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TAXONOMIC NOTES ON *LISPE* (DIPTERA, MUSCIDAE), PART 13

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ЗАМЕТКИ ПО ТАКСОНОМИИ РОДА *LISPE* (DIPTERA, MUSCIDAE), РАЗДЕЛ 13

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Summary. The world fauna of the *Lispe pygmaea* ecological group is revised. Two new species *L. setigena* Vikhrev & Pont, **sp. nov.** and *L. pygmoza* Vikhrev & Pont, **sp. nov.** are described. Four new synonymies are proposed: *L. pygmaea* Fallen, 1825 = *L. argenteifacies* Grimshaw, 1901, **syn. nov.** = *L. ponti* Hardy, 1981, **syn. nov.** = *L. aureola* Shinonaga, 2014, **syn. nov.** = *L. japonica* Shinonaga, 2014, **syn. nov.** Original identification key for the considered species is given.

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Ключевые слова: *Lispe pygmaea, мировая фауна, новые виды*

Резюме. Ревизована мировая фауна экологической группы *Lispe pygmaea*. Описано 2 новых вида: *L. setigena* Vikhrev & Pont, **sp. nov.** and *L. pygmoza* Vikhrev & Pont, **sp. nov.** Предложено 4 новых синонима: *L. pygmaea* Fallen, 1825 = *L. argenteifacies* Grimshaw, 1901, **syn. nov.** = *L. ponti* Hardy, 1981, **syn. nov.** = *L. aureola* Shinonaga, 2014, **syn. nov.** = *L. japonica* Shinonaga, 2014, **syn. nov.** Дан оригинальный определительный ключ для рассмотренных видов.

INTRODUCTION

In my previous papers on *Lispe* [Vikhrev, 2012a, 2012b, 2012c, 2014, 2015] a substantial part of the world fauna was considered. The present paper covers 5 species complexes:

L. ambigua species complex with: *L. ambigua* Stein, 1913; *L. biseta* Stein, 1913 and *L. surda* Curran, 1937;

L. dichaeta species complex with: *L. dichaeta* Stein, 1913; *L. madagascariensis* Zielke, 1972; *L. stuckenbergi* Zielke, 1970 (and the identity of *L. leucosticta* Stein, 1918 and *L. miochaeta* Speiser, 1910 is discussed);

L. geniseta species complex with: *L. geniseta* Stein, 1909; *L. macfiei* Emden, 1941 and *L. setigena* Vikhrev & Pont sp. nov.;

L. pumila species complex with: *L. pumila* Wiedemann, 1824 and *L. angustipalpis* Stein, 1920;

L. pygmaea species complex with: *L. pygmaea* Fallen, 1825; *L. bipunctata* Seguy, 1938; *L. keiseri* Zielke, 1972; *L. pygmoza* Vikhrev & Pont sp. nov.; *L setuligera* Stein, 1911 and *L. vilis* Stein, 1911.

In [Vikhrev, 2012a] I proposed the *Lispe pygmaea* group for 3 species: *L. pygmaea*, *L. pumila* and *L. angustipalpis* and initially I intended to treat the above listed species as a part of the *L. pygmaea* group, but legs and thoracic chaetotaxy of these species are essentially different, so the monophyly of such group seems to me doubtful and should be confirmed or rejected by future genetical analysis. I think that 5 species complexes offered here would be a better approximation. I believe that there is close relationship between species inside each of the offered complexes except for the *L. pygmaea* species complex which in my opinion is most probably a polyphyletic one. Nevertheless I prefer to consider the listed species together in the same paper. In the first instance all these species share their ecology: they may be only rarely observed on the ground, but live mostly on grass and are usually collected by sweeping from low grass growing under water or on wet soil. Morphologically they share only several secondary characters

of minor importance: densely grey dusted body; narrow palpi; lower parafacial with elongated hairs or even a strong seta; vibrissa strong in both sexes; vein M straight; male tarsomeres not modified. Under the circumstances I would suggest to call the considered species the *L. pygmaea* ecological group. Outwardly the species of the *L. pygmaea* ecological group mostly resemble *L. uliginosa* Fallen, 1825.

Two new species of *Lispe* are described in present paper. These descriptions are based in part on the material personally collected in Australia by the author and in part on the ANIC material examined by Adrian C. Pont. Dr. Pont and I have had a fruitful discussion on the taxonomy of newly described species, so their description under both our names seems to us the only natural solution.

MATERIAL AND METHODS

The majority of the specimens studied are in the Zoological Museum of Moscow University, Russia (ZMUM), which is not otherwise indicated in text. Other collections are abbreviated as follows:

ANIC – Australian National Insect Collection, Canberra, Australia;
BFU – Museum of Beijing Forestry University, Beijing, China;
BMNH – Natural History Museum, London, UK;
MNHN – Muséum national d'Histoire naturelle, Paris, France;
ZIN – Zoological Institute, St-Petersburg, Russia;
ZMHU – Museum für Naturkunde, Leibniz-Institute for Evolution and Biodiversity Science, Berlin, Germany.

Localities (where possible) are given in the following form: country, region, geographical coordinates, the later are given in the Decimal Degrees format. Information which is not present on an original label is provided in brackets. Countries and regions are listed in the alphabetical order.

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

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* = 4-th segment of fore tarsus; *tar3-1* = basal tarsomere of hind leg.

Illustrations are original unless otherwise indicated.

Synonymies are listed only if discussed or otherwise used in the text. For full lists of synonyms see regional Diptera Catalogues by Pont [1980], Pont [1986], Pont [2012].

Lispe ambigua species complex

Notes on *L. ambigua* species complex

The *L. ambigua* species complex includes 3 species distributed in highlands of tropical Africa (excluding Madagascar). The *L. ambigua* species complex is characterized as follows: 2+2 strong *dc*; *t1* without median setae; *t2* with or without *ad* and with 1 *pd*; *t3* with 1 *ad*; lower parafacials without strong seta; pulvilli small.

Lispe ambigua Stein, 1913

Fig. 1: *2*, *5*

Type locality: Diredaua (=Ethiopia, Dire Dawa).
Material examined: Syntype ♀: Abyssinia Dire-Daua [Ethiopia, Diredawa], 19.XI.1911, Kovacs (ZMHU). Topotype: 1♂ with the same label as the syntype (ZMHU). Initially the type series of *L. ambigua* consisted of 1♂ and 4♀. Pont & Werner [2006] had not included the male from ZMHU in syntypes "since Paterson [1953: 178] saw the types from MNM (Magyar Nemzeti Muzeum, Budapest, Hungary) and included both sexes in his key, the single ♂ syntype must have been in MNM (and therefore destroyed in 1956)". I am not fully convinced of their reasons, but I agree that in such a case as the identity of the type material an additional care makes no harm. As a compromise solution I indicated here the male specimen as the topotype.
Ethiopia, ***Oromia***: Bale Mt.: 3370 m asl, 7.088N 39.671E, 17.03.2012, N. Vikhrev, 10♂, 8♀; 3060 m asl, 7.12N 39.72E, 17.03.2012, N. Vikhrev, 17♂, 10♀; 2660 m asl, 7.025N 39.980E, 18.03.2012, N. Vikhrev, 1♂, 1♀; 3070 m asl, 6.933N 39.951E, 19.03.2012, N. Vikhrev, 1♂, 1♀.

