctures, tergite VI with coarsest punctures (d = 1.5–2 $\varnothing$); at side and apex of tergite VI, these punctures longitudinally elongate.

Pubescence short, silvery, mainly appressed, concealing sculpture on sides of clypeus and lower part of frons; on temple and mandible, setae of psammophore 1.5–2 times as long as basal width of mandibles (Figs. 8, *1b*, *3a*); on fore trochanter and femur, setae of psammophore 1.5 times as long as width of 1st segment of fore tarsus; digging comb of fore tarsus consisting of 6–7 erect setae of 1st segment (twice as long as segment width) and long dorsal apical setae of 2nd–4th segments (Fig. 8, *8a*).

Head and thorax mainly black; humeral calli, fore tibia on outer surface, and fore femur ventrally, all white; Bases of mandible and tegulae, pronotal carina dorsally, axillae of scutellum and metanotum in posterior part, metanotum in posterior part, spots on outer surface of middle tibia, and preapical

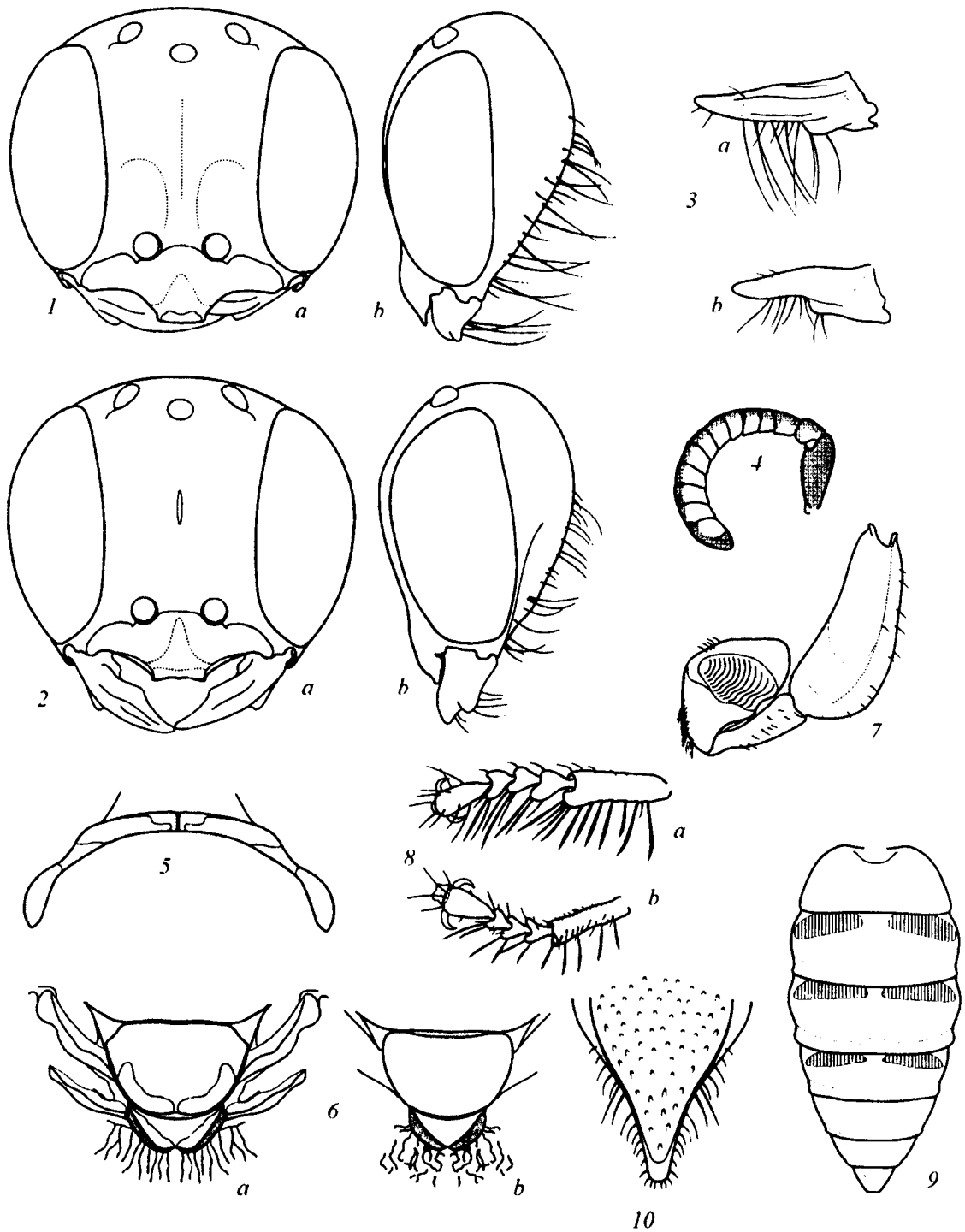

Fig. 8. *Belomicroides politus* sp. n.: (*1*) head of female, (*a*) front and (*b*) lateral view; (*2*) head of male; (*3*) mandible, dorsal view, in (*a*) male and (*b*) female; (*4*) male antenna, front view; (*5*) female pronotum, dorsal view; (*6*) scutellum and metanotum, dorsal view, in (*a*) female and (*b*) male; (*7*) male fore coxa, trochanter and femur, ventral view; (*8*) fore tarsus in (*a*) female and (*b*) male; (*9*) male abdomen, dorsal view; (*10*) female abdominal tergite VI, dorsal view.

spots on inner surface of hind femur, all yellow-white; outer surface of hind tibia yellow; middle of mandible, lower side of flagellum, translucent stripes of metanotum, all tarsi, all tibiae, fore and middle femora mainly, wing scales, and bases of wing veins, all rufous; abdomen mainly red; apex of median part of clypeus, mandible apically, and apical posterior spots on scutellum, all red-fuscous; scape, upper side

of flagellum, hind femur mainly, base of abdominal tergite VI, and middle of abdominal sternites II–V, all fuscous.

Body length 7.3 mm.

