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NEW AND LITTLE-KNOWN EURASIAN DITHRYCINI (DIPTERA, TEPHTRITIDAE)

V. A. Korneyev

Schmalhausen Institute of Zoology, vul. B. Khmel'nits'kogo, 15, Kyiv-30, MSP, 01601 Ukraine
E-mail: korval@entom.freenet.kiev.ua

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New and Little-Known Eurasian Dithrycini (Diptera, Tephritidae). Korneyev V. A. — *Oedaspis schachtii* sp. n. from Taiwan is described; it fits near *Oe. pibari* (Kwon), *Oe. wolongata* (Wang) and *Oe. fini* Freidberg, differing in details of wing pattern. *Oe. fissa* Loew, 1862 is the senior synonym of *Oe. latifasciata* Hering, 1937, syn. n. *Oe. ragdai* Hering is recorded for the first time from Tajikistan and Iran, *Oe. dichotoma* from Kyrgyzzia and Turkmenistan, and *Oe. fissa* from North Africa. *Ptiloedaspis tavaresiana* Bezzi and *Dithryca guttulosa* (Loew) previously known from descriptions, are figured. Keys to Palaearctic and Asian species of *Oedaspis* Loew and *Dithryca* Rondani are compiled.

Key words: Diptera, Tephritidae, Europe, Asia, distribution, new species.

Í í àúà è í àèí èçààñóí úà ààðàçèàñèèà Dithrycini (Diptera, Tephritidae). È í ðí ààà Á. Á. — Í í èñàí *Oedaspis schachtii* sp. n. ñ Òàéàáí ý; àèà áèèçí è *Oe. pibari* (Kwon), *Oe. wolongata* (Wang) è *Oe. fini* Freidberg, í ðèè-àýñú ààðàèýì è èðúèí àí àí ðèñóí èà. *Oe. fissa* Loew, 1862 — ñààðçèèè ñèí í í èì *Oe. latifasciata* Hering, 1937, syn. n. *Oe. ragdai* Hering óèàçàí àí àðàúà èç Òààæèèèñòàí à è Èðàí à, *Oe. dichotoma* — èç Èèðàèçèè è Òóðèí àí èñòàí à, à *Oe. fissa* — èç Ñàààðí í é Áóðèèè. Í ðèààááí ú ðèñóí èè *Ptiloedaspis tavaresiana* Bezzi è *Dithryca guttulosa* (Loew), ðàí àà èçààñòí úò í í í í èñàí èýì . Ñí ñààèàí ú ðààèèóú àéý í í ðààèèàí èý ààðàçèàñèèò àèàí à ðí àí à *Oedaspis* Loew è *Dithryca* Rondani. È è þ ð à à ú à ñ è í à à : Diptera, Tephritidae, Áàðí í à, Àçèý, ðàñí ðí ñòðàí àí èà, í í àúè àèà.

Introduction

The tribe Dithrycini (=Oedaspidini) is represented by about 95 species assigned to 14 genera occurring worldwide, mostly in dry areas of temperate zones and mountain areas in tropics (Norrbom et al., 1999). The tribe is subdivided into 3 subtribes, Dithrycina, Oedaspidina and Eurostina (Norrbom et al., 1999; Korneyev, 1999). Afrotropical species were reviewed and keyed by Freidberg and Kaplan (1992), Australian by Hardy and Drew (1996) and Far East (both Palaearctic and Oriental) species by Wang (1996). Since the last key to Palaearctic *Oedaspis* Loew (Hendel, 1927), certain papers containing new data on synonymy, morphology, biology and distribution of its species were published (Korneyev, 1987 a, 1987 b; Freidberg, Kugler, 1989; Merz, 1992). When preparing a Tephritidae chapter for the book "Biology, Ecology, and Evolution of Gall-Inducing Arthropods" (Seitz, Zwölfer, Korneyev, in prep.), an additional material containing rare or new species of the tribe Dithrycini was examined, figured and described. Keys to Eurasian species of the genera *Oedaspis* and *Dithryca* Rondani are provided. Morphological terminology generally follows Freidberg and Kaplan (1992) with recent corrections (White et al., 1999).

The material is deposited in the following collections:

MHNG — Muséum d'Histoire Naturelle, Genève; NMP — National Museum Prague, Kunratice; SIZK — Schmalhausen Institute of Zoology, Kóiv; ZMHB — Zoologische Museum, Humboldt-Universität zu Berlin; ZMUM — Zoological Museum, Moscow University; ZSSM — Zoologische Staatssammlung, München.

SUBTRIBE OEDASPIDINA

Oedaspis Loew, 1862

GROUP OF SPECIES RELATED TO *OE. PIBARI*

Oedaspis schachtii Korneyev, sp. n.

Material examined. Holotype }, "S-Taiwan, Kaohsiung Co., Tengir Forest Res. Station ca. 23° 07'N / 120° 47'E, 1600 m, 6–10.VII.2000 leg. W. Schacht" (ZSSM).