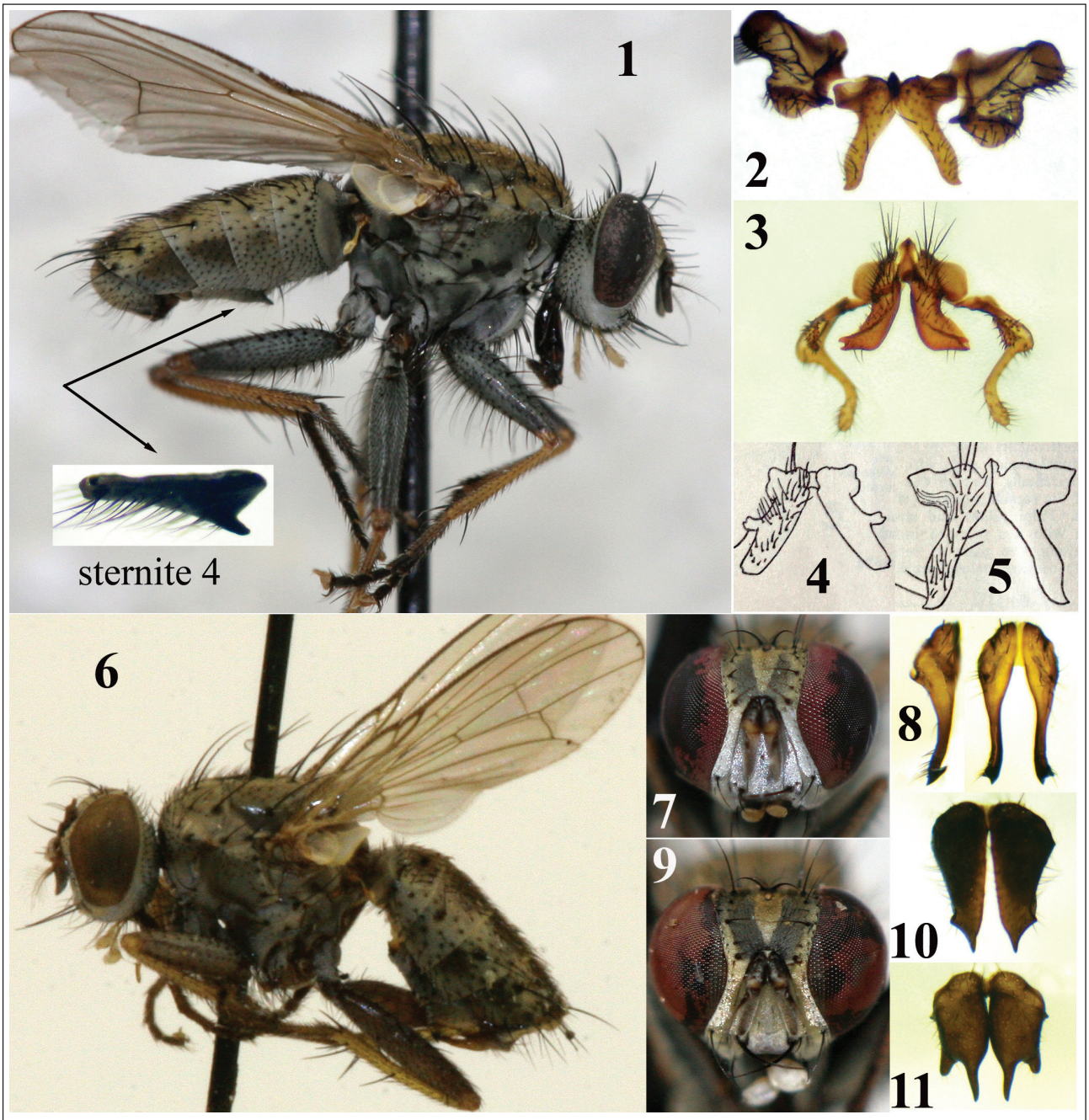

Fig.1. ***L. ambigua*** species complex, *1-5*: *L. biseta*, ♂ general view and enlarged sternite 4 with anteriorly directed projection (***1***); *L. ambigua*, ♂ genitalia (***2***); *L. biseta*, ♂ genitalia (***3***); *L. surda*, cercal plate, drawing by Paterson (***4***); *L. ambigua*, cercal plate, drawing by Paterson (***5***). ***L. dichaeta*** species complex, *6-11*: ♂ *L. madagascariensis*: Holotype (***6***); head, anterior view (***7***); cercal plate frontal and lateral (***8***); ♂ *L. dichaeta*: head, anterior view (***9***); cercal plate frontal (***10***); ♂ *L. stuckenbergi*, cercal plate frontal (***11***)

Рис.1. Комплекс видов ***L. ambigua***, ♂, 1-5: *L. biseta*, стернит 4 с передним выростом виден на общем фото, а также показан отдельно ***(1)***; 2-5, церки: *L. ambigua* ***(2)***; *L. ambigua*, рис. по Paterson [1953] ***(3)***; *L. biseta* ***(4)***; *L. surda*, рис. по Paterson [1953] ***(5)***. Комплекс видов ***L. dichaeta***, ♂, 6-11: *L. madagascariensis* – 6-8: голотип ***(6)***, голова, вид спереди ***(7)***, церки фронтально и сбоку ***(8)***. *L. dichaeta* – 9-10: голова, вид спереди ***(9)***, церки ***(8)***; *L. stuckenbergi*, церки ***(11)***

Kenya: ***Laikipia*** Co., Thomson Falls env., 0.05N 36.38E, 2350 m asl, 21-23.12.2013, N. Vikhrev, 2♂; ***Nyandarua*** Co.: Ol Bolosat L., 2330 m asl, 0.02N 36.40E, 24.11.2012, D. Gavryushin, 3♂, 3♀; Ol Bolosat L., 0.12S 36.43E, 2330 m asl, 20.12.2013, N. Vikhrev, 6♂, 7♀; ***Nyeri*** Co.,

Bantu Lodge, 0.114S 37.042E, 1950 m asl, 25-28.12.2013, N. Vikhrev, 2♂, 1♀.

Distribution. Highlands (from 1950 to 3370 m asl) of Ethiopia and Kenya.

Lispe biseta Stein, 1913: 543

Fig. 1: *1*, *3*

Type locality: Tanzania, Arusha-Ju.

Material examined: Syntypes: **Tanzania**, ***Arusha*** reg., Arusha-Ju (3.4S 36.7E, 1400 m asl), 11.1905, Katona, 1♂, 1♀ (ZMHU).

Ethiopia: ***Amhara*** reg., Hayk L., 1920 m asl, 11.325N 39.688E, 06.08.2012, N. Vikhrev, 3♂, 2♀.

Kenya, ***Nyandarua*** Co., Ol Bolosat L., 0.12S 36.43E, 2330 m asl, 20.12.2013, N. Vikhrev, 1♂, 5♀; D. Gavryushin, 1♀.

Tanzania: ***Arusha*** reg., Arusha-Ju, (3.4S 36.7E, 1400 m asl), 10.1905, Katona, 2♂, 2♀ (ZMHU); ***Iringa*** reg., Mafinga env, 8.48S 35.15E, 1820 m asl, 11.12.2015, N. Vikhrev, 1♀; ***Njombe*** reg., 40 km SE of Njombe, 1700 m asl, 9.52S 35.09E 17.12.2015, N. Vikhrev, 2♂, 2♀.

Distribution. Reliably known from E Africa: Ethiopia, Kenya, Tanzania. Other African records require verification.

Lispe surda Curran, 1937

Fig. 1: *4*

Type locality: South Africa, Bloemfontein (29.1S 26.2E, 1400 m asl).

No material examined.

Distribution. S Africa.

Remarks. Emden [1941] treated this species as a subspecies of *L. ambigua*. But even Curran [1937] noted that male *L. surda* has sternite 4 simple whereas it is modified in *L. ambigua* (Fig. 1: *1*). Paterson [1953] reexamined the type material of both species and gave a recommendation on how to divide them. Paterson also gave drawing of cercal plates of both *L. ambigua* and *L. surda* [Paterson, 1953: 172, Figs 14, 15] (Fig. 1: *4*, *5*). That of *L. ambigua* is quite recognizable by its shape (compare with Fig. 1: *2*), while that of *L. surda* is quite different.