Male. Similar to female in structure and sculpture, except for characters associated with sex. IOD = 38 : 36; vertex plates indistinct, sparsely punctate, shining; OOD : OD : POD = 7 : 7 : 16; median lobe of clypeus with smoother sculpture, slightly emarginate at apex (Fig. 8, *2a*); flagellar segments, except for 1st and ultimate segments, wider than long; ultimate segment 1.5 times as long as wide (Fig. 8, *4*); on temple and mandible, setae of psammophore not longer than basal width of mandibles (Figs. 8, *2b*, *3b*); fore trochanter and femur without setae of psammophore (Fig. 8, *7*); digging comb of fore tarsus consisting of 4 erect setae of 1st segment (1.5 times as long as segment width) and dorsal apical setae of 2nd–4th segments (Fig. 8, *8b*; abdominal tergites II–IV with distinct transverse depressions at base with pubescent basal pits (Fig. 8, *9*).

Body length 5.5 mm.

Differential diagnosis. The female of *B. politus* sp. n. is only similar to that of *B. erythrogaster* in having the red abdomen, differing in the irregular and smoothed sculpture of the glabrous part of the clypeus; matte vertex plates; sparse, shallow, vanishing punctation on the mesoscutum; the metanotum with more or less developed yellow spots and translucent stripe; and also in the coarser folds on the dorsal part of the propodeum and sharp ventral costa of the fore femur. Male of *B. politus* sp. n. differs from other males (except for *B. maximiliani* sp. n.) in the presence of pubescent pits at bases of abdominal tergites II–IV and sparse punctation of the mesoscutum. The new species differs from *B. maximiliani* sp. n. in the presence of lamellar stripe of the metanotum, indistinct hypersternaulus, and coarse sculpture of the dorsal side of the propodeum.

Etymology. The species name emphasizes the fine body sculpture (*politus*, Latin for fine).

Belomicroides rift Antropov, sp. n.

Material. Holotype ♀, "Kenia: Rift Valley Province: Marich Pass Area Studies Centre, 1°32.2′N 35°27.4′E, 13–14 June 2000 (M.H. Bourbin, V.F. Lee, & W.J. Pulawski)" (CAS). Paratypes: 3 ♀, 3 ♂: "Kenia: Rift Valley Province: Marich Pass Area Studies Centre, 1°32.2′N 35°27.4′E, 13–14 June 2000 (M.H. Bourbin, V.F. Lee, & W.J. Pulawski)" (CAS).

