Notes on flies of the genus *Dicranosepsis* Duda, 1926 (Diptera: Sepsidae)

Заметки о двукрылых рода *Dicranosepsis* Duda, 1926 (Diptera: Sepsidae)

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KEY WORDS: Diptera, Sepsidae, *Dicranosepsis*, new species, Oriental Region. КЛЮЧЕВЫЕ СЛОВА: Diptera, Sepsidae, *Dicranosepsis*, новые виды, Ориентальная область.

ABSTRACT. Four new species of the genus *Dicranosepsis* Duda are described: *D. sauteri* from China (Taiwan), *D. pseudotibialis*, *D. dudai*, and *D. renschi* from Indonesia (Flores and Sumbawa). Differences between *Dicranosepsis transita* Ozerov, 1997 and *Dicranosepsis tibialis* Iwasa et Tewari, 1990 are discussed.

PEЗЮМЕ. В статье даны описания 4 новых видов рода *Dicranosepsis* Duda: *D. sauteri*, *D. pseudotibialis*, *D. dudai*, and *D. renschi*. Показаны отличия *Dicranosepsis transita* Ozerov, 1997 от *Dicranosepsis tibialis* Iwasa et Tewari, 1990.

The genus *Dicranosepsis* Duda, 1926 includes now 25 species, among them one species from Afrotropical Region, 23 species from Oriental Region and 3 species from Australia and Oceania. The species of the genus are hardly differentiated. The male's genitalia is very close, because of this the structure of fore leg is mainly used as diagnostic character. Females of most species can not be differentiated.

This work is based on the collection of the Deutsche Entomologische Institut (Eberswalde: DEI), which contains the great number specimens of *Dicranosepsis*, collected by H. Sauter on Taiwan in the beginning of XX century, and materials got by the expedition of B. Rensch in Indonesia in 1927. As a result of my study I discovered four new species. Their descriptions and notes on the status and distribution of more 2 species — *D. tibialis* Iwasa et Tewari, 1990 and *D. transita* Ozerov, 1997 are given below.

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Dicranosepsis sauteri **sp.n.** Fig. 1: 1–4.

TYPE-MATERIAL. Holotype ♂, "7.XI.", "Taihoku[,] Formosa[,] H. Sauter, 1912", "hamata de M[eijere] ♂[,] DET. DR. O. DUDA" (DEI). Paratypes: 29 ♂♂, with same label as holotype (DEI, Zoological Museum of Moscow University: ZMUM); 2 ♂♂ "Kankau (Koshun)[,] Formosa[,] H. Sauter[,] IV.1912" (DEI); 1 ♂ "Kankau (Koshun)[,] Formosa[,] H. Sauter[,] VI.1912" (ZMUM); 1 ♂ "Kankau (Koshun)[,] Formosa[,] H. Sauter[,] 1.912", "7. V." (ZMUM); 1 ♂ "Kankau (Koshun)[,] Formosa[,] H. Sauter[,] I.912", "7. IV." (DEI); 1 ♂ "Taihoku Distr.: Okkaseki (Formosa)[,] H. Sauter[,] VI.1914", "hamata d[e] M[eijere] ♂[,] DET. DR. O. DUDA" (DEI); 1 ♂ "Chosokei (Form[osa])[,] H. Sauter, 1914", "hamata Meij[ere] ♂[,] d[et] Duda" (DEI); 2 ♂ ♂ "Taihoku (Form[osa])[,] H. Sauter 1912", "hamata d[e] M[eijere] ♂[,] DET. DR. O. DUDA" (DEI, ZMUM).

DESCRIPTION. Length of body: 2.4–2.9 mm. Length of wing: 2.0–2.2 mm.

Male. *Colour*. Frons black, but brownish near apex. Face and gena reddish yellow; antennal grooves slightly darkened. Subgena, clypeus and postcranium black. Antenna reddish yellow. Thorax black. Legs yellow, tibia of midleg blackish near apex. Wing clear, with brownish veins; basal-costal cell basally and basal cell completely blackish. Upper calypter and their margin white, lower calypter and their margin blackish. Halter yellowish. Abdomen black.