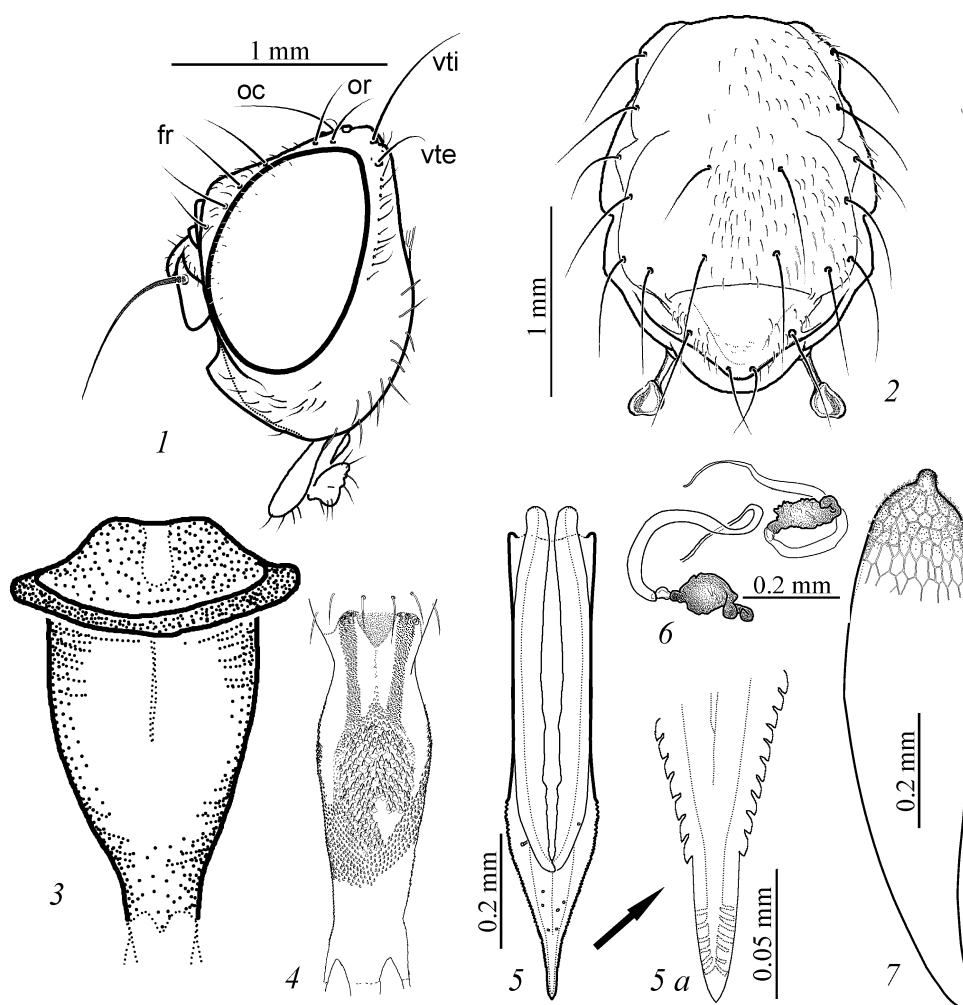


Fig. 1. *Oedaspis schachtii*: 1 — head, lateral; 2 — mesonotum; 3 — oviscape; 4 — eversible membrane, ventral; 5 — aculeus, ventral (5 a — same, enlarged); 6 — spermathecae; 7 — egg.

Ден. 1. *Oedaspis schachtii*: 1 — ай еї аа наї ео; 2 — нōааї ани еї еа; 3 — і і аєї ũ яєōāēēāā; 4 — асиаї да-е-аааї ай і ай аōаї а, ааї оōаеуї і; 5 — еāçāēā яєōāēēāā, ааї оōаеуї і (5 a — ої аē, оāāēē-аї і); 6 — нї аō-і аōāēē; 7 — яєōї.

Female. Head (fig. 1, 1) yellow without dark pattern except blackish ocellar triangle, sparsely whitish microtrichose. Setae black, except for longer postoculars brown and cervical setae white; 4 frontal and 2 (–3) black orbital setae; postocellar setae completely absent. Frons slightly widened anteriorly, 1.1 times longer than wide, 0.51 as wide as head; fronto-facial angle obtuse; face flat, somewhat sunken, without antennal grooves or medial carina; lower margin of face slightly protruding in profile, peristomalium short, oblique; clypeus yellow, hidden in peristomal cavity. Compound eye 1.6 times as high as long, short and sparsely setulose; gena 0.26 height of eye. Lower head margin receding posteriorly. Parafacialium uniformly yellow, sparsely microtrichose. Facial ridge with 7–8 fine yellowish-brown setulae. Gena with 12–15 short black setulae forming 2–4 irregular rows; genal seta rather short, black. Antenna yellow, scape and pedicel with black setulae; flagellomere 1 elongate oval, 1.5 times longer than wide; arista short pubescent, aristomere 1 and 2 yellow, terminal aristomere yellow basally, in apical 5/6 black. Proboscis short, labellum rudimentary, 1.5 times shorter than flagellomere 1. Palpus yellow, rather wide, laterally with sparse short setulae, medially bare.

Thorax (fig. 1, 2). Ground color black, postpronotum, proepisternum, apical 1/4 of anepisternum and notopleural triangle yellowish-brown; covered by short, yellowish-gray microtrichiae; all setae black; setulae mostly black, except for anterior postpronotal, upper anepisternal and longer setulae posterior of intraalar and acrostichal setae yellowish; anterior half of mesonotum with medial alley of black setulae forming 3–6 very dense irregular rows from anterior margin to dc line. Pleural vestiture black. Dorsocentral setae aligned with anterior supra-alar setae; 1 anepisternal seta; 1 katepisternal seta. Scutellum with 2 pairs of black setae (apical 2/3 as long as basal one), trapezoidal, dorsally almost flat, very slightly convex, brownish-black, more brownish towards apex, without dark spots, sparsely but conspicuously microtrichose, with dorsal surface inconspicuously shagreened, short black setulose, except medial stripe; 1–2 setulae at postero-ventral margin. Subscutellum and mediotergite black, distinctly microtrichose without shiny areas. Calypters narrow, yellowish to white, upper calypter with brownish-yellow fringe; halter yellow.

Legs yellow, without modifications; fore femur with 6–7 long postero-ventral setae; hind femur without distinctly longer preapical erect setae dorsally or ventrally; setulae blackish.