Lispe dichaeta species complex

Notes on *L. dichaeta* species complex

L. dichaeta and related species may be easily recognized by their unusual thoracic cheatotaxy: 1+2 *dc*, all remarkably strong, the median pair almost equidistant from anterior and posterior pairs. Legs chaetotaxy: *t1* with 1 *d* and 1 *pv* setae; *t2* with 1 *ad* and 1 *pd*; *t3* with 1 *av*, 1 *ad* and 1 *pd*. Lower parafacial with strong seta; pulvilli not elongated. The species complex is distributed exclusively in the Afrotropical region, species are very similar to each other and can be most reliably distinguished by the shape of the male genitalia. However, during collecting trip to Tanzania I found that *L. dichaeta* and *L. madagascariensis* could be told apart with almost the same confidence by their ecology. To my surprise, all specimens collected in lowlands (from sea level to 650 m asl) turned out to be *L. madagascariensis* (I checked genitalia of each specimens while mounting), actually this «Madagascarian» species is rather common in Tanzania. *L. dichaeta* was collected in one Tanzanian locality which was at 1500 m asl (and earlier from several Kenyan and Ethiopian localities at altitudes from 1600 to 2350 m asl). In Madagascar the situation seems to be similar: examined specimens from sea level are *L. madagascariensis* whereas specimens from highlands (800 to 1570 m asl) are *L. stuckenbergi*, the Madagascarian sister-species of *L. dichaeta*. The presence of at least *L. madagascariensis* in African mainland means that all previous distributional data on the *L. dichaeta* species complex need to be verified. The records listed below seem to be the only reliable ones so far.

There are 2 more taxa which according to the descriptions have 1+2 strong *dc* and belong to the *L. dichaeta* species complex. *L. leucosticta* Stein, 1918 was described from an unknown locality in Madagascar, the holotype is in Vienna, and it could be the oldest name for *L. madagascariensis* or *L. stuckenbergi*. The type locality of *L. miochaeta* Speiser, 1910, is the grassland around Mt Kilimanjaro, syntypes should be in Stockholm [A. C. Pont, pers. comm.]. Presently the deforested area around Mt Kilimanjaro is at the altitude of about 1000 m asl, so *L. miochaeta* could be the oldest name for *L. dichaeta* or *L. madagascariensis*. The examination of the type material of these taxa would enable the synonymy of the *L. dichaeta* species complex to be finally settled.

Lispe dichaeta Stein, 1913

Fig. 1: *9, 10*

Type locality: Abyssinia, Lac Dembel.

Material examined: Syntypes: **(Ethiopia)** Abyssinia, Lac Dembel (Zway Lake, 1640 m asl), Kovacs, I.1912, 1♂, 1♀; (**South Africa**) Durban (≈30S 31E, 50 m asl), F. Muir, 1902, 1♂ (ZMHU).
Ethiopia: ***Oromia*** reg.: Zway L., 1640 m asl, 7.91N 38.73E, 11.03.2012, N. Vikhrev, 32♂, 14♀; Langano L., 1590 m asl, 7.646N 38.706E, 15.03.2012, N. Vikhrev, 1♂, 1♀; Awasa L., 1690 m asl, 7.079N 38.478E, 17.03.2012, N. Vikhrev, 1♀; ***Amhara*** reg., Hayk L., 1920 m asl, 11.325N 39.688E, 06.08.2012, N. Vikhrev, 3♂, 3♀.
Kenya: ***Kiambu*** Co., Lumuru, 1.107S 36.631E, 2280 m asl, 15.12.2013, N. Vikhrev, 3♂; ***Laikipia*** Co., Thomson Falls env., 0.05N 36.38E, 2350 m asl, 21-23.12.2013, N. Vikhrev, 2♂; ***Nyandarua*** Co.: Ol Bolosat L., 2330m, 0.02N 36.40E, 24.11.2012, D. Gavryushin, 17♂, 14♀; Ol Bolosat L., 0.12S 36.43E, 2330 m asl, 20.12.2013, N. Vikhrev, 8♂, 22♀.
Tanzania, ***Iringa*** reg., Iringa env., 1550 m asl, 7.79S 35.74E, 8-10.12.2015, N. Vikhrev, 4♂, 3♀.

Distribution. Reliably known from: Ethiopia, Kenya, Tanzania and S Africa. Other African records require verification.

Notes on the type series of *L. dichaeta*. Initially the type series of *L. dichaeta* consisted of 3♂, 4♀ from Ethiopia, Zway Lake and 1♂ from S. Africa, Durban, but most of the series was destroyed in 1956 in Budapest, only 1♂ and 1♀ from Ethiopia and 1♂ from S. Africa survived in ZMHU. The above listed large series of topotypes from Zway L. is conspecific with specimens from other Ethiopian localities and with Kenyan and Tanzanian specimens collected from altitudes of 1500 m asl and above. The male syntype from Zway L. has the cercal plate partly visible, and it fits the shape of cercal plate given in (Fig. 1: *10*). It also has the postpedicel entirely dark. But the cercal plate is not visible in the male syntype from Durban, it was collected at sea level and on the opposite side of Africa. Due to the kind help by Joachim Ziegler, Jenny Polh and Christiane Lange (Berlin, Germany) I have had the opportunity to re-examine the Durban syntype and to check the structure of its genitalia. It turned to be conspecific with E African specimens. That probably means that while *L. dichaeta* is restricted to mountain regions near the equator it also inhabits lowlands at higher latitudes (Durban is located at 30°S).

Lispe madagascariensis Zielke, 1972
Fig. 1: *6*, *7*, *8*
Type locality: Madagascar, Ambato-Boeny.
Material examined: Holotype ♂ (Fig. 1: *6*): **Madagascar**, (***Boeny*** reg.), Ambato-Boeny distr. (16.5S 46.7E, 20 m asl), 23.06.1958, F. Keiser (MNHN).
Central African Republic, (***Lobaye*** reg.), La Maboke (M'Baiki env., 3.9N 18.0E, 500 m asl), L. Matile, 25.08.1970, 1♂ (MNHN).
Madagascar, (***Sofia*** reg.), Analalava (distr.), Maromandia (14.20S 48.08E, 20 m asl), 1922, R. Decary, 3♂ (MNHN).
Tanzania: ***Lindi*** reg., Mitol env, 9.30S 39.41E, 27.12.2015, N. Vikhrev, 1♀; ***Mbeya*** reg., Nyasa L., Matema, 9.50S 34.01E, 15.12.2015, N. Vikhrev, 12♂, 7♀; ***Morogoro*** reg.: Morogoro env, lake (Mindu Dam), 6.865S 37.608E, 5.12.2015, N. Vikhrev, 1♂; Mikumi village, 7.40S 36.99E, 5-7.12.2015, N. Vikhrev, 3♂, 2♀; ***Mtwara*** reg., Nanganga env., river, 10.40S 39.18E, 20.12.2015, N. Vikhrev, 1♂, 2♀; ***Pwani*** reg., Ruvu R., 6.48S 38.83E, 10.09.2012, D. Gavryushin, 1♀; ***Ruvuma*** reg., Tunduru env., 10.99S 37.29E, 540 m asl, 19.12.2015, N. Vikhrev, 3♂, 5♀;

Distribution. So far known from Madagascar, Central African Republic and widespread in Tanzania, probably is widely distributed in African lowlands.

Redescription. *Male*. *Head* (Fig. 1: *7*). Frons about 0.37 head width. Frons dark with whitish dusting; fronto-orbital plate and frontal triangle densely yellowish-white dusted. Parafacial, face and gena densely white, occiput whitish-grey. Fronto-orbital plate with 4 inclinate and 2 reclinate setae and an outer row of 10-12 hairs. Parafacial with a row of 6-7 hairs and at lower margin with stronger seta (about as long as postpedicel length). Antenna dark with apex of pedicel and base of postpedicel yellow; postpedicel falling short of mouth margin by 0.4 of its length. Aristal hairs 1.5-2x as long as postpedicel width. Palpus yellow-white. Vibrissa strong.