Pollinosity. Frons and gena shining. Face and postcranium thinly greyish pruinose. Scutum, proepisternum and proepimeron greyish pruinose. Anepisternum shining. Katepisternum shining, but greyish pruinose along upper margin and in upper posterior corner. Anepimeron, including anepimeral process, katepimeron, meron, metepisternum, metepimeron, metepimeral bridge, katatergite and anatergite greyish pruinose. Mediotergite shining, but greyish pruinose on the border with anatergite. Scutellum and subscutellum greyish pruinose. Abdomen shining.

Head in lateral view slightly flattened dorsoventrally. Hight of gena below eye approximately 1/15 times as long as vertical diameter of eye. Postpedicel in profile long-oval, approximately 1.5 times longer than wide. 1 oc, 1 poc, 1 ivt,

88 A.L. Ozerov

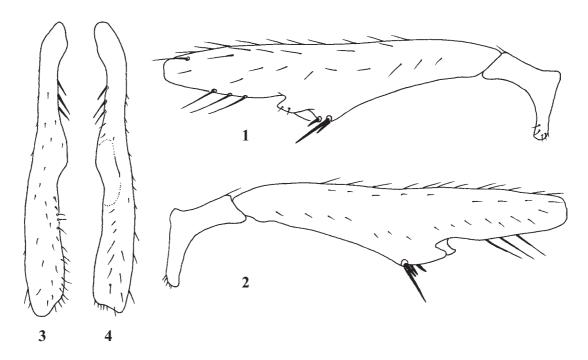


Fig. 1: 1–4. Dicranosepsis sauteri sp.n., \circlearrowleft : 1 — fore tibia (left), posterior view; 2 — same, anterior view; 3 — fore femur (left), posterior view; 4 — same, anterior view.

Рис. 1: 1-4. Dicranosepsis sauteri sp.n., \circlearrowleft : 1 — голень передней левой ноги, сзади; 2 — то же, спереди; 3 — бедро передней левой ноги, сзади; 4 — то же, спереди.

1 *ovt; or* absent. Occipital sclerite with several setulae. Gena with a row of setulae along lower margin. Postgena with 1 seta. 2–3 vibrissae.

Thorax. Scutum with the following paired setae: 1 pprn, 2 npl, 1 spal, 1 pal, 0+2 dc. An episternum in posterior half bearing scattered hairs and with long seta near posterior margin. Scutellum with well-developed apical setae; basal setae short, hair-like. Metepimeral bridge present.

Legs. Coxa of foreleg long and simple, without apical ad. Trochanter, femur and tibia of foreleg as in Fig. 1: 1–4. Femur of foreleg without av basally. Coxa of midleg bare in upper half. Femur of midleg with a row of short a. Tibia of midleg with 1 v in apical third and with apical av and pv. Tarsomere 1 of midleg with av and pv light of which no more than the light of tarsomere 4 of hindleg. Femur and tibia of hindleg without striking setae. Tibia of hindleg with a hardly visible osmeterium-like area near middle anterodorsally. Tarsomere 1 of hindleg with av and av light of which approximately equal the light of tarsomere 4 of hindleg.

Wing normal, longer than abdomen, with well-developed anal lobe. Cells bm and br separate. Alula entirely covered with microtrichia, its width approximately 1.5 times as long as width of cell bm. Margin of upper calypter with hairs, margin of lower calypter without hairs.

Abdomen constricted after syntergite 1+2. Syntergite 1+2 at sides with 2–4 thin setae. Tergites 3–5 each with a row of thin marginal setae. Surstyli symmetrical, fused to epandrium.

Female unknown.

ETYMOLOGY. This species is named in honour of the late Hans Sauter, who collected material of this species.

DIAGNOSIS. New species distinguished from the similar *D. tibialis* Iwasa et Tewari by the structure of fore trochanter and the presence of strong *av* on fore tibia in basal third.

DISTRIBUTION. Oriental region: China (Taiwan).