Wing (fig. 2, 3). Length: 6.1 mm. Wing length to width ratio 2.6. Pattern dark brown, reticulate-banded, with hyaline areas mostly restricted to small spots either isolated or touching and forming chains of 2–3 spots; base of wing brown; alula brownish

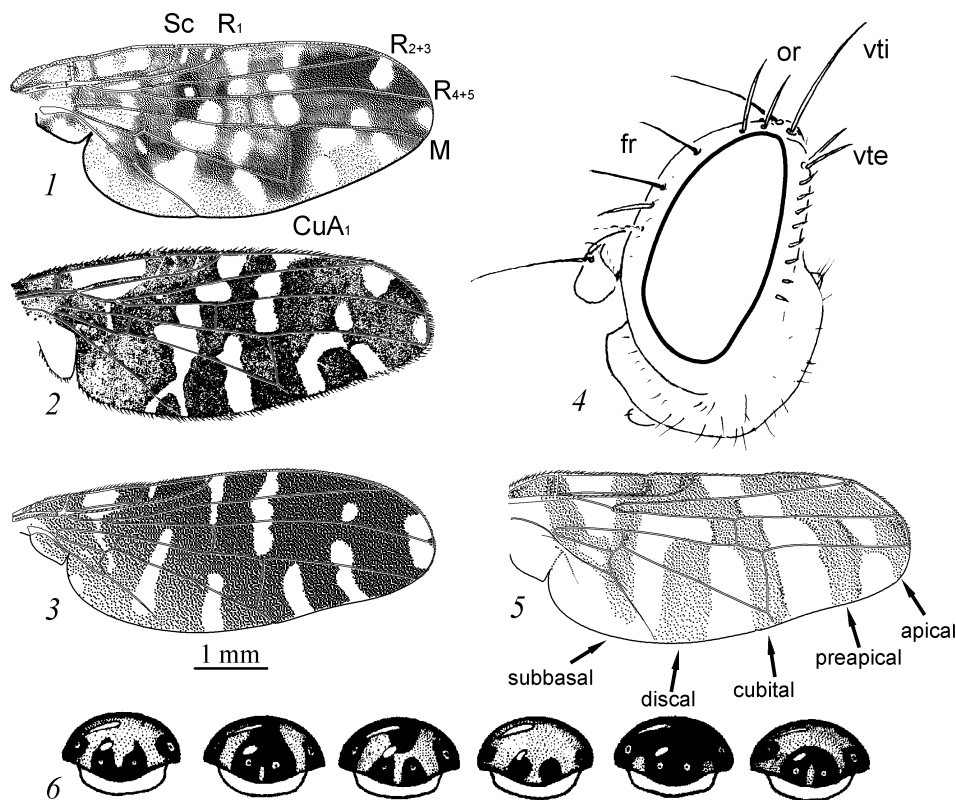


Fig. 2. *Oedaspis*: 1 — *Oe. pibari*, wing (redrawn from Kwon, 1985; abbreviations of veins are shown); 2 — *Oe. wolongata*, same (redrawn from Wang, 1993); 3 — *Oe. schachtli*, same; 4 — *Oe. ragdai*, head, lateral; 4 — same, wing (names of wing crossbands are given); 6 — *Oe. multifasciata*, scutellum, variability of pattern (redrawn from Korneyev, 1987 a).

Дѣн. 2. *Oedaspis*. 1 — *Oe. pibari*, ѓѓѓѓ (ї ї Ёаї ї ѓ; ї ї ѓаѓаї ѓ нї ѓѓаѓаї ѓѓ ѓѓѓѓ ѓ); 2 — *Oe. wolongata*, ѓї ѓѓ (ї ї Ђаї ѓ); 3 — *Oe. schachtli*, ѓї ѓѓ; 4 — *Oe. ragdai*, аї ѓї ѓа нѓаї ѓѓ; 4 — ѓї ѓѓ, ѓѓѓѓ (ї ї ѓаѓаї ѓ ї ѓѓаа-ї ѓѓ ї ѓѓаѓѓѓѓ); 6 — *Oe. multifasciata*, ѓѓѓѓ ѓ, ѓѓаї ѓѓ ѓѓаї нѓѓ ѓѓѓѓ ѓѓ ѓѓѓѓ (ї ї Ёї ѓї ѓааѓѓ).

gray except apical 1/3; middle of cell c with hyaline spot narrowed posteriad, connecting to elongate hyaline spot at base of r1 cell; narrow hyaline band extended from Rs bifurcation through basal 1/4 of br, apical 1/3 of bm cell (conspicuously widened along its anterior margin), into base of cua1 cell. Cell sc brownish-black, with single yellow spot at base. Other hyaline spots are: 2 vertical subrectangular spots in cell r1: one touching apex of R1, the other halfway between pterostigma and apex of cell; 3 spots in distal half of cell r2+3, proximal one touching distal spot in cell r1, distal one at postero-apical corner of cell, middle one at posterior cell margin at the middle of distance between basal and apical spots; spot in distal part of cell br posteriorly joined to elongate hyaline spots in dm and cua1, reaching posterior margin; spot at base of cell r4+5 above DM-Cu joined to hyaline spots in r2+3 and r1 forming narrow stripe reaching anterior margin, narrow apical spot in cell r4+5 covers almost all width of cell, middle spot at posterior margin of r4+5 cell at the middle of distance between basal and apical spots; cell dm with distal spot rounded, almost aligned with crossvein r-m, touching elongate spot in cell cua1; cell m with 2 elongate spots. Thickened setae on costal vein before subcostal break not longer than 1/3 of cell sc width. Setae on dorsal side of vein R₁ without gap at Sc apex level. Vein R4+5 bare. Pterostigmal ratio 3.