Description. Female. Head rounded in front view; inner eye orbits weakly diverging ventrally; IOD = 47 : 52; frons moderately convex, with wide and shallow median groove; vertex plates oval, elongate, with weak punctures and without distinct border; OOD : OD : POD = 9 : 7 : 20; median lobe of clypeus weakly flattening apically, with distinct lateral angles (Fig. 9, *1a*). Pronotal carina with median groove (Fig. 9, *5a*); mesoscutum with weak median carina in posterior part; admedian lines fine, not reaching half of mesoscutum, parapsidial lines hardly noticeable; adlateral lines appearing as fine grooves; scutellum convex, without median groove or with weak median groove and distinct lateral carinae; metanotum convex, lateral costae developed mainly in basal half (Fig. 9, *6*); hypersternaulus appearing as row of large pits, shorter than 1/3 of mesopleura. Lateral carinae of propodeum fully developed; median pit in posterior part propodeum narrow. Pygidial area wide at base, distinctly compressed laterally (Fig. 9, *10*); abdominal sternite VI strongly compressed laterally.

Body with dense regular punctures separated by shining intervals; frons and vertex with fine punctures ($d \leq \varnothing$), median lobe of clypeus smooth in the middle , with several coarse large punctures ($d > \varnothing$); mesoscutum with dense spots somewhat larger than those on frons ($d \leq \varnothing$); scutellum with similar punctures, mostly dense and fine in posterior part of scutellum; ventral part of mesopleura and mesoscutum with similar punctation; before episternal suture, mesopleura with irregular rugae; posterior part of mesopleura with coarser, regular, dense radial rugae; sides of propodeum with dense micro-hatches; dorsal part of propodeum transversely depressed, with coarse, irregular radial costae and without median groove; posterior part of propodeum laterally to median pit finely and transversely costate; abdominal tergites I–III with transverse micro-hatches and micropunctures at bases of hairs; tergite IV with vanishing hatches, mainly micro-punctate; tergite V with larger punctures at apex; pygidial area with largest punctures, apically elongated into longitudinal grooves ($d = \varnothing$).

Pubescence short, appressed, not concealing sculpture; on head, mesoscutum, and scutellum, pubescence with strong golden tint; setae of psammophore on temple 1.5 times as long as basal width of mandibles (Figs. 9, *1b*); on ventral margin of mandible, these setae 1.5–2 times as long as basal width of mandible (Fig. 9, *3a*); on fore trochanter, setae of psammophore