Thorax. Scutum and pleura evenly grey dusted. *dc* 1+2, all strong, the median pair almost equidistant from anterior and posterior pairs; *ac* hairs in 3-4 rows. Katepisternals 1+1+1; anepimeron with 3 hairs; meron and katepimeron bare. Wing hyaline, calypters yellow-white.

Legs. Femora dark, grey dusted; knees, tibiae and tarsi yellow. *t1* below middle with 1 *d* and1 *pv*. Mid coxa posteriorly without a set 4 closely placed short and straight spines as in *L. stuckenbergi*. *f2* with strong median *a*, 2 *av* in basal half, 1(2) fine *pv* near base. *t2* with 1 short *p* and 1 long *ad* below it. *f3* with 3 *av*: in basal 1/3, median and preapical; *pv* surface with 2 (1-3) setae in basal 1/3. *t3* with 1 *av*, 1 *ad* and 1 *pd*.

Abdomen grey dusted; tergites 1+2 to 5 with paired dark spots divided by not very distinct grey median vitta; tergites 4 and 5 with additional pair of ventro-lateral dark spots. Cercal plate characteristic: yellow; long, slightly curved; at apex each half with a set of 6-7 hairs; at very apex cercal plate anchor-like, backcurved (Fig. 1: *8*).

Female differs from male as follows: *f2* without av; *f3* usually with only 1 *av* at apex, *pv* setae in basal 1/3 short.

Remarks. The holotype of *L. madagascariensis* is in MNHN in Paris (not in Basel as indicated by Zielke [1972]. It is in good condition, with anchor-shaped apex of cercal plate clearly visible (Fig. 1: *6*). *L. madagascariensis* actually has 1+2 *dc* (not 2+2 *dc* as in the original description [Zielke, 1972]).

Lispe stuckenbergi Zielke, 1970

Fig. 1: *11*

Type locality: Madagascar.

The type material not examined, it should be in Natal Museum, Pietermaritzburg, South Africa [A.C. Pont, pers. comm.]. The given below information on the type series is modified from Zielke [1970]: Madagascar: (*Analamanga* reg.), Antananarivo, Tsimbazaza (park, 18.930S 47.526E, 1280 m asl), 1♂, 1♀; (*Vakinankaratra* reg.), Lac Froid de Ambatolampy (19.38S 47.43E, 1570 m asl), 12.1957, B.R.Stuckenberg, 1♂, 1♀; (*Alaotra-Mangoro* reg.), Moramanga (18.95S 48.23E, 920 m asl), 12.1957, B.R. Stuckenberg, 1♀.

Material examined:

Madagascar: (***Alaotra-Mangoro*** reg.), Imerimandroso (17.43S 48.59E, 800 m asl), 06.1921, R. Decary, 1♂; (***Analamanga*** reg.): (An)tananarivo (18.9S 47.5E, 1250 m asl), , **1916**, Waterlot, 1♂, 1♀; (An)tananarivo (18.9S 47.5E, 1250 m asl), 1921, R. Decary, 1♂ (all MNHN).

Distribution. So far known from Madagascarian highlands only.

Lispe geniseta species complex

Notes on *L. geniseta* species complex

The *L. geniseta* species complex includes 3 very similar species distributed in tropical Asia, Africa (including Madagascar) and Australia. These species can be reliably distinguished by male genitalia and their isolated distribution on 3 different continents. The structure of genitalia always corresponds to the continent, so far no specimens with intermediate characters were recorded. The genitalia are the same for African specimens collected on African mainland and Madagascar or for Asian specimen from such remote localities as W India, Cambodia and Java. Thus, we are inclined to regard both African *L. macfiei* formerly synonymyzed with *L. geniseta* and Australian *L. setigena* Vikhrev & Pont sp. nov. both hitherto identified as *L. geniseta*, as good species.

The *L. geniseta* complex is characterized as follows: 2+3 *dc*; legs chaetotaxy: *t1* with 1 median *pv*; *t2* with 1 *pd* and 1 *ad*; *t3* with 1 *av*, 1 *ad* and 1 *pd*; lower parafacial with strong seta; pulvilli enlarged, distinctly longer than respective last tarsomeres.

Lispe geniseta Stein, 1909

Type locality: Batavia (= Indonesia, Java, Jakarta).

Fig. 2: *12*, *13*, *15*, *18*

Material examined: Paralectotype ♂: **Indonesia**, Batavia (***Java***, Jakarta), 12.1907, E. Jocobson (ZMHU).

Cambodia, ***Sihanoukville*** prov., 20.04.2010, O. Kosterin, 1♂.

China, ***Guandong*** prov., Tsisin'yan' (≈23N 113E), 29.11.1959, B. Rodendorf, 1♀ (ZIN);

India: ***Andhra Pradesh*** state, Bapatla env., 15.92N 80.47E, 19.02.2014, K. Tomkovich, 4♂, 2♀; ***Goa*** state, 01.2008 and 02.2009, N. Vikhrev, 8♂, 8♀.

Myanmar, ***Shan*** state, Inle L., 30.11.2009, 1♀.

Thailand: ***Bangkok***, 31.12.2011, N. Vikhrev, 1♂; ***Chonburi*** prov., Pataya env., 12.2008, N. Vikhrev, 15♂, 11♀; ***Kanchanaburi*** prov, Kanchanaburi, Kwai R.,14.030N 99.522E, 27-30.01.2014, N. Vikhrev, 1♀; ***Nakhon Ratchsima*** prov., Khao Yai NP, 11.02.2009, A. Ozerov, 1♂; ***Phuket*** prov., 21.02.2009, N. Vikhrev, 1♀; ***Rayong*** prov., Ban Phe, 08.12.2008, N. Vikhrev, 1♂; ***Trat*** prov., Ko Chang Isl., 14.12.2011, N. Vikhrev, 1♀.