Abdomen. Elongate oval, dark brown to black, shiny, with sparse microtrichia and blackish setulae and setae. Tergite 6 as long as tergite 5. Sternites brownish yellow. Syntergosternite 7 (fig. 1, 3) shiny, dorsally blackish, with reddish vitta medially, ventrally brownish-yellow in the middle, black at anterior and posterior margin, black setulose; slightly shorter than 2 last tergites; latero-basal apodemes rather strong. Eversible membrane on ventral side with broad antero-ventral field of elongate tooth-like scales between taeniae (fig. 1, 4). Aculeus 0.77 mm long, moderately broad, not barbed, serrated apico-laterally, with sharply pointed apex (fig. 1, 5). 2 sparsely papillose spermathecae with tuberoso surface and apical appendix; dilated apical section of spermatheca 2.5–3 times longer than spermatheca (fig. 1, 6).

Male not known.

Egg (fig. 1, 7) with short pedicel; polygonal reticulation of the chorion becoming more heavily ridged and papillose toward pedicel.

Comparative notes. *Oe. schachtii* sp. n. fits in the group of species with non-convex unicolor brown scutellum, narrow parafacialium, unicolor black or brown orbital setae and reticulate-banded wing pattern with 2 hyaline spots in r1 cell. This group includes *Oe. fini* Freidberg from Kenya (h=1800 m) and 2 eastern Asian species, *Oe. pi-bari* (Kwon) from South Korea and *Oe. wolongata* (Wang) China (Szechwan, h=3400 m), differing by its wing pattern as shown in the key below.

SPECIES OF UNCLEAR PLACEMENT

Oedaspis quinquiefasciata Becker

Becker, 1908: 139; Bezzi, 1913: 147; Norrbom et al., 1999: 175 (*Oedaspis*); Hendel, 1927: 84; Foote, 1984: 104 (*Oedaspis (Dichoedaspis)*). — *quinquiefasciata*: Bezzi, 1910; Merz, 1992: 223 (error or emendation). — *heringi* Hendel, 1927: 85; Foote, 1984: 104 (*Oedaspis (Dichoedaspis)*).

Material examined. Type. Lectotype *Oe. quinquiefasciata*: { : "Teneriffe // III. 49613"; paralectotype } : "Teneriffe // III. 52044" (ZMHB). Non-type. Spain, Canary Islands: "Tenerife 0 m, El Medano", 7.03.1990, { , } (Merz) (SIK).

This species fits near other Palaearctic *Oedaspis* species, differing in having rather well-developed labellum of proboscis, wide and short, poorly delimited antero-medio-ventral area of scales on the eversion membrane (fig. 3, 1) and rather short, wide and

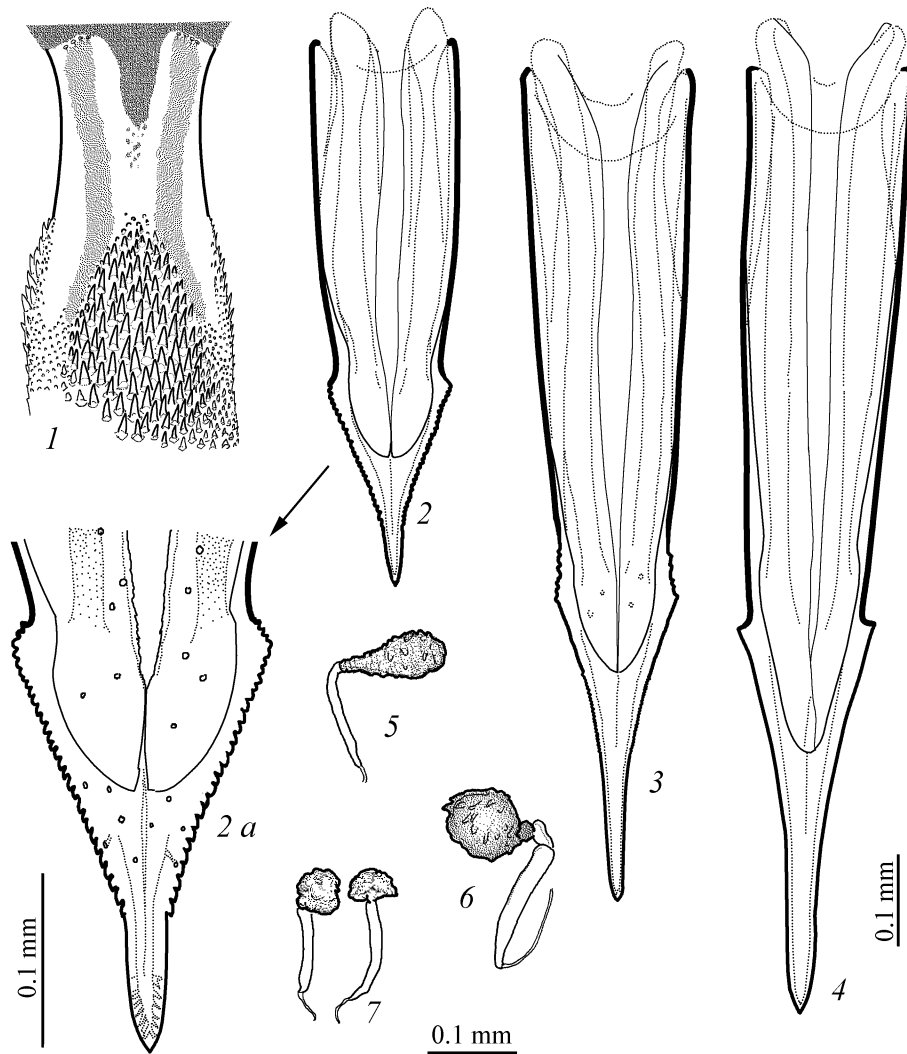


Fig. 3. *Oedaspis quinquiefasciata* (1, 2, 5), *Oe. dichotoma* (3, 6) and *Oe. sinica* (4, 7): 1 — eversible membrane, ventrally; 2, 3, 4 — aculeus, ventrally (2 a — same, enlarged); 5, 6, 7 — spermathecae.

