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Lispe (Diptera: Muscidae) of Dominican Republic

Lispe (Diptera: Muscidae) Доминиканской Республики

Nikita E. Vikhrev
Никита Е. Вихрев

Zoological Museum of Moscow University, Bolshaya Nikitskaya 2, Moscow 125009, Russia. E-mail: nikita6510@ya.ru
Зоологический музей МГУ им. М.В. Ломоносова, Большая Никитская ул., 2, Москва 125009, Россия.

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КЛЮЧЕВЫЕ СЛОВА: *Lispe,* Muscidae, Diptera, Доминиканская Республика.

ABSTRACT. Three species of *Lispe* were recorded for Dominican Republic, namely *L. nasoni* Stein, 1898; *L. probohemica* Speiser, 1914 and *L. sordida* Aldrich, 1913. Two new synonymies are proposed: *L. probohemica* = *L. argentea* Snyder, 1954 **syn.n.** and *L. sordida* = *L. bahama* Snyder, 1958 **syn.n.** Female of *L. probohemica* is redescribed. Identification key for Dominican *Lispe* is proposed.

РЕЗЮМЕ. Три вида *Lispe* приведены для Доминиканской Республики, а именно: *L. nasoni* Stein, 1898; *L. probohemica* Speiser, 1914 and *L. sordida* Aldrich, 1913. Установлены 2 новых синонима: *L. probohemica* = *L. argentea* Snyder, 1954 **syn.n.** и *L. sordida* = *L. bahama* Snyder, 1958 **syn.n.** Дано переописание самки *L. probohemica* Snyder, 1954. Дан определительный ключ для доминиканских видов *Lispe*.

Introduction

During our two week long collecting trip in Dominican Republic we visited rather dry eastern and southern parts of the island; the wet north-western shore and cool central highlands. We paid special attention to hunting for *Lispe* on either fresh or salt water bodies, so it is well probably that the Dominican fauna of *Lispe* is confined to the three species listed in present paper, namely *L. nasoni* Stein, 1898; *L. probohemica* Speiser, 1914 and *L. sordida* Aldrich, 1913. However 2 of 3 discovered species are very curious. The series of *L. sordida* confirms the synonymy of *L. bahama* Snyder, 1958 previously supposed in [Vikhrev, 2015]. All males of *L. probohemica* collected in Dominicana have strong vibrissae and, according to Snyder [1954], should be idenfied as *L. argentea* Snyder, 1954, but in my opinion the length of vibrissae is variable and *L. argentea* is a synonym of *L. probohemica*. Three of the collected females certainly belong to *L. probohemica*, that permits me to redescribe female of this species. The redescription is necessary because *L. argentea* was described from the series of males and only the fact that «the middle tarsi are of simple structure» was known (Aldrich [1913: 137], description of *L. spinipes*) about the teneral female paratype of *L. probohemica*.

Material and methods

The specimens listed are in the Zoological Museum of Moscow University (not indicated in text) or Museum für Naturkunde, Humboldt-Universität zu Berlin, Germany (ZMHU). Coordinates are given in the decimal degrees format. The illustrations are original unless otherwise indicated.

The following generally accepted abbreviations for morphological structures are used: *f1*, *t1*, *f2*, *t2*, *f3*, *t3* = fore-, mid-, hind- femur or tibia respectively; *ac* — acrostichal setae; *dc* — dorsocentral setae; *a*, *p*, *d*, *v* = anterior, posterior, dorsal, ventral seta(e).

The abbreviation for the tarsi as *tar* followed by a pair of digits separated by a hyphen was proposed by Vikhrev [2011]: the first digit (1 to 3) gives the leg number and the second digit (1 to 5) the number of the tarsal segment. For example, *tar1-4* = 4th segment of fore tarsus; *tar3-1* = hind basitarsus.

Lispe nasoni Stein, 1898
Fig. 8.

Lispe nasoni Stein, 1898. Type locality: USA: South Dakota, Illinois, Georgia.

MATERIAL. **Syntypes** 2♂♂, 2♀♀: (**USA**), ***Illinois***, Algonquin (42.165°N 88.295°W), W.A. Nason, 15.06.1895, 2♂♂ and 20.06.1895, 2♀♀ (ZMHU).

Canada, ***Manitoba***, Morris (49.35N 97.36W), 5.08.1953, A. R. Brooks, 1♀.