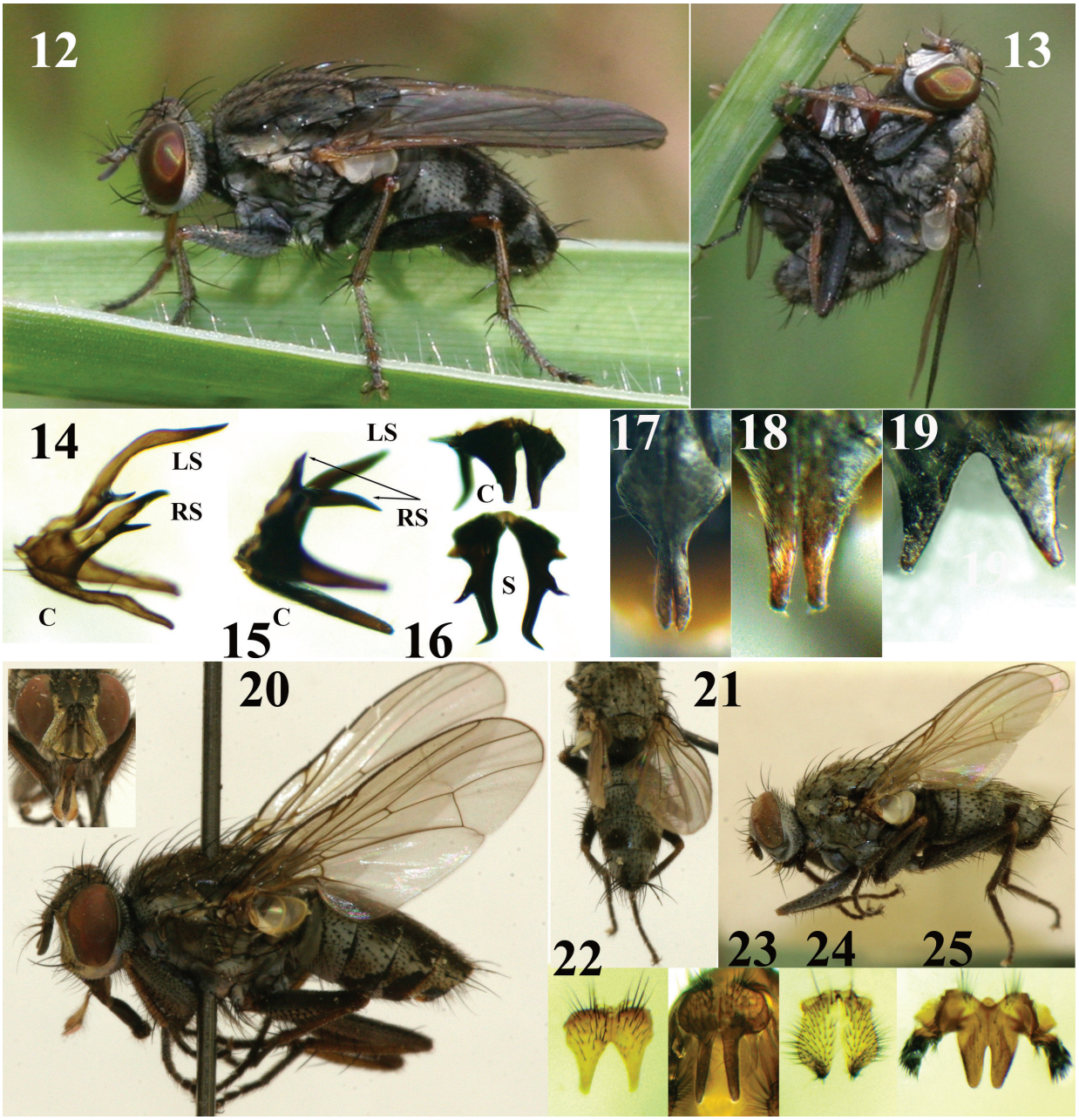

Fig. 2. ***L. geniseta*** species complex (S – surstylus, C – cercal plate, R – right, L – left), *12-19*: *L. geniseta* ♂: general view (***12***), with prey (*Musca* sp.) (***13***), terminalia, view from within (***15***), cercal plate as viewed in a non-dissected specimen (***18***); *L. macfiei*, *14, 17*: terminalia, view from within (***14***), cercal plate as viewed in a non-dissected specimen (***17***); *Lispe setigena* **sp. nov.**, *16, 19*: cercal plate and surstyli (***16***), cercal plate as viewed in a non-dissected specimen (***19***). ***L. pygmaea*** species complex, *20-25*: ♂ *L. keiseri*, Holotype, lateral view and head (**20**); ♂ *L. bipunctata*, Holotype, lateral and dorsal view (***21***); cercal plate *L. keiseri* (***22***); cercal plate *L. pygmoza* **sp. nov.** (***23***); cercal plate *L. pygmaea* (***24***); cercal plate and surstyli *L. setuligera* (***25***).

Рис. 2. Комплекс видов ***L. geniseta*** (S – сурстили, C – церки, R – правый, L – левый), *12-19*: *L. geniseta* ♂: общий вид (***12***), с добычей (*Musca* sp.) (***13***), терминалии, вид изнутри (***15***), церки в интактном положении на экземпляре (***18***); *L. macfiei*, *14, 17*: терминалии, вид изнутри (***14***), церки в интактном положении на экземпляре (***17***); *L. setigena* **sp. nov.**, *16, 19*: церки и сурстили (***16***), церки в интактном положении на экземпляре (***19***). Комплекс видов ***L. pygmaea*** *20-25*: ♂ *L. keiseri*, голотип, вид сбоку и голова (**20**); ♂ *L. bipunctata*, голотип, вид сверху и сбоку и голова (***21***); церки *L. keiseri* (***22***); церки *L. pygmoza* **sp. nov.** (***23***); церки *L. pygmaea* (***24***); церки и сурстили *L. setuligera* (***25***).

Notes on the type series of *L. geniseta*. The type series of *L. geniseta* consisted of 3♂ and 1♀ from two different localities: Batavia (= Indonesia, Java, Jakarta) and Brisbane (Australia, QLD), so according to the point of view we offer in the present paper it should be heterogeneous. However, Pont [1970] designated the male from Batavia (stored in Naturalis Biodiversity Centre, Leiden, The Netherlands) as the lectotype, so generally accepted understanding of *L. geniseta* as the Asian species is fixed. Genitalia of a male paralectotype *L. geniseta* from ZMHU were examined and confirmed as identical with those of other Asian specimens.

Ecology. Accoding to my observations, *L. geniseta* often hunts for *Musca* (Fig. 2: *13*) on cow dung heaps on wet meadows.

Lispe macfiei Emden, 1941
Fig. 2: *14*, *17*
Type locality: (Ghana), Gold Coast, Accra (5.6N 0.2W).
Material examined:
Madagascar, (***Alaotra-Mangoro*** reg.), Amparafaravola (17.6S 48.3E), Lake Alaotra, 1921, R. Decary, 1♂ (MNHN).
Malawi, Salima env., 13.77S 34.54E, 4.01.2010, A. Freidberg, 1♂ (Tel-Aviv University, Israel).
Tanazania: ***Mbeya*** reg., Nyasa L., Matema, 9.50S 34.01E, 15.12.2015, N. Vikhrev, 1♀; ***Morogoro*** reg., Mikumi village, 7.40S 36.99E, 5-7.12.2015, N. Vikhrev, 2♂, 3♀; ***Pwani*** reg.: 6.46S 38.92E, 14.09.2012, D. Gavryushin, 1♂; Rufiji R., 7.99S 38.97E, 30.12.2015, N. Vikhrev, 2♀.

Remarks. Was described from a single female specimen and later synonymyzed by Emden with *L. geniseta*, but based on the structure of male genitalia. We regard it as a valid species.

Lispe setigena Vikhrev & Pont, **sp. nov.**
Fig. 2: *16*, *19*
Material examined: Holotype ♂: **Australia, *Qld***, Reid R., 19.758S 146.834E, 31.01.2013, N. Vikhrev (ZMUM). **Paratypes** 2♂, 1♀: **Australia, *Qld***: Brisbane, 26.06.1964, G. B. Monteith, 1♂ (CNC); Pentland env., forest creek, 20.52S 145.40, E, 01.02.2013, N. Vikhrev, 1♂ (ZMUM); Camoweal, 19.92S 138.11E, 05.02.2013, N. Vikhrev, 1♀ (ZMUM).

Description. Male, body length 6.3-6.6 mm.

Head. Frons at level of anterior ocellus 0.4 of head width. Frons dark; fronto-orbital plate yellowish dusted; frontal triangle distinct, yellowish dusted. Parafacial and face yellowish-white dusted, gena and occiput grey. Fronto-orbital plate with 4-5 inclinate and 2 reclinate setae and an outer row of 8-9 hairs. Parafacial with a row of 8-9 hairs and 2 setae: the lower seta about as long as postpedicel length, the upper seta weaker, its length from 0.4 to 0.8 of length of the lower one. Antennae dark with apex of pedicel and base of postpedicel yellow; postpedicel falling short of mouth margin by 0.3-0.4 of its length. Aristal hairs about 2x as long as postpedicel width. Palpus yellow; narrow in basal half and abruptly widened in apical half where it is about 1.2x as wide as width of postpedicel. Vibrissa strong, and above vibrissa with an additional seta about 0.4x as long as vibrissa.

Thorax. Scutum brownish-grey, pleura grey dusted; scutum with dark brown median vitta and a pair of submedian vittae along dorsocentrals. *dc* 2+3, (medium, strong+medium, strong, strong); *ac* hairs in 5-6 rows. Katepisternals 1+1+1; anepimeron with 1-3 hairs; meron and katepimeron bare. Wing slightly darkened, calypters whitish, haltere yellow.