Đeň. 3. *Oedaspis quinquiefasciata* (1, 2, 5), *Oe. dichotoma* (3, 6) è *Oe. sinica* (4, 7): 1 — àÚãî ðã=èàààî àý ì àî àðáí à, àáí òðàèuí î; 2, 3, 4 — èãçàèà ýéòàèèààà, àáí òðàèuí î (2 a — ôí æá, óààèè=áí î); 5, 6, 7 — ñí àðì àòàèè.

strongly serrate aculeus (fig. 3, 2). Such a combination of characters is more common for some Afrotropical members of Oedaspidina.

GROUP OF SPECIES RELATED TO *OEDASPIS* S. STR.

This group includes all other Palearctic species of *Oedaspis* (exclusive *Oe. quinquiefasciata* and the *pibari* group). It differs from all other members of the genus by at least one synapomorphy: the length of the apical, arrowhead-like portion exceeding its width more than twice. Also, the labellum is rudimentary and the wing pattern with 1 (–0) hyaline spot in r1 cell and oblique hyaline crossband between the cubital and preapical crossbands (these characters are probably synapomorphies shared also with certain non-Palearctic species which do not belong here). All the species, whose host-

plants are known, form galls on *Artemisia*. This group corresponds to the subgenera *Dichoedaspis*, *Melanoedaspis* and most *Oedaspis* s. str. sensu Hendel (1927).

Oedaspis dichotoma Loew

Loew, 1869: 12; Bezzi, 1911: 19; 1913: 148; 1920: 8; Hendel, 1927: 84; Richter, 1970: 147; Foote, 1984: 103; Norrbom et al., 1999: 175.

Material examined. Type. Syntypes: 2 { ? [abdomen lost]: "Sarepta", "coll. H. Loew", one with label "variet. pict. alarum", }; "coll. H. Loew" (ZMHB). Non-type. Kazakhstan: "Uralsk" [=Öral], 21.05.1935, } [dissected] (ZMUM); Kyrgyzzia: the Boom Ravine, 31.07.1998, { [right wing and male genitalia of an alcohol preserved specimen deposited in Michigan State University] (Korneyev); Toktogul Reservoir near Uzum-Akmat, 16.06.1995, { (S. Ovtshinnikov) (SIZK); Turkmenistan, Kara-Kala, Parkhay, 10.04.1992, { (A. Kotenko), Kara-Kala, Bokhandar, 22.04.1992, 4 { (Grachev) (SIZK).

This rather common in Middle Asia species can be easily recognized from yellow mesonotum with the black lyrate pattern and shiny black spots at bases of dc and ac. Aculeus (fig. 3, 3) moderately long, barbed, with finely serrated apico-lateral margins. Spermathecae as on figure 3, 6.

Oedaspis ragdai Hering

Hering, 1940: 5 (*Oedaspis*); 1961: 319 (*Dichoedaspis*); Richter, 1970: 147; Foote, 1984: 104; Norrbom et al., 1999: 176 (*Oedaspis*).

Material examined. Iran: "N. Iran, 3 km N Dashi Golestan forest", 960 m, "Loc. No 375", 18–19.06.1977, } (Exped. Nat. Mus. Praha) (NMP); Tajikistan: "Khorog, vic. of Botanical Garden, 2400 m, 29.07.1960, { (Zimina) (ZMUM).

This species readily differs from other Palaearctic species by the shiny black scutellum, and most head and body setae and setulae yellow to white. Head and wing as on figures 2, 4 and 2, 5. Aculeus (exposed in the female examined) barbed, with very long and pointed apical portion, similar to that of *Oe. chinensis* (see below).

Oedaspis fissa Loew

Loew, 1862: 46; Bezzi, 1911: 19; Norrbom et al., 1999: 175; Merz, Blasco-Zumeta, 1999: 149, 151 (*Oedaspis*); Hendel, 1927: 85; Foote, 1984: 104 (*Oedaspis (Melanoedaspis)*). — *latifasciata* Hering, 1937: 249; Norrbom et al., 1999: 176 (*Oedaspis*); Foote, 1984: 104 (*Oedaspis (Melanoedaspis)*), **syn. n.**

Material examined. Type. Holotype { *Oe. fissa*, Spain: "Andalus. Stauding." "coll. H. Loew" (ZMHB); Holotype } *Oe. latifasciata*: Algeria: "Algier; 62304; Kerman" "Oedaspis // latifasciata m. Type // det. M. Hering 1936" (ZMHB).

Biology and distribution of this species were recently reviewed by Merz and Blasco-Zumeta (1999). Comparing the holotypes of both *Oe. fissa* and *Oe. latifasciata*, I arrived at the conclusion that they are conspecific. *Artemisia herba-alba*, the host plant of this species and of *Oe. villeneuvi* is widespread from Spain through southern Mediterranean coast to Israel; however, *Oe. fissa* was not recorded from North Africa so far.

Oedaspis chinensis Bezzi

Bezzi, 1920: 12; Wang, 1986: 219; Norrbom et al., 1999: 175 (*Oedaspis*); Hendel, 1927: 83; Foote, 1984: 103 (*Oedaspis (Dichoedaspis)*). — *japonica*: Korneyev, 1987: 122 (misidentification).

Material examined. Russia, Far East, Primorskiy Kray, "Sudzukhin[skiy] z[apovednik]" [the Lazo Natural Reserve], 14.07.1946, } (Sharov) (ZMUM) (dissected).

The specimen on hand has 3 fr on the left and 4 fr on the right side of frons, and a presutural dc on the right side of mesonotum. Like in other species of *Oedaspis*, chaetotaxy is quite variable. Wing pattern and body coloration fit well Bezzi's original description. Barbed aculeus with long apical portion almost 3x longer than distance between subapical steps and smooth apico-lateral margins is typical for Palaearctic species with well-developed presutural dorsocentral seta (*Oe. multifasciata* Loew, *Oe. dorsocentralis*

Zia), and these species apparently form a monophyletic group. Wang (1996: fig. 241) has figured a non-barbed gradually tapered aculeus of *Oe. japonica*, which may prove that this species and *Oe. chinensis* differ not only in the presence of the presutural dc.