Dicranosepsis pseudotibialis **sp.n.** Fig. 2: 1–4.

TYPE-MATERIAL. Holotype ♂, "Sunda — Exped. Rensch[,] Batoe Doelang, W. Soembawa[,] 10.−5.V.[19]27" (DEI). Paratypes: 28 ♂♂, with same label as holotype (DEI, ZMUM).

DESCRIPTION. Length of body: 2.5–3.1 mm. Length of wing: 2.0–2.3 mm.

Male. *Colour*. Frons black, but brownish near apex. Face and gena reddish yellow; antennal grooves darkened. Subgena, clypeus and postcranium black. Antenna reddish yellow, postpedicel along anterior margin darkened. Thorax black. Legs yellow in ground colour, but femur of midleg and hindleg in apical half and tibia of midleg and hindleg in basal half often darkened; tibia of midleg blackish near apex; tarsomeres 4 and 5 of all legs black. Wing clear, with brownish veins; basal-costal cell basally and basal cell completely blackish. Upper calypter and their margins white, lower calypter and their margins blackish. Halter white or yellowish. Abdomen black.

Pollinosity. Frons and gena shining. Face and postcranium thinly greyish pruinose. Scutum, proepisternum and proepimeron greyish pruinose. Anepisternum shining. Katepisternum shining, but greyish pruinose along upper margin and in upper posterior corner. Anepimeron, including anepimeral process, katepimeron, meron, metepisternum, metepimeron, metepimeral bridge, katatergite and anatergite greyish pruinose. Mediotergite shining, but greyish pruinose on the border with anatergite. Scutellum and subscutellum greyish pruinose. Abdomen shining.

Head in lateral view slightly flattened dorsoventrally. Hight of gena below eye approximately 1/12 times as long as vertical diameter of eye. Postpedicel in profile long-oval, approximately 1.5 times longer than wide. 1 oc, 1 poc, 1 ivt,

1 *ovt; or* absent. Occipital sclerite with several setulae. Gena with a row of setulae along lower margin. Postgena with 1 seta. 2–3 vibrissae.

Thorax. Scutum with the following paired setae: 1 pprn, 2 npl, 1 spal, 1 pal, 0+2 dc. An episternum in posterior half bearing scattered hairs and with long seta near posterior margin. Scutellum with well-developed apical setae; basal setae short, hair-like. Metepimeral bridge present.

Legs. Coxa of foreleg long and simple, without apical ad. Trochanter, femur and tibia of foreleg as in Fig. 2: 1–4. Femur of foreleg with 1 av basally. Coxa of midleg bare in upper half. Femur of midleg with a row of short a. Tibia of midleg with 1 v in apical third and with apical av and pv. Tarsomeres 1 of midleg and hindleg with av and pv light of which no more than the light of tarsomere 4 of hindleg. Femur and tibia of hindleg without striking setae. Tibia of hindleg with a hardly visible osmeterium-like area near middle anterodorsally.

Wing normal, longer than abdomen, with well-developed anal lobe. Cells bm and br separate. Alula entirely covered with microtrichia, its width approximately 1.5 times as long as width of cell bm. Margins of upper calypter with hairs, margins of lower calypter without hairs.

Abdomen constricted after syntergite 1+2. Syntergite 1+2 at sides with 2–4 thin setae. Tergites 3–5 each with a row of thin marginal setae. Surstyli symmetrical, fused to epandrium.

Female unknown.
DIAGNOSIS. New species distinguished from the similar *D. tibialis* Iwasa et Tewari by the presence of *av* on fore tibia basally.

DISTRIBUTION. Oriental region: Indonesia (Sumbawa).

Dicranosepsis dudai **sp.n.** Fig. 3: 1–5.