Legs. Femora mostly dark, grey dusted; apical 1/6-1/5 of femora, tibiae and tarsomeres 1 to 3 yellow; tarsomeres 4 and 5 dark. *t1* with long fine median *pv* seta and strong preapical *d* and *pv*. *tar1-4* to *tar1-5* widened and shortened (less distinct than in *L. pygmoza* sp. nov.). *f2*: *a*-surface in basal half with a row of 5-6 short setae and 1 long seta in middle; *av*-surface in basal half with a row of 4-5 setae, the median one the strongest; *pv*-surface in basal half with 2-3 strong setae. *t2* with 1 strong *pd* and *ad*. *f3* in basal 2/3 with 5-6 *av* and 5-6 *pv* of different length. *t3* with median *av* and *ad* (both long) and *pd* (medium); preapical *d* longer than length of *tar3-1*. Pulvilli elongated, longer than respective last tarsal tarsomeres.

Abdomen grey dusted with triangular dark marks divided by median vitta. Cercal plate short and wide, with a small ledge in middle (Fig. 2: *16*, *19*); surstyli with strong sclerotization, symmetric, each one antler-shaped and of the same length (Fig. 2: *16*).

Female differs from male as follows: *t1* with median *pv* seta as long as in male but much stron-

ger; *f2* with only 1 *av* (at middle) and with 2 *pv* in basal 1/3; *f3* with 3 *av* and with 2 *pv* near base.

Diagnosis. *L. setigena* sp. nov. differs from related *L. geniseta* by structure of male genitalia and presence of the second strong seta on gena.

Etymology. The species name made by the transposition of the parts of the name of the closely related species *L. geniseta*.

Lispe pumila species complex

Notes on *L. pumila* species complex

Two species of the *L. pumila* species complex was considered in [Vikhrev, 2012a], and here I add only new records for *L. angustipalpis*. The *L. pumila* complex is characterized as follows: *dc* 2+4, but 4 anterior pairs weak: *t1* without median seta; *t2* with 1 *pd*; *t3* with 1 *av* and 1 *ad*; meron hairy above hind coxa; pulvilli small. Distribution: tropical Asia, N Australia and Oceania.

Lispe pumila Wiedemann, 1824
Type locality: "India orient".
Material examined: about 130 specimens from: **Australia,** *Qld*; **Cambodia**: *Kampot*, *Kep* and *Koh Kong* prov.; **China**, *Guangdong*; **India**: *Assam*, *Andhra Pradesh*, *Meghalaya*, *Orissa*, *Goa*, *Gujarat* states; **Indonesia**: *Bali*, *W Nusa Tenggara* prov.; **Myanmar**, *Shan* state; **Sri Lanka**; **Thailand**: *Bangkok*, *Chanthaburi*, *Chonburi*, *Kanchanaburi*, *Phang Nga*, *Phuket* and *Rayong* provinces.

Distribution. Widespread from India to N Australia.

Lispe angustipalpis Stein, 1920
Type locality: Java.
Lispe fuscipalpis Malloch, 1929 (type locality**:** Vanuatu); *Lispe pumiloides* Snyder, 1965 (type locality: Micronesia, Pulau and Yap.).
Australia, ***Qld***., Townsville, 19.29S 146.80E, 11.11.2011, G. Cocks, 1♂.
Indonesia: ***Bali*** prov., Sanur beach env., 8.70S 115.26E, 15-19.02.2014, O. Kosterin, 1♀; ***W Nusa Tenggara*** prov., Lombok Isl, Senggigi env., 8.51S 116.06E, 20-25.02.2014, O. Kosterin, 1♀; ***W Papua*** prov., Merauke env., 8.55S 140.43E, 9-15.12.2014, N. Vikhrev, 8♂, 12♀; Sentani env., 2.58S 140.54E, 3-7.12. 2014, N. Vikhrev, 1♂.
Malaysia, ***Selangor*** state, Sungai Pelek env., 2.6N 101.7E, 6-7.02.2014, N. Vikhrev, 2♂, 1♀.
Sri Lanka, Pinnawala env., 7.28N 80.39E, 19-21.12.2012, N. Vikhrev, 1♀.

Thailand: ***Phuket*** and ***Phang Nga*** prov., see [Vikhrev, 2012a].
(**Vanuatu**) New Hebrides, Espiritu Santo Isl., Luganville (15.5S 167.2E), 14.03.1964, R. Straatman, 1♂ (MNHN).

Distribution. Widespread from Sri Lanka to N Australia and Oceania, but in comparison with *L. pumila* the distribution of this species is limited to localities close to the equator. Also *L. angustipalpis* is more successful than *L. pumila* in colonization of small and remote islands in S Asia and Oceania.

Lispe pygmaea species complex

Notes on *L. pygmaea* species complex

The *L. pygmaea* species complex is characterized as follows: 2+3 *dc*, all strong; legs chaetotaxy: *t1* usually without strong median setae (except for males of *L. keiseri*, *L. setuligera* and *L.vilis* with fine *pv*); *t2* with 1 *p*, without *ad* (except for *L. bipunctata*); *t3* with 1 *ad* only; lower parafacial without strong seta; pulvilli small (except for *L. pygmoza* sp. nov.). Distributed worldwide.

Lispe bipunctata Seguy, 1938

Fig. 2: *21*

Type locality: Lac Rudolf.
Material examined: Syntypes: 1♂ (Fig. 2: *21*) and 6♀: **Ethiopia**, ***SNNPR*** reg., Lac Rudolf (Turkana L., 4.7N 36.1E), 01.1933, P. A. Chappuis & R. Jeannel (MNHN).

Redescription. *Male*. *Head*. Frons about 1/3 of head width. Frons dark; fronto-orbital plate yellowish-white dusted; frontal triangle very distinct, densely yellowish dusted. Parafacial, face and gena densely white, occiput whitish-grey. Fronto-orbital plate with 4-5 inclinate and 2 reclinate setae and an outer row of 7-8 hairs. Parafacial with a row of 6-7 hairs and with weak seta on lower margin. Antenna dark with apex of pedicel and base of postpedicel yellow; postpedicel falling short of mouth margin by 0.5-0.6 of its length. Aristal hairs 1.5-2x as long as postpedicel width. Palpus bright yellow. Vibrissa strong.

Thorax. Scutum and pleura grey dusted; presutural area with a pair of submedian vittae more distinct near neck; postsutural area with median brownish mark from suture to level of 2nd *post dc*.

dc 2+3, all strong; *ac* hairs in 3-4 rows. Katepisternals 1+1+1; anepimeron with 5 hairs; meron and katepimeron bare. Wing hyaline, calypters white.

Legs. Femora dark, grey dusted; tibiae and tarsi yellow-brown. *t1* without median seta(e). *t2* with 1 strong median *pd* and 1 strong *ad* below middle. *f3* in apical half with 4 strong *av* and with 3-4 fine long (1.5x as long as femur width) *pv* in basal 1/3. *t3* with 1 *ad*.

Abdomen mostly grey dusted and without dark marks, only tergite 4 with a pair of very distinct dark glossy spots (Fig. 2: *21*). Sternites 3 and 4 densely setulose, sternite 5 with dense setulae on posterior margin. Genitalia not examined.

Female differs from male as follows: *f3* with only 1 *av* at apex and 2-3 short *pv* near base; spots on tergite 4 much less distinct; sternites without long setulae.

Lispe keiseri Zielke, 1972
Fig. 2: *20*, *22*
Type locality: Madagascar, Antananarivo.
Material examined: Holotype ♂ (Fig. 2: *20*): **Madagascar**, (***Analamanga*** reg.), (An)tananarivo (18.9S 47.5E), 15.10.1957, F. Keiser (MNHN). **Madagascar**: (***Alaotra-Mangoro*** reg.), Andasibe, 18.94S 48.42E, 6.12.2012, A. Medvedev, 7♂, 7♀; ***Itasy*** reg., Ampefy (19.04S 46.73E), Olsufiev, 2.1930, 1♂, 1♀ (ZIN).