Dominicana: Macao env. 18.76°N 68.53°W, 21–22.02.2016, N. Vikhrev, 2♂♂, 6♀♀; Constanza env, 18.916°N 70.723°W, 1250 m asl, 27–28.02.2016, N. Vikhrev, 8♂♂, 5♀♀; Barahona env, 18.347°N 71.157°W, 24–25.02.2016, N. Vikhrev, 1♀; Rio San Juan, 19.63°N 70.078°W, 2.03.2016, N. Vikhrev, 3♂♂, 2♀♀.

Mexico: ***Chiapas*** state, Chiapa de Corzo (16.70°N 93.01°W), 9.11.2010, A. Grzywacz, 2♂♂; ***Sonora*** state, Ciudad Obregon (27.5°N 109.9°W), 16.05.1961, Howden & Martin, 1♂.

USA: ***Texas***, Davis Mts State Park (30.6°N 103.9°W), 19–20.07.1973, E. Lindquist, 1♂; ***Wisconsin***, Dane Country (43.1°N 89.4°W), 31.07–2.08.1935, F. Snyder, 2♂♂, 1♀ (ZMHU).

DISTRIBUTION. Widespread and common species: Canada, USA, Mexico, Bahama and Dominicana.

Lispe probohemica Speiser, 1914
Figs 1–6.

Lispe probohemica Speiser, 1914. Type locality: USA: California and Idaho.

Lispe spinipes Aldrich, 1913 (nec Bigot, 1885). Type locality: USA: California and Idaho.

Lispe argentea Snyder, 1954. Type locality: (USA), California, Newman, San Joaquin River, **syn.n.** (37.33°N 120.97°W). Type series consists of ♂ holotype and 8♂♂ paratypes [Snyder, 1954].

MATERIAL. **Dominicana**: Macao env. 18.781°N 68.549°W, 21–22.02.2016, N. Vikhrev, 2♂♂, 3♀♀; Barahona env, 18.289°N 71.297°W, 24–25.02.2016, N. Vikhrev 4♂♂.

USA, ***Georgia***, Decatur Co., Spring Creek (30.855°N 84.584°W), 16–29.07.1912, 1♂ (ZMHU).

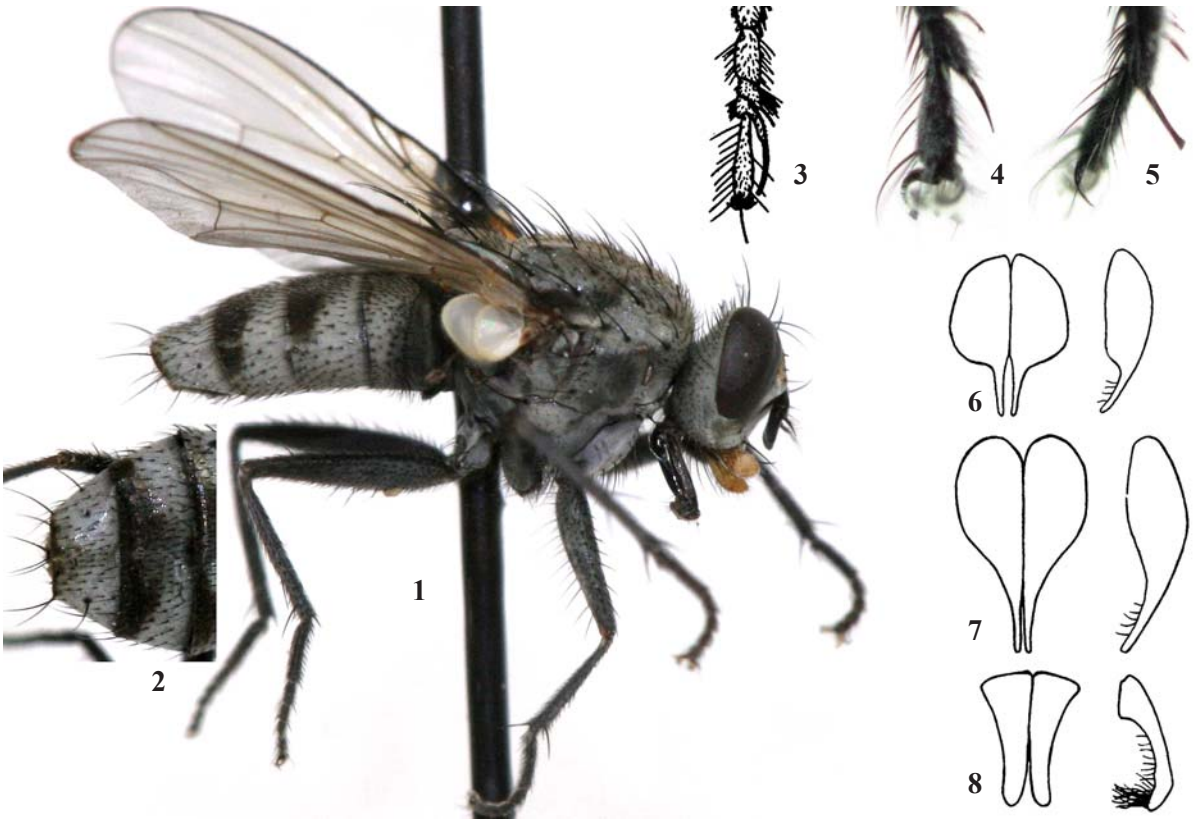
DISTRIBUTION. USA: Arizona, California, Georgia, Idaho, Mississipi, Texas, Washington and Dominicana.

