

Dryxella mathisi — a new genus and species of shore flies
(Diptera: Ephydriidae) from India

Dryxella mathisi — новый род и новый вид мух-береговушек
(Diptera: Ephydriidae) из Индии

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КЛЮЧЕВЫЕ СЛОВА: Diptera, Ephydriidae, новый род, новый вид, Индия

ABSTRACT. A new genus – *Dryxella* gen.n. is described from India. The genus is close to the genus *Dryxo* Robineau-Desvoidy, 1830, differing from it by maculate wings, tuberculate scutellum, katapisternum lacking a row of slender setae near dorsal margin, reduced setae of frons and arista bearing 9 rays. The new species – *Dryxella mathisi* sp.n. is described. The species is characterized by the pattern of coloration on abdominal segments and bilobate surstyli. Holotype and paratypes of the new species are deposited in Zoological Museum, Moscow State University (ZMUM).

РЕЗЮМЕ. Описывается новый род *Dryxella* gen.n. из Индии. Род близок *Dryxo* Robineau-Desvoidy, 1830, от которого отличается пятнистыми крыльями, наличием выростов на щитке, отсутствием ряда тонких волосков в верхней части катэпистерны, редуцированными лобными щетинками и 9 лучами аристы. Описывается новый вид *Dryxella mathisi* sp.n., основным отличительным признаком которого являются тип окраски брюшка и двулопастные сурстилии. Голотип и паратипы нового вида хранятся в коллекции Зоологического музея МГУ (Москва).

Introduction

The tribe Dryxini proposed by Zatwarnicki [1992] comprised 10 genera distributed in both the Old and New Worlds, with Afrotropical Region being especially rich in genera and species [Mathis, Zatwarnicki, 2002]. Attention of many dipterologists was attracted to this group of Ephydriidae because in this tribe we discover the largest and remarkable specimens among Ephydriidae with body length to 12 mm. Cogan completed first significant revision of this group, considering it inside tribe Notiphilini and described more than

10 species mainly from the genus *Paralimna* Loew, 1862 [Cogan, 1968]. Up to now more than 107 species have been included in this tribe with the vast majority, more than 80 species, being in the genus *Paralimna*.

Imagoes of *Dryxo* Robineau-Desvoidy, 1830 and related genera are often found near ponds and rivers along shore on sandy soil or on rocks. However little is known about the biology of these flies. Our attempt to rare larvae of *Dryxo nudicorpus* Miyagi, 1977 failed because we couldn't find proper substrate for larvae under laboratory conditions.

The investigation of the material collected in Gujarat, India allowed me to discover one more previously unknown fly of the tribe Dryxini, the description of which is given below. This fly is remarkable in its large size, maculate wings and original morphology of scutellum. The fly is so unusual, that I decided to dedicate this work to my colleague Wayne N. Mathis, who made really great contribution to the knowledge of the shore flies, revised and described many genera and species from this family and whose investigations made it possible to determine surely the majority of Ephydriidae species and discover among them new taxa.

Descriptions of new taxa

Dryxella, gen.n.

Type-species: *Dryxella mathisi*, sp.n., by present designation.

DIAGNOSIS. The new genus is distinguished from other genera of Dryxini, by the following combination of characters: notopleuron bearing 1 seta, wings maculate, R stem bearing black minute spinules, scutellum with projections, all setae of frons reduced: ocellar setae absent, reclinate fr-or seta absent, both vte and vti setae reduced. Arista bearing 9 rays. Presutural supralar seta absent, anepisternum microtomentose and with-

out long setae, katepistnum with 1 black distinct long but not thick seta and without row of hair-like setae near dorsal margin. Vein R_1 bare, R stem with several black spinulae; crossvein dm-cu sinuous, long, generally parallel with adjacent margin of the wing; mid- and hind tibia moderately elongate, although not subequal to the length of abdomen.

DESCRIPTION. Large shore flies, body length 7–9 mm.

Head. Frons projected forward as a rectangular flat plate, which is densely microtomentose; ocelli arranged in equilateral triangle; both inner and outer vertical setae reduced, reclinate fronto-orbital seta absent, 2 proclinate setae strongly reduced. Ocellar and paravertic setae absent. Antennae with apical flagellomere rounded, arista with 9 rays. Face mostly bare, with 2+7 facial hairs, gradually becoming thinner and shorter downwardly. Gena high.