Key to species of *Oedaspis* occurring in Eurasia and Palaearctic Africa

Οαάεεόα äëý î î öääääéáí ëý äëáí à *Oedaspis* εç Ääääçèè è î äëääðéèè-ähñí é ð-ähñè Äððéèè

Oedaspis fini Freidberg from Kenya is included for comparison with closely related *Oe. schachtii* sp. n. *Oe. sofiana* Drensky not included.

1. Scutellum flattened, subshining, unicolor dark brown (fig. 1, 2); parafacialium narrower than half flagellomere 1 (fig. 1, 1); orbital setae always unicolor black or brown; wing pattern reticulate-banded with 2 hyaline spots in proximal part of r1 cell (fig. 2, 1–3). 2
- Scutellum convex, yellow with black spots or unicolor black, apically shining; parafacialium wider than half flagellomere 1 (fig. 2, 4); posterior orbital seta variously colored; wing pattern consisting of oblique crossbands; r1 cell with 1 (–0) hyaline spot close to R₁ vein apex, if with 2 spots, then thesecond spot at R₂₊₃ apex (fig. 2, 5). 5
2. Cell r2+3 posterior of R₂₊₃ apex with a large hyaline spot (fig. 2, 1–2). 3
- Cell r2+3 posterior of R₂₊₃ apex brown; subapical hyaline spot aligns to R₄₊₅ vein (fig. 2, 3). .. 4
3. 4 fr; wing pattern as on fig. *Oe. pibari* Kwon
- 3 fr; wing pattern as on fig. *Oe. wolongata* Wang
4. Ultimate section of medial vein comparatively short: M4:M2<1.25. Cell r2+3 with 2 hyaline spots: its medial portion just basal of R₂₊₃ apex brown. *Oe. fini* Freidberg
- Ultimate section of medial vein long: M4:M2>1.4. Medial portion of r2+3 cell with hyaline spot just basal of R₂₊₃ apex (fig. 2, 3). *Oe. schachtii* Korneyev, sp. n.
5. Both orbitals, lateral vertical seta (vte) and head setulae black; mesonotum and scutellum shining black. 6
- Posterior or, vte setae, and most body setulae white to yellow; mesonotum and scutellum at least partially microtrichose and with yellow areas. 7
6. Costal vein vanishing midway between R₄₊₅ and M apices. In male, subbasal and preapical crossbands reduced, not reaching posterior margin of wing. North Africa; Israel. In stem galls on *Artemisia monosperma*. *Oe. trotteriana* Bezzi
- Costal vein well developed to M apex. In both male and female, subbasal and preapical crossbands reaching posterior wing margin. Spain. In spindle-like stem galls on *Artemisia herba-alba*. *Oe. fissa* Loew
7. Vertical and most thoracal setae whitish-yellow. Scutellum shining black, with rather long white setulae on postero-ventral margin. Abdominal tergites black with posterior halves yellow. Wing as on fig. 2, 5. South-east of European Russia, Tajikistan, Iran, Afghanistan. *Oe. ragdai* Hering
- Medial vertical and most thoracal setae brown to black. Scutellum and abdominal tergites variously colored. 8
8. Scutellum completely black. Coxae, femora and middle portions of tibiae black. 9
- Scutellum partially yellow, if in aberrant specimens completely black, then legs mostly yellow, at most fore femur with dark strip dorsally. 11
9. Brown spot at middle of cubital cell extended along CuA₁ vein to BM-Cu crossvein and separated from cubital crossband by oblique hyaline band; costal and subcostal cells wholly dark brown (Séguy, 1930: Fig. 110). Morocco. *Oe. daphne* Séguy
- Middle of wing with common λ-like joined discal and cubital crossbands; costal and subcostal cells each with yellow or hyaline spot. 10
10. Apical and preapical crossbands completely separated from each other (Hendel, 1927: Taf. IV, Fig. 6). Algeria (?). *Oe. farinosa* Hendel
- Apical crossband joined to preapical one by bridge along R₄₊₅ vein. Wing pattern sexually dimorphic: in male, preapical and subbasal crossbands reduced, not reaching posterior margin of wing (Freidberg, Kugler, 1989: Pl. III, fig. 1–2). Algeria, Libya, Egypt, Israel. Associated with *Artemisia herba-alba*. *Oe. villeneuvei* Bezzi
11. Presutural dc absent; if occasionally developed on one side, then without a black spot surrounding its base. 12
- Presutural dc always well-developed, with shining black spots at base. 15
12. Thorax yellow, sparsely microtrichose, commonly with 4 black (rarely reddish) vittae forming lyrate pattern and shiny black spots at bases of setae like in *Chaetorellia* species. Labellum reduced. South-east of European Russia, Kazakhstan, Middle Asia. *Oe. dichotoma* Loew
- Thorax mostly black with yellow postpronotum and notopleuron, densely microtrichose. 13