SYNONYMY. Snyder [1954: 10, Fig. 7] gave drawing of the spine-like projection on *tar2-4* of *L. probohemica* as curved and rather pointed (Fig. 3) i.e. different from the straight and blunt shape of this projection in other species of *Lispe* having this character. Figs 4 and 5 show *tar2-4* of the same male specimen from Dominicana, so depending on point of view the projection looks either curved and pointed or straight and blunt. Snyder [1954: 15, Figs 59, 60] proposed differences in the fine structure of the male genitalia of *L. probohemica* and *L. argentea*, I believe that these differences are insufficient and unconvincing. Thus, the only difference is that males of *L. probohemica* have the vibrissae indistinct or short, whereas males of *L. argentea* have vibrissae 1.25–1.75x as long as the greatest width of the palpi. Using Snyder's scale, my Dominican males have vibrissae even longer, about 2.25x as long as the greatest width of the palpi. Either the series from Dominicana should be described as a new species too or the length of the male vibrissae is variable and (in my opinion) *L. probohemica* Speiser, 1914 = *L. argentea* Snyder, 1954, **syn.n.**

REDESCRIPTION OF FEMALE (Fig. 1). *Head*. Frons at level of anterior ocellus 0.37 as wide as head width. Frons black; frontal triangle dirty-yellow; fronto-orbital plates dirty-yellow; face and parafacials white. Fronto-orbital plates with 5(4) inclinate setae; with 2 reclinate setae in upper part and with outer row of about 12 hairs. Parafacials with 3–6 of hairs in lower part. Antenna black, arista with hairs in basal half. Palpi 1.5x as wide as width of antenna, yellow. Vibrissae strong.

Thorax densely grey dusted, vittae indistinct. prst *ac* in 4 rows; *dc* 2+3, all strong. Katepisternals 1+2; anepimeron with 7–10 setulae; meron with 2 setulae above hind coxa. Anterior spiracle not enlarged. Wings hyaline, slightly brownish, calypters white, halter yellow.

Legs black with grey dusting. *t1* without submedian seta. *t2* with *pd* and *ad* setae below middle. Hind coxa without seta on inner posterior surface. *f3* with a 4 *av* and 4–5 longer *pv* in



Figs 1–8. *Lispe* spp.: *Lispe probohemica* 1–5: 1 — ♀ general view, lateral; 2 — ♀ tip of abdomen, dorsal; 3 — ♂ mid tarsus by Snyder; 4 — ♂, projection on *tar2–4* looks curved and pointed; 5 — the same specimen, but under different angle of view projection on *tar2-4* looks straight and blunt. Cerci of Dominican *Lispe* by Snyder 6–8: 6 — *L. probohemica*; 7 — *L. sordida*; 8 — *L. nasoni*; 3 — by Snyder [1954: 10, Fig. 7]; 6–8 — by Snyder [1954: 11, Figs 28, 34, 35].