Thorax. Anterior dorsocentral setae lacking, only posteriormost pair present; acrostichal setae lacking; presutural supraalar setae lacking; postpronotal setae lacking; notopleural seta 1; anepisternum without long setae or hairs but completely microtomentose; katepisternum with 1 seta and without hair-like row of hairs dorsad of it. Scutellum (Fig. 3) with bare dark grey ventral surface, microtomentose dorsally, elongate, longer than wide, posterior margin of scutellum with 2 tubercles bearing setae, besides two light lateral projections devoid of seta developed, second pair of shorter lateral scutellar setae developed and attached anteriorly to these projections.

Wings darkened with dark brownish band and darkenings along veins (Figs 4, 5). Vein R stem basad of humeral crossvein with several short black spinulae; crossvein dm-cu long, sinuous, generally parallel to adjacent margin of the wing. Forefemur of male and female lacking row of setulae on anteroventral surface; foretibia of male lacking setae at apex; midtibia of male lacking 3 dorsal setae; mid and hindtibia moderately elongate although not subequal to length of abdomen; tarsomeres bearing long setae anteroapically, fore tarsomeres of male widened and flattened.

Abdomen. Coloration with distinct pattern. Male terminalia: surstyli bifurcate.

ETHYMOLOGY. The generic name *Dryxella* was given to stress that the flies resemble representatives of the genus *Dryxo*.

DISTRIBUTION. India: Gujarat.

KEY TO GENERA OF DRYXINI

1. Notopleuron bearing 1 large seta; presutural supraalar seta lacking; mid- and hindfemora moderately long to very long, subequal to abdomen length 2
- Notopleuron bearing 2 large seta; presutural supraalar seta usually present (lacking in *Papuama* and in one species of *Oedenops*); mid- and hindfemora normally developed, much shorter than abdomen (genera *Oedenops* Becker, 1903; *Papuama* Mathis et Zatwarnicki, 2002; *Oedenipiforma* Cogan, 1968; *Paralimna* Loew, 1862 and *Afrolimna* Cogan, 1968, not discussed in the present work).

2. Ocellar seta present, although short, inserted slightly in front of anterior ocellus; reclinate fronto-orbital seta present; anepistnum bearing 1 well developed seta along posterior margin; R stem vein lacking setulae; crossvein m-cu normally developed, nearly straight (southern Afrotropical) *Corythophora* Loew, 1862
- Ocellar seta lacking, reclinate fronto-orbital seta lacking; anepistnum bearing 2 or 3 thin hair-like seta along posterior margin or without such setae; R stem vein basad of humeral crossvein bearing cuticular structures; crossvein m-cu moderately long to long, sinuous 3
3. Wings maculate, scutellum with apical tubercles bearing setae and lateral projections lacking setae, both *vte* and *vti* setae reduced *Dryxella*, gen.n.
- Wings hyaline, scutellum without tubercles and projections, both *vte* and *vti* setae or at least *vte* seta developed ... 4
4. Arista bearing 7–9 rays; katepistnum lacking a row of slender setae near dorsal margin and katepisternal seta reduced; crossvein dm-cu shallowly sinuous, generally forming angle with adjacent margin of wing; mid- and hindfemora normally developed, shorter than length of abdomen (India, Iran, Oman) *Omyxa* Mathis et Zatwarnicki, 2002
- Arista bearing 12 or more dorsal rays; katepisternum bearing a row of slender setae near dorsal margin and katepisternal seta usually well developed (secondary reduced or absent in some species); crossvein dm-cu sinuous, long, generally running parallel with adjacent margin of wing; mid- and hindfemora elongate, subequal to length of abdomen (Afrotropical, Australian, Oriental) *Dryxo* Robineau-Desvoidy, 1830

Dryxella mathisi sp.n.