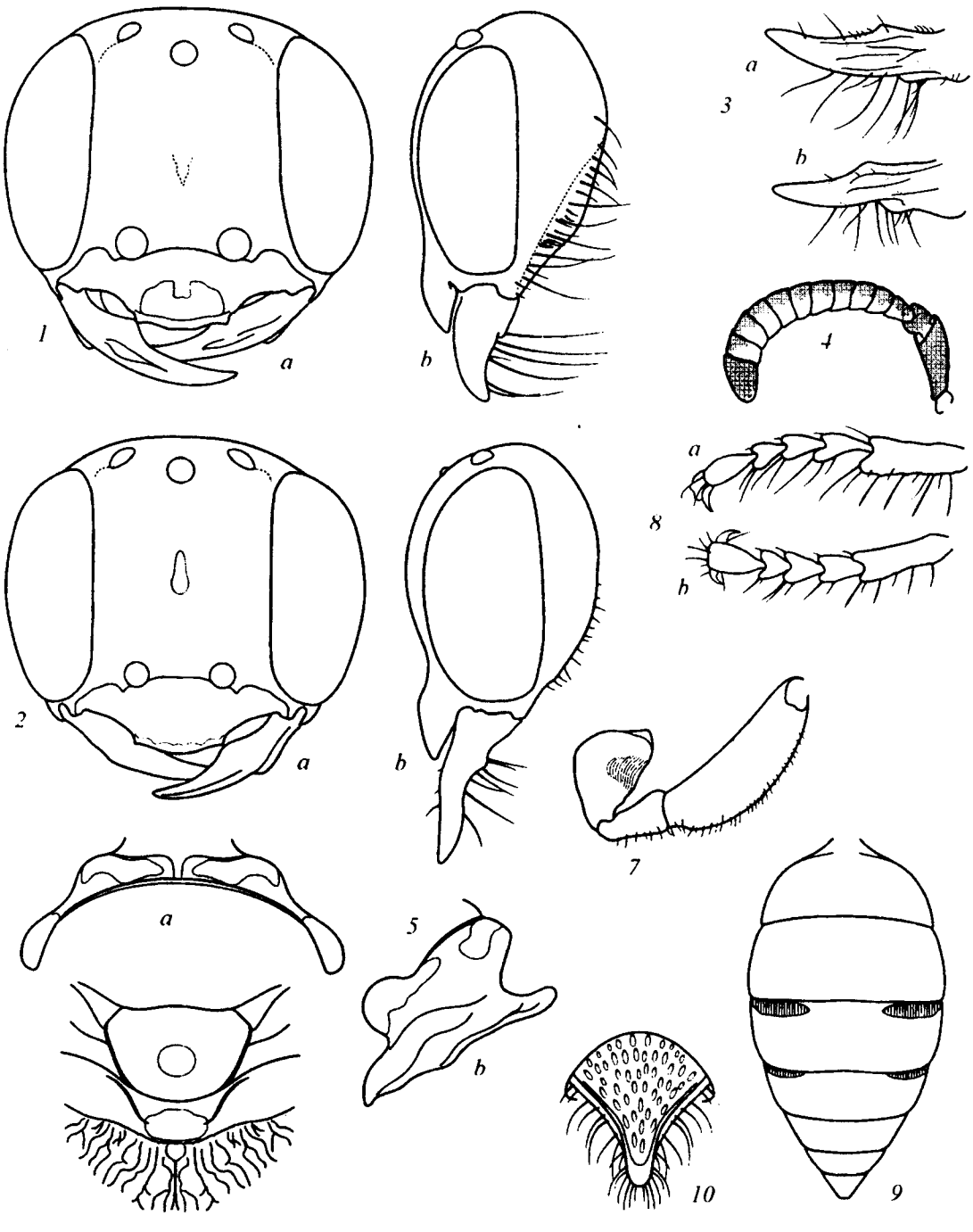

Fig. 9. *Belomicroides rift* sp. n.: (*1*) head of female, (*a*) front and (*b*) lateral view; (2) head of male; (*3*) mandible, dorsal view, in (*a*) male and (*b*) female; (*4*) male antenna, front view; (*5*) female pronotum, (*a*) dorsal and (*b*) lateral view; (*6*) metanotum; (*7*) male fore coxa, trochanter and femur, ventral view; (*8*) fore tarsus in (*a*) female and (*b*) male; (*9*) male abdomen, dorsal view; (*10*) female abdominal tergite VI, dorsal view.

lengthening toward apex of trochanter and pointed anteriorly; on fore femur, these setae dense and short; digging comb of fore tarsus consisting of 6 erect setae of 1st segment (1.2 times as long as segment width) and similar dorsal apical setae of 2nd–4th segments (Fig. 9, *8a*).

Body mainly black. Scape on lower surface, tegulae at base, and wing scales along margins, all white; long, narrowly separated or merging spots on pronotal carina and humeral calli (Fig. 9, *5b*), rounded spot in middle of scutellum, base of middle tibia, and apex of hind femur, all whitish yellow; spot on clypeus,

reaching middle of median lobe, basal third of mandible, transverse spot between lateral costae of metanotum, dorsal spots at apex of fore tibia and femur, and middle tibia at base, all yellow; lower side of flagellum as far as middle of ultimate segment yellow-rufous; apical stripe of clypeus, scape on upper side, tarsi, tibiae mainly, fore femur on inner surface and basally, hind femur at apex, and flat part of abdominal sternite VI, all rufous; middle of mandible and apex of pygidial area red-rufous; translucent apical stripes of abdominal tergites I–V fuscous-rufous; wing scales in the middle, fore femur on outer surface, and pygidial area mainly, all fuscous; apex of mandible, flagellum on upper side, hind femur on posterior surface at base, and basal half of hind femur, all black-fuscous.

Body length 6.3 mm.

Male. Similar to female, except for characters associated with sex. IOD = 37 : 37; frons with weak median groove; vertex plates hardly noticeable, densely punctate; OOD : OD : POD = 7 : 6 : 15; median lobe of clypeus truncate along lower margin, with distinct lateral angles; distance between these angles longer than distance between angle and antennal socket (Fig. 9, *2a*); flagellar segments (except for 1st and ultimate segment) transverse (Fig. 9, *4*); metanotum with fully developed lateral carinae; pubescent basal pits developed on abdominal tergites III–IV (Fig. 9, *9*); largest punctures covering median lobe of clypeus and abdominal tergites VI–VIII.

Body pubescence short, silvery, not concealing sculpture. On temples and fore trochanter and femur, psammophore absent (Figs. 9, *2b*, 7); ventral part of mandible with setae no longer than their basal width (Fig. 9, *3b*); digging comb of fore tarsus consisting of 4 erect setae of 1st segment (no longer than segment width) and short dorsal apical setae of 2nd–4th segments (Fig. 9, *8b*).