Рис 1–8. *Lispe* spp.: *Lispe probohemica* 1–5: 1 — ♀ общий вид; 2 — ♀ задняя часть брюшка, дорсально; 3 — ♂ средняя лапка по Шнайдеру; 4 — ♂, шип на *tar2-4* выглядит изогнутым и заострённым; 5 — тот же экземпляр, но будучи снят под другим углом, шип выглядит прямым и затупленным. Церки доминиканских видов *Lispe* по Шнайдеру 6–8: 6 — *L. probohemica*; 7 — *L. sordida*; 8 — *L. nasoni*; 3 — по Snyder [1954: 10, Fig. 7]; 6–8 — по Snyder [1954: 11, Figs 28, 34, 35].

basal half. *t3* with 1 submedian *ad*. Pulvilli rather long, almost as long as claws.

Abdomen densely grey dusted. Tergites 3 and 4 on posterior half with a pair of large, almost fused triangular black spots; tergites 1+2 and 5 evenly grey (Figs 1–2).

Diagnosis of female. Identification of females of the *L. palposa* group are difficult. The important diagnostic characters of female of *L. probohemica* seem to be: unusual abdominal pattern; yellow and narrow palpi; rather long pulvilly and chaetotaxy of *f3*.

Lispe sordida Aldrich, 1913
Fig. 7.

Lispe sordida Aldrich, 1913. Type locality: USA, Utah, Brigham (41.2°N 112.2°W).

Lispe bahama Snyder, 1958. Type locality: Bahamas, S Caicos Isl., (21.5°N 71.5°W), **syn.n.**

MATERIAL. **Syntypes** *L. sordida***,** 3♂♂, 4♀♀: **USA**, ***Utah***, Brigham (41.2°N 112.2°W), (J.M. Aldrich), 4.07.1911 (2♂♂, 3♀♀, ZMHU and 1♂, 1♀, ZMUM).

Dominicana: Macao env. 18.781°N 68.549°W, 21–22.02.2016, N. Vikhrev, 2♀♀; Barahona env, 18.347°N 71.157°W, 24–25.02.2016, N. Vikhrev, 8♂♂, 3♀♀.

USA, ***Utah***, Roy (41.2°N 112.2°W), 25.08.1957, G.F. Knowlton, 1♂.

DISTRIBUTION. Widespread in USA, also known from Bahama and Dominicana.

SYNONYMY. *L. sordida* has several diagnostic characters which make identification of this species easy in both sexes: *t3* with 1 short *av* in addition to *ad* seta (unique in the *Lispe palposa* group); *t1* with 1 *pv*; *t2* with 2 *pd* in addition to 1 *ad*; male with mid tarsus modified, *tar2-2* shortened, shorter than *tar2-3*. In the original description Snyder [1958] did not compare *L. bahama* with *L. sordida* though such a comparison inevitably comes to mind [Vikhrev, 2015]. So, *Lispe sordida* Aldrich, 1913 = *Lispe bahama* Snyder, 1958, **syn.n.** There are minute differences between Dominican *L. sordida* and *L. sordida* from American mainland, the latter has *av* setae on *f3* longer and parafacials more hairy, so it is possible to regard West Indian population as *L. sordida bahama* Snyder, 1958, but I prefer to avoid this.

Identification key for *Lispe* of Dominican Republic (♂♂, ♀♀)

1. Tibiae yellow. *dc* 2+4, 2 anterior pairs of *post dc* weak. *t1* in lower 1/3 with 1 *d* and 1 *pv*. *t3* with 1 strong and 4–5 shorter *ad*. ♂ ñercal plate as in Fig. 8 ..... *nasoni* Stein
— Legs entirely dark. *dc* 2+3, all strong. *t1* without *d* with or without *pv*. *t3* with only 1 strong *ad* 2
2. *t1* with 1 *pv*. *t2* with 1 *ad* and 2 *pd*. *t3* with 1 *ad* and 1 short *av*. Palpi 2x as wide as width of antenna, dirty-yellowish-brown. ♂: *tar2-2* shortened, shorter than *tar2-3*; *tar2-4* without spine-like projection. Cercal plate long as in Fig. 7 ..... *sordida* Aldrich
— *t1* without submedian seta. *t2* with 1 *ad* and 1 *pd*. *t3* with 1 *ad* and without *av*. Palpi 1.5x as wide as width of antenna, yellow.♂: *tar2-2* unmodified, longer than *tar2-3*; *tar2-4* at apex with posterior spine-like projection (Figs 3–5). Cercal plate short as in Fig. 6 ..... *probohemica* Speiser

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