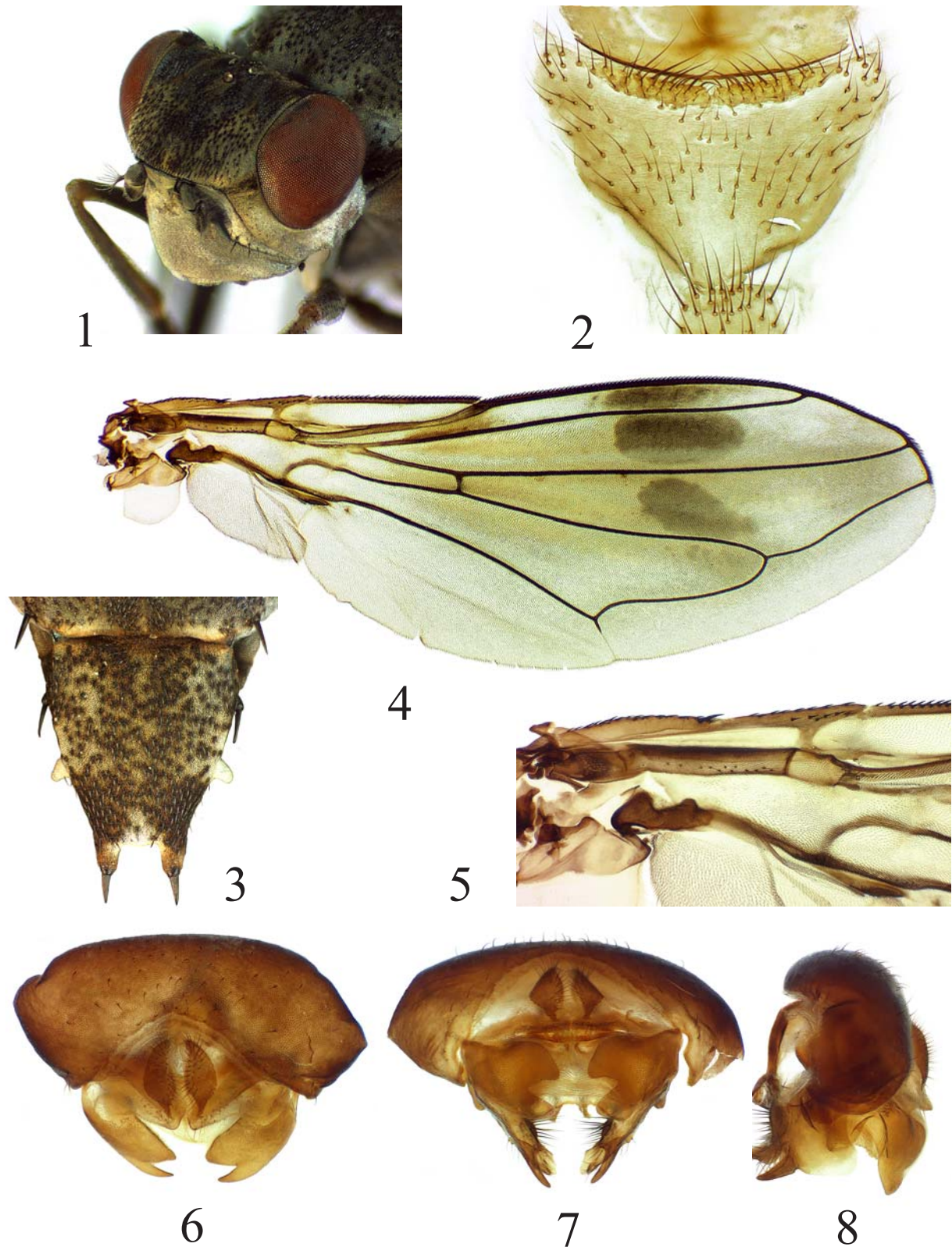
Figs 1–8.

MATERIAL. Holotype ♂, INDIA, Gujarat, Naliya env., Wad-sar, r. Khari, 23.345N, 68.774E. 4.X.2012. K.Tomkovich (in ZMUM). Paratypes: 2 ♀♀, INDIA, Gujarat, Dwarka, 22.232°N, 68.984°E, saltish pond. 16–17.X.2012. K.Tomkovich; 1 ♀, INDIA, Gujarat, Junagadh, 21.517°N, 70.455°E, pond. 19–21.X.2012. K.Tomkovich (in ZMUM).