Body mainly black; humeral calli in posterior part and all tibiae at base yellowish white; basal half of mandible yellow; flagellum on lower side (except for ultimate segment) yellow-rufous; fore tarsus entirely, middle and hind tarsi (except for fuscous 1st segment), fore tibia mainly, fore femur on anterior surface at apex, middle tibia on inner surface at apex, and hind femur on anterior surface at apex, all rufous; middle of mandible red; pygidial area red-fuscous; scape, fore tarsus mainly, middle tibia on outer surface, all dark fuscous; apex of mandible black-fuscous.

Body length 5.0 mm.

Differential diagnosis. The female of *B. rift* sp. n. is most similar to those of *B. arenarius* Arnold 1960 and *B. veronicae* sp. n., differing from both species in having the entirely rufous tibiae and tarsi without white spots and golden tint of the head and thorax pubescence, and from *B. arenarius* also in having mainly pale mandible, presence of a pale spot on the clypeus, and absence of the median groove on the dorsal part of the propodeum. *B. rift* sp. n. differs from *B. veronicae* sp. n. in having a light spot on the median lobe of the clypeus reaching only its middle, rounded yellow spot on the clypeus, coarser sculpture of the dorsal side of the propodeum, and coarser punctures on the pygidial area, elongated into grooves. The male of *B. rift* differs from that of *B. arenarius* in the presence of large yellow spots at the base of the mandible and partly rufous middle and hind tibiae and tarsi; from *B. woji* sp. n., in the wider median lobe of the clypeus, shining mesoscutum and scutellum with regular punctures, and short pubescence of the scutellum and metanotum. The new species differs from both the above-mentioned species in the indistinct and finely punctate vertex plates and a very narrow median pot on the posterior part of the propodeum.

Etymology. The species name is a toponym.

Belomicroides veronicae Antropov, sp. n.

Material. Holotype ♀, "Ethiopia: Sidamo: 4 km E Yabelo, 4°53'N 38°08'E, 17 August 1997 (Veronica Ahrens, W.J. Pulawski, Emiru Seyoum)" (CAS).

Description. Female. Head rounded in front view; inner eye orbits weakly diverging ventrally; IOD = 45 : 49; frons moderately convex, with smoothed median groove reaching anterior ocellus; vertex plates oval, slightly convex, smooth, shining, nearly without punctures and distinct borders; OOD : OD : POD = 9 : 7 : 19; median lobe of clypeus weakly convex at base, flattening apically, with distinct lateral angles (Fig. 10, *1a*). Pronotal carina with distinct median groove (Fig. 9, *3a*); admedian lines of mesoscutum fine, longer than its third; parapsidial lines hardly noticeable; adlateral lines appearing as indistinct grooves; scutellum uniformly convex, with distinct lateral carinae; metanotum with complete fine lateral costae (Fig. 10, *4*); hypersternaulus appearing as row of large pits, shorter than 1/3 of mesopleura. Lateral carinae of propodeum fully developed. Pygidial area wide at base, distinctly compressed laterally (Fig. 10, *6*); abdominal sternite VI strongly compressed laterally.