TYPE-MATERIAL. Holotype ♂, "Sunda — Exped. Rensch[,] Batoe Doelang, W. Soembawa[,] 10.−15.V.[19]27" (DEI). Paratypes: 5 ♂♂, with same label as holotype (DEI, ZMUM); 2 ♂♂ "Sunda — Exped. Rensch[,] Semongkat, W. Soembawa[,] 10.−15.V.[19]27", 1 ♂ "Sunda — Exped. Rensch[,] Wawó, 450 m[,] O. Soembawa[,] 2.VII.[19]27" (DEI), 2 ♂♂ "Sunda — Exped. Rensch[,] Badjawa, W. Flores[,] 1200 m[,] 17.VI.[19]27" (DEI).

DESCRIPTION. Length of body: 2.3–3.0 mm. Length of wing: 2.1–2.3 mm.

Male. *Colour*. Frons black completely or brownish near apex. Face yellow to brown, but antennal grooves usually blackish. Gena brown to black. Subgena, clypeus and postcranium black. Antenna brownish; postpedicel along anterior margin darkened. Thorax black. Legs yellow in ground colour, but femur of midleg and hindleg in apical half and tibia of midleg and hindleg in basal half usually darkened; tibia of midleg blackish near apex; tarsomeres 4 and 5 of all legs black. Wing clear, with brownish veins; basal-costal cell basally and basal cell completely blackish. Upper calypter and their margins white, lower calypter and their margins darkened. Halter yellowish. Abdomen black.

Pollinosity. Frons shining. Gena subshining. Face and postcranium thinly greyish pruinose. Scutum greyish pruinose. Proepisternum shining in upper half and greyish pruinose in lower half. Proepimeron greyish pruinose. Anepisternum shining. Katepisternum shining, but greyish pruinose along upper margin and in upper posterior corner. Ane-

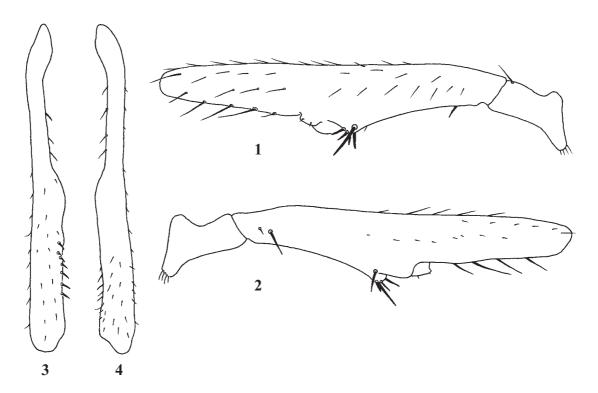


Fig. 2: 1–4. Dicranosepsis pseudotibialis sp.n., \circlearrowleft : 1 — fore tibia (left), posterior view; 2 — same, anterior view; 3 — fore femur (left), posterior view; 4 — same, anterior view.

Рис. 2: 1-4. Dicranosepsis pseudotibialis sp.n., \circlearrowleft : 1 — голень передней левой ноги, сзади; 2 — то же, спереди; 3 — бедро передней левой ноги, сзади; 4 — то же, спереди.

90 A.L. Ozerov

pimeron, including anepimeral process, katepimeron, meron, metepisternum, metepimeron, metepimeral bridge, katatergite and anatergite greyish pruinose. Mediotergite shining, but greyish pruinose on the border with anatergite. Scutellum and subscutellum greyish pruinose. Abdomen shining.

Head in lateral view slightly flattened dorsoventrally. Hight of gena below eye approximately 1/13 times as long as vertical diameter of eye. Postpedicel in profile long-oval, approximately 1.5 times longer than wide. 1 oc, 1 poc, 1 ivt, 1 ovt; or absent. Occipital sclerite with several setulae. Gena with a row of setulae along lower margin. Postgena with 1 seta. 2–3 vibrissae.

Thorax. Scutum with the following paired setae: 1 pprn, 2 npl, 1 spal, 1 pal, 0+2 dc. An episternum in posterior half bearing scattered hairs and with long seta near posterior margin. Scutellum with well-developed apical setae; basal setae short, hair-like. Metepimeral bridge present.