13. Cell r₁ with hyaline spot at R₁ apex. Far East Asia. 14
 — Cell r₁ without hyaline spots; ultimate section of medial vein short: M₄: M₂<1.25. scutellum strongly convex, brown to black at apex or also at basal portion. In bean-like stem galls on *Schizogyne sericea*. Canary Is. *Oe. quinquefasciata* Becker
14. Ultimate section of medial vein longer: M₄:M₂>1.3. Pterostigma yellow with 2–3 brown spots; apex of R₄₊₅ in brown field. Scutellum moderately convex, yellow, with 4 brown spots at bases of setae. China, Far East Russia. *Oe. chinensis* Bezzi
 — Ultimate section of medial vein shorter: M₄:M₂<1.25. Pterostigma dark brown with 2 yellowish strikes; apex of R₄₊₅ in narrow apical band (Wang, 1996: fig. 231). Scutellum with large brown apical spot and 2 smaller spots at bases of b scut. China. *Oe. meissneri* Hering
15. Cell r₁ without a hyaline spot distally of R₁ apex. Male abdomen reddish-yellow with irregular brownish areas, white setulose; female abdomen brown with large black areas and black setulae. China, Far East Russia. *Oe. dorsocentralis* Zia
 — Cell r₁ with a hyaline spot after R₁ apex. Other characters various. 16
16. Pterostigma yellow with 2–3 contrasting brown spots. Scutellum moderately convex, yellow, with 4 rather small brown spots at bases of setae. 17
 — Pterostigma yellow with pale brown apex. Scutellum swollen, yellow with 2 smaller spots at bases of b scut and 2 large apical spots sometimes fused together or with large brown spot at anterior margin, or mostly black with 2–3 yellow spots (fig. 2, 6). 18
17. Mesonotum and abdomen mostly yellow. In stem galls on *Artemisia vulgaris* ssp. *indica*. Japan, Korea, China. *Oe. japonica* Shiraki
 — Mesonotum mostly brownish-black, yellowish on sides, densely gray microtrichose. In stem galls on *Artemisia capillaris*. Taiwan. *Oe. formosana* Shiraki
18. Discal band joined to cubital band forming λ-like crossband; if rarely separated, then mesonotum mostly brownish-black, yellowish on sides. In rhizome bud galls on *Artemisia marshalliana*. Spain, France, Germany, Italy, Croatia, Austria, Ukraine. *Oe. multifasciata* Loew
 — Discal band separated from cubital band by inverted U-like hyaline area, if rarely joined, then mesonotum and abdomen mostly yellow. Mongolia, China. *Oe. kaszabi* V. Richter.

SUBTRIBE DITHRYCINA

Ptiloedaspis tavaresiana Bezzi

Bezzi, 1920: 10; Hendel, 1927: 87; Foote, 1984: 119; Freidberg, Kaplan, 1992: 90; Norrbom et al., 1999: 197; Korneyev, 1999: 573.

Material examined. Spain, Andalusia, Lucainam de los Torres, ex stem gall on *Artemisia*, 05.1989, { (Merz) (MHNG); idem, 8.04–7.05.1989, } (Merz) (SIZK).

Freidberg and Kaplan (1992) mentioned this genus in connection with *Oedaspis* and discussed its possible synonymy with the latter genus. Indeed, *P. tavaresiana* has somewhat reduced proboscis and banded wing pattern (fig. 4, 7). The presence of the tail-like apicodorsal process and tubular acrophallus of the phallic glans (fig. 4, 4), non-barbed aculeus (fig. 4, 6) and only 1 pair of scutellar setae, however, clearly indicate that it belongs to the subtribe Dithrycina. Korneyev (1999) hypothesized its relationships with Nearctic genus *Peronyma* Loew; among Palaearctic genera, it has the wing pattern and the pattern of scales on the eversible membrane (fig. 4, 5) similar to *Placaciura alacris* (Loew) occurring from lower course of Volga to Kazakhstan and Middle Asia.

Dithryca guttularis (Meigen)

Meigen, 1826: 341 (*Trypeta*); Hendel, 1927: 210 (*Ditricha*); Foote, 1984: 85; Norrbom et al., 1999: 141 (*Dithryca*). — *alpestris*: Korneyev, 1989: (*Paracarphotricha*) (pro parte minor) (misidentification).

Material examined. Russia, Far East, Orotuk 320 km NNW of Magadan, steppe slopes, 9.07.1980, { (SIZK).

Record of "*P. alpestris* (Pokorny)" from Magadan (Korneyev, 1989) was based on a misidentified specimen with most setae broken off; it actually belongs to *D. guttularis*, by far known to occur mostly in Europe, easternmost to northern Kazakhstan and West Siberia.