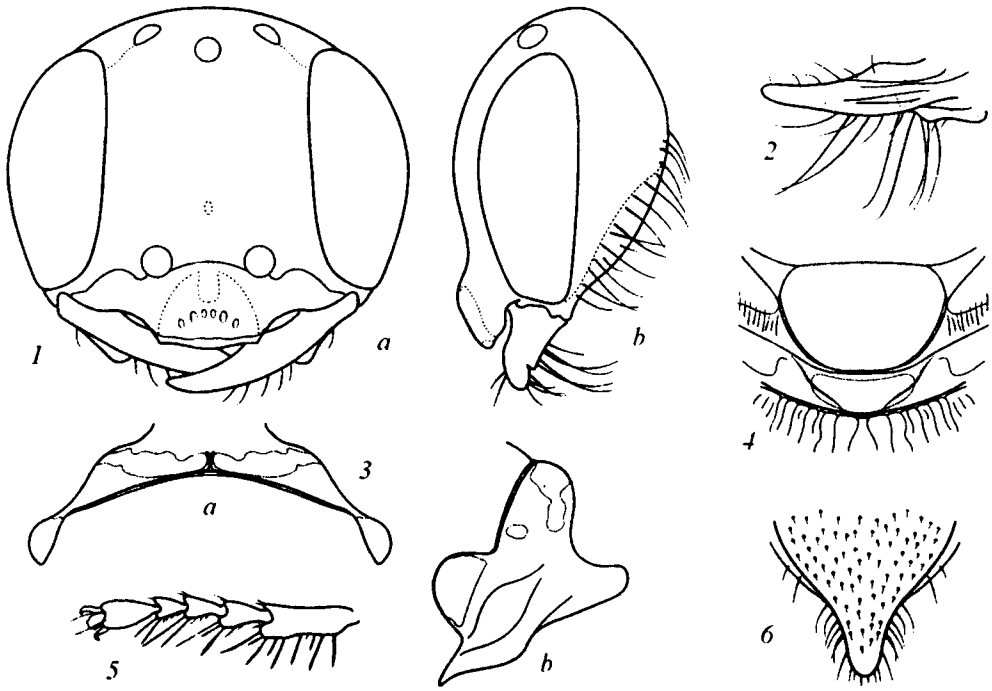

Fig. 10. *Belomicroides veronicae* sp. n., female: (*1*) head in (*a*) front and (*b*) lateral view; (*2*) mandible, dorsal view; (*3*) pronotum, (*a*) dorsal and (*b*) lateral view; (*4*) scutellum and metanotum, dorsal view; (*5*) fore tarsus; (*6*) abdominal tergite VI, dorsal view.

Body with dense, fine regular punctures separated by shining intervals; median lobe of clypeus with large punctures in the middle; sides of lobe with smaller and denser punctures; frons and vertex finely and densely punctate ($d < \varnothing$); mesoscutum with somewhat larger punctures ($d \leq \varnothing$); scutellum with similar punctures, but very dense and fine in posterior part of scutellum; ventral part of mesopleura densely punctate ($d < \varnothing$), irregularly rugose-punctate before episternal suture; behind this suture, mesopleura with fine, regular radial folds; sides of propodeum with oblique micro-hatches; dorsal part of propodeum with regular, rather weak radial costae; posterior part of propodeum with narrow and deep median pit; laterally to this pit, propodeum smoothly and transversely costate; abdominal tergites I–II with dense transverse micro-hatches; tergites III–IV with hardly noticeable transverse hatching and micropunctures at bases of semierect hairs; tergite V strongly shining, with large punctures before apex; pygidial area with rather small rounded punctures, not elongated to become longitudinal (d = 1–3 $\varnothing$).

Pubescence silvery, very short and dense, but not concealing sculpture; setae of psammophore on temple 1.5 times as long as basal width of mandibles (Figs. 10, *1b*); on ventral margin of mandible, these setae 1.5–2 times as long as basal width of mandible (Fig. 10, *2*); on fore trochanter, setae of psammophore long and pointed forward; digging comb of fore tarsus consisting of 6 erect setae of 1st segment (1.2 times as long as segment width) and similar dorsal apical setae of 2nd–4th segments (Fig. 10, *5*).

Body mainly black. Scape on lower side, humeral calli, tegulae at base, and wing scales along margins, stripe on outer surface of fore femur, large spot on ventral side of fore femur, middle and hind tibiae at base, preapical spot on ventral side of middle femur, narrow stripe on outer side of hind tibia, and small preapical spot on outer side of hind femur, all white; large spot on clypeus nearly reaching base of median lobe and divided in upper part by black-fuscous stripe, flagellum on lower side as far as middle of ultimate segment, merging (in the middle) spots on pronotal carina, and metanotum between lateral carinae, all white-yellow; basal part of mandible yellow; apical abdominal tergite at apex, all tarsi, fore tibia mainly, preapical spot on inner side and base of fore femur, middle and hind tibiae at apex, and compressed part of apical abdominal sternite, all rufous; mandible in the middle red-rufous; scape on upper side and semitranslucent apical stripes of abdominal tergites, all fuscous; wing scales dark fuscous in the middle; man-