Legs. Coxa of foreleg long and simple, without apical ad. Trochanter, femur and tibia of foreleg as in Fig. 3: 1–4. Femur of foreleg with 2 av basally. Coxa of midleg bare in upper half. Femur of midleg with a row of short a. Tibia of midleg with 1–3 v in apical third and with apical av and pv. Tarsomere 1 of midleg with av and pv ligth of which no more than the light of tarsomere 4 of hindleg. Trochanter of hindleg posteriorly with hairs (Fig. 3: 5). Femur and tibia of hindleg without striking setae. Tibia of hindleg with a hardly visible osmeterium-like area near middle anterodorsally. Tarsomere 1 of hindleg with av and pv ligth of which approximately equal the light of tarsomere 4 of hindleg.

Wing normal, longer than abdomen, with well-developed anal lobe. Cells bm and br separate. Alula entirely covered with microtrichia, its width approximately 1.5 times as long as width of cell bm. Margins of upper calypter with hairs, margins of lower calypter without hairs.

Abdomen constricted after syntergite 1+2. Syntergite 1+2 at sides with 2–4 thin setae. Tergites 3–5 each with a row of thin marginal setae. Surstyli symmetrical, fused to epandrium.

Female unknown.

DIAGNOSIS. New species similar to *D. iwasai* Ozerov, 1997, but easily differentiated it by the presence of hairs on hind throhanter and 2 *av* on fore femur basally.

ETYMOLOGY. This species is named in honour of the late Paul Theodor Friedrich Oswald Duda, German dipterologist, who made such a valuable contribution to the study of the Sepsidae.

DISTRIBUTION. Oriental region: Indonesia (Flores, Sumbawa).

Dicranosepsis renschi **sp.n.** Fig. 4: 1–4.

TYPE-MATERIAL. Holotype ♂, "Sunda — Exped. Rensch[,] Semongkat, W. Soembawa[,] 10. — 15.V.[19]27" (DEI). Paratypes: 12 ♂♂, "Sunda — Exped. Rensch[,] Dompoe, O. Soembawa[,] 24.—25.V.[19]27" (DEI, ZMUM), 20 ♂♂ "Sunda — Exped. Rensch[,] Semongkat, W. Soembawa[,] 10.—15.V.[19]27", 4 ♂♂ "Sunda — Exped. Rensch[,] Batoe Doelang, W. Soembawa[,] 10.—15.V.[19]27" (DEI, ZMUM), 3 ♂♂ "Sunda — Exped. Rensch[,] Badjawa, W. Flores[,] 1200 m[,] 17.V.[19]27" (DEI).

DESCRIPTION. Length of body: 2.0–2.9 mm. Length of wing: 1.7–2.0 mm.

Male. *Colour*. Frons black completely or brownish near apex. Face yellow to brown, but antennal grooves usually blackish. Gena brown to black. Subgena, clypeus and postcranium black. Antenna brownish; postpedicel along anterior margin usually blackish. Thorax black. Legs yellow in ground colour, but femur of midleg and hindleg in apical half and tibia of midleg in basal half darkened; tibia of midleg blackish near apex; tibia of hindleg often blackish; tarsomeres 4 and 5 of all

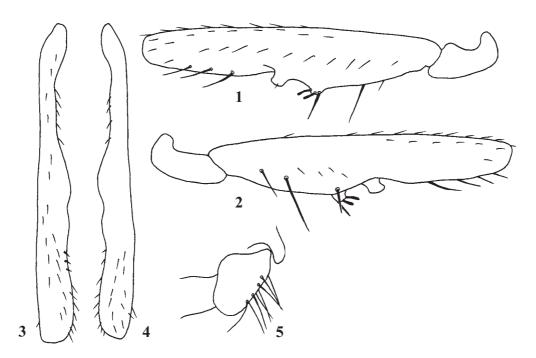


Fig. 3: 1–5. Dicranosepsis dudai sp.n., \circlearrowleft : 1 — fore tibia (left), posterior view; 2 — same, anterior view; 3 — fore femur (left), posterior view; 4 — same, anterior view; 5 — trochanter of hindleg.