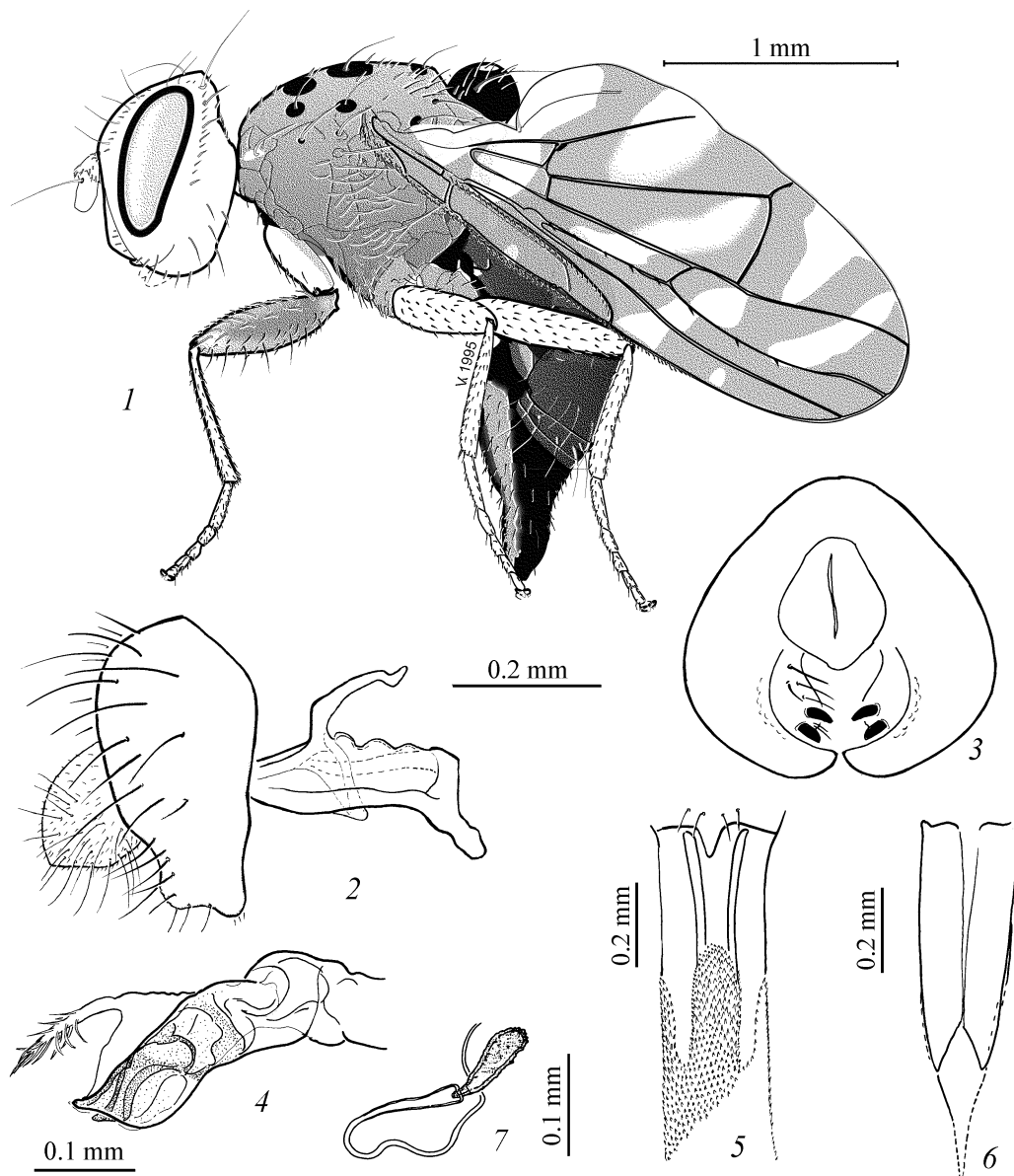


Fig. 4. *Ptiloedaspis tavaresiana*: 1 — habitus, lateral; 2 — male genitalia, right lateral view; 3 — same, caudally; 4 — glans of phallus, lateral; 5 — eversible membrane, ventral; 6 — aculeus, ventral; 7 — spermatheca.

Ðèñ. 4. *Ptiloedaspis tavaresiana*: 1 — ì áùèé àèà, náí èó; 2 — ááí èòàèèè ñàì òà, ñí ðààà; 3 — òí æà, ñçààè; 4 — æèáí ñ òàèéòà, náí èó; 5 — áùáí ðà-èàààì àý ì àì áðáí à, ááí òðàèúí ì; 6 — èàçàèà ýéòàèéààà, ááí-òðàèúí ì; 7 — ñí áðì àðàèè.

***Dithryca guttulosa* (Loew)**

Loew, 1869: 15 (*Carphotricha*); Hendel, 1927: 210 (*Ditricha*); Foote, 1984: 85; Norrbom et al., 1999: 141 (*Dithryca*). — *andrieuxi* Tavares, 1901: 78 Houard, 1909: 977 (*Carphotricha*).

Material examined. Holotype }, "Spanien // v. Seidl. | coll. // H. Loew, guttu // losa // Lw." (wing lacking). Non-type specimens, "Spanien // 53552", { , } (ZMHB).

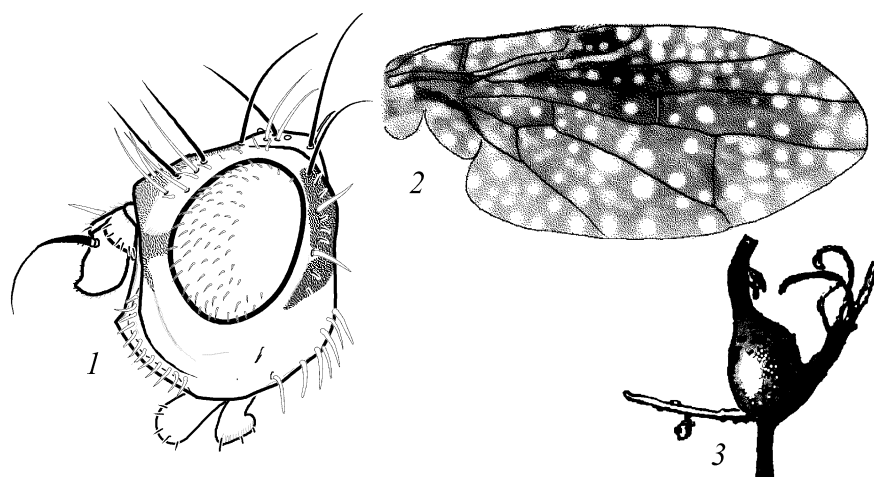


Fig. 5. *Dithryca guttulosa*: 1 — head, lateral; 2 — wing; 3 — gall (redrawn from Houard, 1909).

Ђñ. 5. *Dithryca guttulosa*: 1 — ãĩ ěĩ ãã ñãĩ ěó; 2 — ěđŮěĩ; 3 — ããěě (ĩĩ Óãđó).

This species fits near *D. guttularis* (Meigen) differing mainly by chaetotaxy of frons (fig. 5, 1) as indicated in the key below. According to Tavares (1901), larvae in stem galls on *Santolina rosmarinifolia* (fig. 5, 3).

Key to species of *Dithryca*

Óããěěã ãěĩ ĩĩđãããěãĩ ěĩ ãěãĩ ã *Dithryca*

1. Frons with 2 black and 1, rarely 2, white fr; frontal vitta at most with short white setulae. Northern and temperate Palaearctics. In rhizome galls on *Achillea*. *D. guttularis* (Meigen)
- Frons with 2 black and 3–4 white fr; frontal vitta with 1–2 pairs of white interfrontal setae. Iberian Peninsula. In stem galls on *Santolina*. *D. guttulosa* (Loew)

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