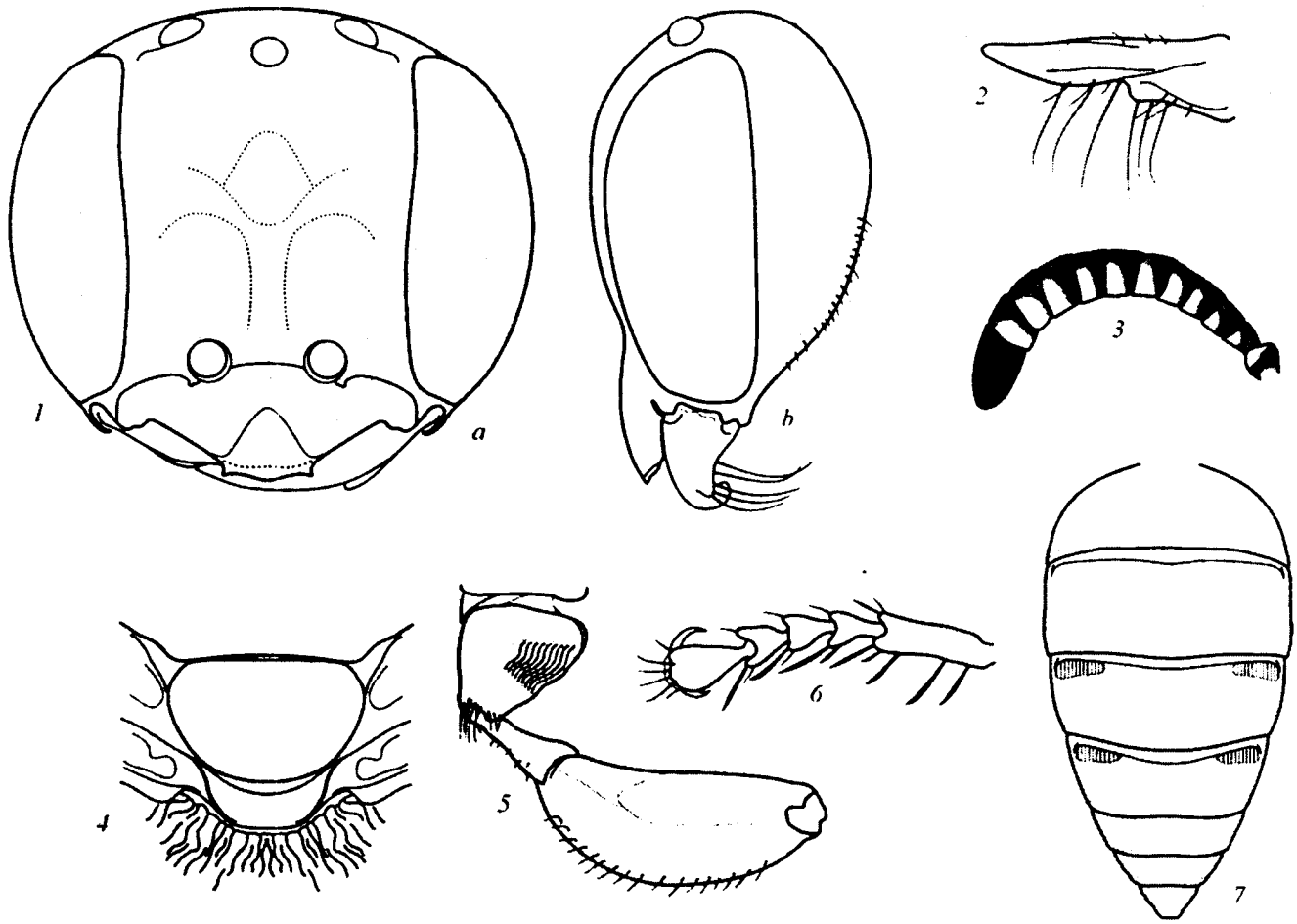

Fig. 11. *Belomicroides woji* sp. n., male. Designations as in Fig. 1.

dible at apex, fore femur mainly, middle tibia in the middle, middle femur, hind tibia, and hind femur mainly, all black-fuscous.

Body length 6.9 mm.

Male unknown.

Differential diagnosis. The female of *B. veronicae* sp. n. is most similar to those of *B. arenarius* and *B. rift* sp. n., differing from both the species in having the entirely black scutellum, finer and more regular sculpture on the dorsal side of the propodeum, and finer punctures on the pygidial area, not elongated to become grooves. The new species also differs from *B. arenarius* in having the mainly pale mandible, presence of a pale spot on the clypeus and rufous spots on the middle and hind tibiae, and absence of white dorsal spots on the middle tibia and median groove on the dorsal part of the propodeum; from *B. rift* sp. n., the new species differs in having a light spot on the median lobe of the clypeus, nearly reaching its posterior margin; the presence of a narrow white spots on the mainly fuscous hind tibia; the absence of golden tint in the head and thorax pubescence.

Etymology. The species is named for Mrs. Veronica Ahrens, San Francisco, CA, USA.

Belomicroides woji Antropov, sp. n.