Distribution. Madagascar.

Lispe pygmaea Fallen, 1825
Fig. 2: *24*
Type locality: (**Sweden**), Esperod (55.68N 14.24E).
Lispe metatarsalis Thomson, 1869. Type locality: Hawaiian Isl.
Lispe argenteifacies Grimshaw, 1901, **syn. nov.** Type locality: Hawaiian Isl.
Lispe cupreigena Grimshaw, 1901. Type locality: Hawaiian Isl.
Lispe ponti Hardy, 1981, **syn. nov.** Type locality: Hawaiian Isl.
Lispe aureola Shinonaga, 2014, **syn. nov.** Type locality: Japan, Honshu, Tokio, Imperial Palace.
Lispe japonica Shinonaga, 2014, **syn. nov.** Type locality: Japan, Honshu, Tokyo, Imperial Palace.
Material examined: over 200 specimens from: **Azerbaijan**; **Belarus**, *Minsk* reg.; **China**, *Beijing*, *Liaoning* prov,; **Egypt**: *Luxor* reg.; **Ethiopia**, *Amhara* reg.; **France** (MNHN); **Georgia**; **India**: *Rajasthan* state; **Israel**; **Mongolia**: *Uvs* prov.; **Morocco**: *Essaouira* prov.; **Kazakhstan**: *Akmola, Atyrau*, *East Kazakhstan*, *Kyzylorda* and *West Kazakhstan* reg.; **Russia**: *Altai Kray*, *Amur*, *Buryatia*, *Crimea*, *Dagestan*, *Kaliningrad, Khabarovsk*, *Krasnodar*, *Kursk*, *Moscow*, *Nizhny-Novgorod*, *Novosibirsk*, *Omsk*, *Primorsky*, *St-Petersburg*, *Tver*, *Volgograd*, *Voronezh*, *Ulyanovsk* and *Zabaikalsky* regions; **Serbia**; **Tajikistan**: *Dushanbe* reg.; **Turkey**: *Adana*, *Antalya*, *Hatay*, *Kayseri*, *Konya*, *Mersin* and *Sakarya* prov.; **Turkmenistan**: *Dashoguz*, *Lebap* and *Mary* prov.; **Ukraine**: *Odessa* reg.; **USA**, *Hawaii* state.

Below the most interesting localities are given in details:
Ethiopia: ***Amhara*** reg., Hayk L., 1920m asl, 11.325N 39.688E, 06.08.2012, N. Vikhrev, 4♂, 3♀. **USA, *Hawaii*** st., Oahu Isl.: Kolekole pass (21.474N 158.116W), 1725' (525 m asl), 9.01.1966, J. R. Vockeroth, 1♀; Mt. Kaala (21.507N 158.143W), 4046' (1230 m asl), 20.06.1967, J. R. Vockeroth, 1♂.

Distribution. Widespread in Palaearctic from south to about 60°N; recorded in Sudan and Ethiopia; introduced in Hawaii and recently in Japan [Shinonaga, 2014].

Synonymy. *Hawaiian species*. I examined the male terminalia of *L. pygmaea* from: E Europe (Russia, Ryazan reg.), Far East (Russia, Primorsky reg.), Afrotropical region (Ethiopia) and Hawaii (Oahu Isl.) and found them to be the same (cercal plate – (Fig. 2: *24*)). In my opinion the differences in male terminalia of Hawaiian species given by Hardy [1981] are groundless and unconvincing.

My opinion that all *L. pygmaea*-like species described from Hawaii are synonymies of *L. pygmaea* is also supported by historical and evolutionary reasons. Hawaii are very remote islands and *Lispe* must have been introduced there by human settlers. But the early Polynesian settlers could not have done that because neither *L. pygmaea* nor *L. pectinipes* Becker, 1903 (the other Hawaiian species) occur in Polynesia. So, the introduction of *Lispe* into Hawaii took place much more recently, most probably during the mass delivery of Chinese workers for sugarcane plantations in the mid-19th century (*L. pygmaea* is present and common in E China). By any yard-

stick, less than 200 years is not enough time for the formation of species.

Japanese species. According to Shinonaga's [2014] diagnosis *Lispe japonica* runs in Hennig's [1960] key to *L. nana* Macquart, 1835. But it is not so, as in Hennig's key *L. japonica* runs directly to *L. pygmaea* and it is *L. pygmaea* by according to both description and photo. *L. aureola* differs from *L. japonica* by goldish pruinosity of the body, but yellowish (instead of more typical grey) dusting of the body is not rare in *L. pygmaea*. *L. pygmaea* is a common species all over Far East (in China, Korea and Russia). The Japanese fauna of Muscidae was one of the most thoroughly researched, and *L. pygmaea* was never recorded before. It is an easy *Lispe* species for collect, simple sweeping in grass is enough. Most probably *L. pygmaea* was introduced with some plant for Imperial Palace in Tokyo where it was then collected.

Thus, *Lispe pygmaea* Fallen, 1825 = *Lispe argenteifacies* Grimshaw, 1901, **syn. nov.** = *Lispe ponti* Hardy, 1981, **syn. nov.** = *Lispe aureola* Shinonaga, 2014, **syn. nov.** = *Lispe japonica* Shinonaga, 2014, **syn. nov.**

Lispe pygmoza Vikhrev & Pont, **sp. nov.**
Fig. 2: *23*

Material examined: Holotype ♂: **Australia**, ***SA***, Ceduna (32.12S 133.68E), 24.10.1958, E. F. Riek (ANIC). **Paratypes** 1♂, 2♀: same label as the holotype, 1♀ (ANIC); **Australia**, ***SA***, Arno Bay, mangrove, 33.92S 136.57E, 8-9.02.2013, N. Vikhrev, 1♂, 1♀ (the male paratype was damaged during drying: face is sunken and posterior femora are deformed) (ZMUM).

Description. Male, body length 5.2 mm.

Head. Frons about 1/3 of head width. Frons dark; fronto-orbital plate yellowish dusted; frontal triangle distinct, yellowish to brownish dusted. Parafacial and face yellowish dusted, gena and occiput grey. Fronto-orbital plate with 4-5 inclinate and 2 reclinate setae and an outer row of 7-8 hairs. Parafacial with a row of 6-8 hairs, lower hairs stronger and elongated. Antenna dark with apex of pedicel and base of postpedicel orange; postpedicel falling short to mouth margin by 0.5-0.6 of its length. Aristal hairs about 2x as long as postpedicel width. Palpus yellow; narrow in basal half and abruptly widened in apical half where it is 2.5x as wide as width of postpedicel. Vibrissa strong, and above vibrissa with an additional seta about 0.4x as long as vibrissa.

Thorax. Scutum and pleura dark grey dusted; scutum with dark brown median vitta and a pair of submedian vittae along dorsocentrals. *dc* 2+3, all strong; *ac* hairs in 4-5 rows. Katepisternals 1+1+1; anepimeron with about 6 hairs; meron and katepimeron bare. Wing slightly darkened, calypters whitish, haltere brownish.

Legs. Femora dark, grey dusted; tibiae yellow. Tibial setae longer than in other species of the *L. pygmaea* species complex. *t1* without median seta. *tar1-1* yellowish, *tar1-2* to *tar1-5* darkened, widened and shortened (reminiscent of the *L. geniseta* species complex). *f2* in basal 3/5 with 5 *a*, 4 *av* and 4 short *pv*. *t2* with 1 strong median *pd* and preapical *d*. *f3* in basal 3/5 with 5-6 *av* and 4-5 *pv*. *t3* with 1 long median *ad* and 1 long preapical *d*; both setae at least as long as length of *tar3-1*. Apical setae on anterior tibiae also are remarkably long: *t1* with apical *d*, *pd* and *pv*; *t2* with *pd*, *pv*, *av* and *ad*; *t3* with *ad*, *a*, *av* and *pv*. Pulvilli elongated, longer than respective last tarsomeres.