DESCRIPTION. Large species, length of body of male 9 mm, length of wing 8 mm, female 7–9 mm, wing 7–8 mm.

Male. Head. Generally microtomentose. Frons (Fig. 1) wider than long, rectangular, width-to-length ratio 1.2; anterior half mostly tan, posterior half mostly dark gray, subshining, all setae reduced, including both inner and outer vertical setae, which are only slightly projecting above microtomentum; 2 proclinate fronto-orbital setae like very short thin hairs are distinguishable in some specimens. Antennae black, palpus black, arista black, basally thickened. Face and parafacial tan, genae, antennal grooves and clypeus silvery. Two upper facial setae relatively thick, the rest are represented by thinner hairs, gradually shortening downwardly. Eyes vertical, higher than wide, gena-to-eye ratio 0.55.

Thorax. Scutum gray, maculate, more tan anteriorly (with indistinct anterior tan stripes), bases of setae dark gray. Scutellum tan with light apex and light lateral projections, with 2 apical light tubercles (Fig. 3). Anepisternum microtomentose, tan dorsally gradually becoming light gray downwardly, rest of lateral sclerites light gray. Legs black except yellowish apices of femo-



Figs1–8. *Dryxella mathisi* sp.n.: 1 — head, antero-dorsal view; 2 — male abdominal sternite 5, dorsal view; 3 — scutellum, dorsal view; 4 — wing of female, dorsal view; 5 — basal section of wing of female, dorsal view; 6 — epandrium, cerci and surstyli, dorsal view; 7 — epandrium, cerci and surstyli, posterior view; 8 — epandrium, cerci and surstyli, lateral view.

Рис. 1–8. *Dryxella mathisi* sp.n.: 1 — голова, антеродорсально; 2 — стернит 5 брюшка самца, вид сверху; 3 — щиток, вид сверху; 4 — крыло самки, вид сверху; 5 — основание крыла самки, вид сверху; 6 — эпандрий, церки и сурстили, вид сверху; 7 — эпандрий, церки и сурстили, вид сзади; 8 — эпандрий, церки и сурстили, вид сбоку.

ra and bases of tibiae; tarsi black, fore tarsomeres significantly flattened and widened in males. Wings (Fig. 4) not long, brownish, widely darkened along veins, with darkened apex and dark transverse band formed by 3–4 fused spots at R-M sections. Haltere yellowish with darker stem. Setae: postsutural supraalar short, equal to supraalar, 1 katepisternal seta black and not thick. Median scutellar setae short, apical scutellar setae short.

Abdomen. Gray-tan, subshining, spotted. Tergite 1 gray, tergite 2 with dark central band and 2 lateral spots anteriorly, tergite 3 with central spot posteriorly and 2 lateral spots anteriorly, tergite 4 with narrow central band and 2 lateral spots anteriorly, tergite 5 with 3-lobed anterior spot. Male terminalia: epandrium and cerci generally robust and moderately sclerotized, dark brown, surstyli yellowish and less sclerotized, epandrium U-shaped in posterior view, cercus narrowly ovoid, surstyli bilobed (Figs 6–8). Male sternite 5 large, triangulate (Fig. 2); at least anterior part of male sternite 4 small and narrow.

Female. Body length 7–9 mm, length of wing 7–8 mm. Differing from male by general coloration of head: face and parafacial in some specimens more grey, than tan, not contrasting to antennal grooves, genae, antennal grooves and clypeus silvery. Abdomen denser pollinose, not subshining, abdominal segment 1 gray with silvery lateral spots; abdominal segments 2–4 with dark central spot, basally wide and narrowing anteriorly like

triangle, all of them reaching anterior margin of abdominal segments, and 2 dark lateral transverse ovoid spots anteriorly; abdominal segment 5 with the same general pattern but central spot rectangular; abdominal segment 6 with 3 dark spots anteriorly, abdominal segment 7 light.

DISTRIBUTION. India: Gujarat.

ETHYMOLOGY. It is a pleasure to name this new species after Dr. Wayne N. Mathis to recognize his great contribution to the knowledge of Ephydriidae.

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