Material. Holotype ♂, "Namibia: Okahand ja District: 17 km W Okahand ja 19 February 1990 (W.J. Pulawski)" (CAS).

Description. Male. Head rounded in front view; inner eye orbits running nearly in parallel; IOD = 38 : 37; frons ovally depressed in the middle, without median groove; vertex plates oval, slightly convex, semimatte; OOD : OD : POD = 7 : 7 : 16; median lobe of clypeus convex, truncate along lower margin, with distinct lateral angles (Fig. 11, *1a*); flagellar segments, excluding ultimate segment, wider than long; ultimate segment 1.5 times as long as wide (Fig. 11, *3*). Prono-

tal carina without distinct median groove; admedian lines fine, reaching 1/3 of mesoscutum; parapsidial lines fine; admedian lines twice as long as parapsidial lines; adlateral lines appearing as smoothed grooves; scutellum uniformly convex, without lateral carinae (Fig. 11, *4*); hypersternaulus appearing as wide depression nearly reaching posterior margin of mesopleura and more distinct in anterior third. Propodeum with lateral carinae, developed in dorsal part, with shining oval median pit on posterior surface. Abdominal tergites III–IV with basal pubescent pits, distance between these pits on tergite III twice as long as pit width (Fig. 11, *7*).

Body with dense fine punctures separated by shining intervals; median lobe of clypeus with shining sparsely punctured triangular area (d = 1.5–3 ∅); middle of frons densely ($d \leq$ ∅) and of vertex sparsely ($d >$ 2 ∅) punctate. Mesoscutum densely punctate ($d <$ ∅), without striae, matte; scutellum with similar punctures, matte; sides of mesopleura and mesoscutum punctured similarly, ventral side with smoother puncture and shining intervals between punctures. Propodeum with regular radial costae at base of dorsal side, rest of propodeum mainly micro-punctate, matte. Abdominal tergites I–V shining, with indistinct micropuncture at bases of hairs; tergites I–II also transversely micro-hatched; tergite VI densely punctate at apex ($d \geq$ ∅), shining; tergite VII very coarsely punctate, shining, at sides of tergite, punctures merging into grooves ($d <$ ∅).

Pubescence silvery, short, mainly appressed; on vertex, sides of scutellum, and outer margins of metanotum, pubescent erect, concealing sculpture only on sides of clypeus and lower part of frons; setae of psammophore on mandible 1.2 times as long as basal width of mandibles (Figs. 11, *2*); on temple and fore and middle femur, psammophore absent (Fig. 11, *1b*, *5*); digging comb of fore tarsus consisting of 4 erect setae of 1st segment (1.5 times as long as segment width) and similar dorsal apical setae of 2nd–4th segments (Fig. 11, *6*).

Body mainly black. Humeral calli white; mandible yellow at base; fore tibia yellow-rufous on outer surface; mandible in the middle, scape and pedicel at apex, basal spots on flagellar segments (except for ultimate segment), spot on apex of ultimate flagellar segment, fore tibia ventrally, hind tibia at apex, and fore femur on inner surface, all rufous; tarsus, median spot on pterostigma, narrow stripes before translucent apical stripes of abdominal tergite I–II, all rufous-fuscous; mandible at apex, apex of clypeus, and abdominal tergite VII, all red-fuscous; middle tibia mainly, middle femur at apex anteriorly, hind femur at apex and posteriorly, all pale fuscous; tegulae, wing scales, and fore wing veins, all fuscous; fore femur on posterior surface and middle femur mainly, all dark fuscous; hind tibia mainly, hind femur basally and anteriorly, and all coxae and trochanters, all black.

Body length 5.1 mm.

Female unknown.

Differential diagnosis. The male of *B. woji* sp. n. is most similar to those of *B. arenarius* and *B. rift* sp. n., differing from both species in having the narrower median lobe of the clypeus, nearly entirely developed wide hypersternaulus, matte intervals between merging punctures on the mesoscutum and scutellum, long pubescence of the scutellum and metanotum, finer sculpture of the propodeum, and more weakly pubescent pits. The new species differs from *B. arenarius* also in having the mainly pale mandible, entirely yellow-rufous fore and partly middle and hind tibiae and tarsi; from *B. rift* sp. n., the new species differs in having the distinct vertex plates and rufous spots on the posterior surface of the middle and hind femora.

Etymology. The species is named for one of the leading modern taxonomists in the field of Sphecoidea, entomologist Dr. Wojcieh J. Pulawski, California Academy of Sciences, San Francisco, USA.