Рис. 3: 1-5. Dicranosepsis dudai sp.n., \circlearrowleft : 1 — голень передней левой ноги, сзади; 2 — то же, спереди; 3 — бедро передней левой ноги, сзади; 4 — то же, спереди; 5 — тазик задних ног.

legs black. Wing clear, with brownish veins; basal-costal cell basally and basal cell completely blackish. Upper calypter and their margin white, lower calypter and their margin darkened. Halter yellowish. Abdomen black.

Pollinosity. Frons shining. Gena subshining. Face and postcranium thinly greyish pruinose. Scutum, proepisternum and proepimeron greyish pruinose. Anepisternum shining. Katepisternum shining, but greyish pruinose along upper margin and in upper posterior corner. Anepimeron, including anepimeral process, katepimeron, meron, metepisternum, metepimeron, metepimeral bridge, katatergite and anatergite greyish pruinose. Mediotergite shining, but greyish pruinose on the border with anatergite. Scutellum and subscutellum greyish pruinose. Abdomen shining.

Head in lateral view slightly flattened dorsoventrally. Hight of gena below eye approximately 1/17 times as long as vertical diameter of eye. Postpedicel in profile long-oval, approximately 1.5 times longer than wide. 1 oc, 1 poc, 1 ivt, 1 ovt; or absent. Occipital sclerite with several setulae. Gena with a row of setulae along lower margin. Postgena with 1 seta. 2–3 vibrissae.

Thorax. Scutum with the following paired setae: 1 pprn, 2 npl, 1 spal, 1 pal, 0+2 dc. An episternum in posterior half bearing scattered hairs and with long seta near posterior margin. Scutellum with well-developed apical setae; basal setae short, hair-like. Metepimeral bridge present.

Legs. Coxa of foreleg long and simple, with 1 thin apical ad. Trochanter, femur and tibia of foreleg as in Fig. 4: 1–4. Femur of foreleg without av basally. Tibia of foreleg with 2–4 v in apical third. Coxa of midleg bare in upper half. Femur of midleg with a row of short a. Tibia of midleg with 1–3 v in apical third and with apical av and pv. Tarsomere 1 of midleg with av and pv ligth of which no more than the light of tarsomere 4 of hindleg. Femur and tibia of hindleg without

striking setae. Tibia of hindleg with a hardly visible osmeterium-like area near middle anterodorsally. Tarsomere 1 of hindleg with *av* and *pv* ligth of which approximately equal the light of tarsomere 4 of hindleg.

Wing normal, longer than abdomen, with well-developed anal lobe. Cells bm and br separate. Alula entirely covered with microtrichia, its width approximately 1.5 times as long as width of cell bm. Margins of upper calypter with hairs, margins of lower calypter without hairs.

Abdomen constricted after syntergite 1+2. Syntergite 1+2 at sides with 2–4 thin setae. Tergites 3–5 each with a row of thin setae. Surstyli symmetrical, fused to epandrium.

Female unknown.

ETYMOLOGY. This species is named in honour of the late Bernhard Rensch, the head of zoology-antropologist expedition on Lesser Sunda Islands in 1927.

DIAGNOSIS. *D. renschi* distinguished from the similar *D. sauteri* by the structure of fore trochanter and absence row of short *av* on fore tibia in apical third.

DISTRIBUTION. Oriental region: Indonesia (Flores, Sumbawa).

Dicranosepsis transita Ozerov, 1997 Fig. 5: 1–5.

Sepsis (Dicranosepsis) gracilis Duda, 1926, 39: 48 (as subvar. of Sepsis bicolor Wiedemann, 1830). Junior primary homonym of Sepsis gracilis Zetterstedt, 1847.

 $\it Dicranosepsis\ transita$ Ozerov, 1997: 156. Replacement name for $\it gracilis$ Duda.

This species differentiated from *Dicranosepsis tibialis* Iwasa et Tewari, 1990 by the structure of fore leg (Fig. 5: 1–5). Distribution of this species is limited by Taiwan.

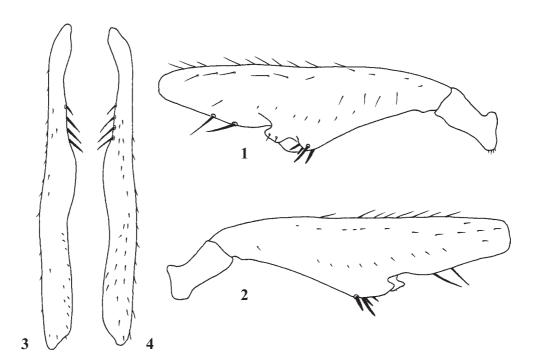


Fig. 4: 1–4. Dicranosepsis renschi sp.n., \circlearrowleft : 1 — fore tibia (left), posterior view; 2 — same, anterior view; 3 — fore femur (left), posterior view; 4 — same, anterior view.

Рис. 4: 1-4. $Dicranosepsis\ renschi\ sp.n., <math>\circlearrowleft$: 1 — голень передней левой ноги, сзади; 2 — то же, спереди; 3 — бедро передней левой ноги, сзади; 4 — то же, спереди.

92 A.L. Ozerov

Dicranosepsis tibialis Iwasa et Tewari, 1990 Fig. 5: 6–10.

Dicranosepsis tibialis Iwasa et Tewari, 1990: 796.

Unjustified synonymy with *Dicranosepsis transita* Ozerov, 1997 [Ozerov, 1997]. Femur and tibia of foreleg as in Fig. 5: 6–9. Trochanter of fore leg with a smal process (Fig. 5: 10).

DISTRIBUTION. Australasian and Oceanian regions: Australia, Guam, Papua New Guinea, Salomonen. Oriental region: Bangladesh, China (Guangdong, Yunnan), India, Indonesia (Flores, Sumbawa), Malaysia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam.

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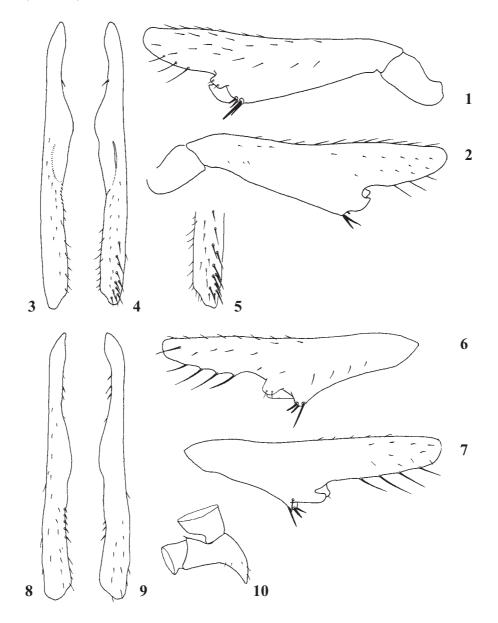


Fig. 5: 1-10. Dicranosepsis spp.: 1-5 — Dicranosepsis transita Ozerov, \circlearrowleft , fore femur (left), posterior view (1), the same, anterior view (2), fore tibia (left), posterior view (3), the same, anterior view (4), the same, fragment (5); 6-10 — Dicranosepsis tibialis Iwasa et Tewari, \circlearrowleft (after Ozerov, 1997), fore femur (left), posterior view (6), the same, anterior view (7), fore tibia (left), posterior view (8), the same, anterior view (9), fore trochanter (left), posterior view (10).

Рис. 5: 1–10. *Dicranosepsis* spp.: 1–5 — *Dicranosepsis transita* Ozerov, ♂, бедро передней левой ноги, сзади (1), то же, спереди (2), голень передней левой ноги, сзади (3), то же, спереди (4), то же, фрагмент (5); 6–10 — *Dicranosepsis tibialis* Iwasa et Tewari, ♂ (по Ozerov, 1997), бедро передней левой ноги, сзади (6), то же, спереди (7), голень передней левой ноги, сзади (8), то же, спереди (9), вертлуг передней левой ноги, сзади (10).