Abdomen grey dusted with triangular dark marks and indistinct median vitta. Cercal plate with elongated apical part as on Fig. 2: *23*.

Female differs from male as follows: *f2* without *av*, *f3* with *av* and *pv* setae weak.

Diagnosis. *L. pygmoza* sp. nov. differs from *L. pygmaea* as recommended in the key; it differs from Australian *L. setigena* sp. nov. by tibial chaetotaxy and absence of strong seta on lower parafacial. The relationship of this species seems unclear. On the one hand it has reduced median tibial setae as *L. pygmaea*. On the other hand several characters resemble *L. geniseta*: fore tarsomeres shortened; pulpilli elongated; tibial setae including apical ones remarkably long and strong.

Etymology. The name composes of two parts: «pygmaea» – the species name of well-known and similar species of *Lispe*, and «OZ» – a nickname for Australia.

Lispe setuligera Stein, 1911
Fig. 2: *25*

Type locality: Chile, Coquimbo.

Material examined: Paratype ♂: **Chile**, (***Coquimbo*** reg.), Coquimbo (30.0S 71.3W), 23.09.1902, Schnuse (BMHU), right mid leg and both hind legs absent.

Chile: (***Valparaiso*** reg.), Viña bai (33.01S 71.55W), 12.10.1940, G. H. Schwabe, 1♂, 1♀ (ZMHU); ***Aisen*** reg., Buenos Aires Lake (46.54S 71.72W), 24-31.12.1960, Pena, 1♂.

Argentina, ***Mendoza*** prov., Porterillos, 32.96S 69.20W, 8-11.01.2013, K. Tomkovich, 9♂, 7♀; ***Neuquen*** prov., Alumine, 39.22S 70.90W, 28-30.01.2013, K. Tomkovich, 4♂, 8♀; ***Rio Negro*** prov., Pollegrini L., 38.70S 68.03W, 12-18.01.2013, K. Tomkovich, 16♂, 10♀.

Distribution. Widespread in Neotropic: Argentina, Brazil, Chile, Guyana, Mexico, Paraguay, Puerto Rico.

Remarks. Thoracic and leg chaetotaxy of *L. setuligera* is typical for the *L. pygmaea* species complex. However I have some doubts about *L. setuligera* belonging to this complex. Firstly, there are several morphological characters which are reminiscent of *L. uliginosa*, namely the shape of cercal plate; the presence on meron 5-7 hairs above hind coxa and 2-3 hairs below posterior spiracle, and katepimeron with 1-3 minute hairs. Secondly, the origin of a species from the *L. pygmaea* species complex in the Neotropical region seems enigmatic, whereas the *L. uliginosa* species group is distributed in the New World. These doubts concern other Neotropical species *L. vilis* as well.

Descriptive notes. *Male*. Palpus yellow; about 1.5x as wide as width of postpedicel. Scutum brown, with indistinct dark vittae: median and 2 submedian along *dc*; *dc* 2+3 all strong; *prst ac* in 4 rows. Femora dark; tibiae yellow. Fore coxa with a tuft of wavy hairs posteriorly. *t1* with 1 very fine *pv* below middle. *f2* in basal half with: 4(5) short strong *a*; 2-3 strong and long *av*; 2-3 strong and long *pv*, and 1-2 fine, long *pv* at very base. *t2* with 1 *p*. *f3* in basal 3/5 with a row 5-6 *av* and 5-6 *pv*. *t3* with 1 *ad*; preapical *d* 0.5x as long as *tar3-1* length. Abdomen grey dusted with paired trapezoid dark spots on tergites 1-2 to 5. Male cercal plate as on Fig. 2: *25*; surstili with characteristic tuft of dense and long black hairs at apex (Fig. 2: *25*). Male sternite 5 with long and strongly sclerotizated median process.

Female differs as following: *t1* without *pv*; *f2* without *av*; with 2-3 fine *pv*; *f3* with 1-0 short *av* in basal 1/3 and without *pv*.

Lispe vilis Stein, 1911

Type locality: Bolivia, Sorata (15.77S 68.65W, 2650 m asl), the lectotype is in Staatliches Museum für Tierkunde, Dresden, Germany [Pont, 2013].

Material examined:

Argentina, ***Jujuy*** prov., Carmen env., Dique La Cienaga, (24.43S 65.28W), 1200 m asl, 20-21.10.1968, Pena, 1♂, 1♀.

Remarks. With such limited material I consider my suggestions for the identification of *L. vilis* given in the key below as preliminary ones.

Identification key for the World fauna of the *L. pygmaea* ecological group, ♂♀

1. *dc* 2+4, but 4 anterior pairs weak. *t3* with 1 *av* and 1 *ad*. (*t1* without median seta; *t2* with 1 *pd*; meron hairy above hind coxa; pulvilli small; tropical Asia, N Australia and Oceania) .... ***pumila*** species complex **2**
– *dc* 2+3 or 2+2 or 1+2, in any case all *dc* setae strong. *t3* either with only 1 *ad* or with *av*, *ad* and *pd* **3**
2. Palpus black(ish). Spots on abdominal tergites 3 to 5 large and reaching posterior margin of tergites. Scutum blackish, only thinly dusted, with wider vittae ..... ***angustipalpis*** Stein
– Palpus yellow. Spots on abdominal tergites 3 to 5 smaller and not reaching posterior margin of tergites. Scutum densely grey dusted, with narrow obscure vittae .... ***pumila*** Wiedemann
3. *dc* 1+2, all remarkably strong, the median pair is placed almost equidistant from anterior and posterior pairs. (*t1* with 1 *d* and 1 *pv* setae; *t2* with 1 *ad* and 1 *pd*; *t3* with 1 *av*, 1 *ad* and 1 *pd*; lower parafacials with strong seta; pulvilli not elongated; Afrotropical region.) .... ***dichaeta*** species complex **4**
– *dc* 2+3 or 2+2 ..... **6**
4. Frons wider, at level of anterior ocellus about 0.44 of head width (Fig. 1: *9*). Highlands. (Antenna dark in *L. dichaeta*, but in *L. stuckenbergi* postpedicel yellow at base, pedicel yellow at apex.) ♂: *f3* with 4 *av*: 1 preapical, 2 submedian and 2 in basal 1/3 and with 2 (1-3) *pv* in basal 1/3 and with 1 strong and long (longer than femur width) median *pv*. Cercal plate wide,

without anchor-like apex (Fig. 1: *10* or *11*) … **5**
– Frons narrower, at level of anterior ocellus about 0.37 of head width (Fig. 1: *7*). Postpedicel distinctly yellow at base, pedicel yellow at apical half. Lowlands. ♂: *f3* with 3 *av*: 1 preapical, 1 submedian and 1 in basal 1/3 and with 2 (1-3) fine *pv* in basal 1/3 and without median *pv*. Cercal plate narrow with anchor-like apex (Fig. 1: *6*, *8*) ……***madagascariensis*** Zielke
5. Madagascar. ♂: Cercal plate – Fig. 1: *11*. Mid coxa on posterior surface with a set of 4 appressed, short, strong and straight spines. *tar1-1* and *tar1-2* yellow, concolourouos with *t1* …… ***stuckenbergi*** Zielke
– Africa. ♂: Cercal plate – Fig. 1: *10*. Mid coxa without remarkable set of appressed, spine-like setae. *tar1-1* and *tar1-2* greyish, darker than *t1* …… ***dichaeta*** Stein
6. *dc* 2+2. (*t1* without median setae; *t2* with or without *ad* and with 1 *pd*; *t3* with 1 *ad*; lower parafacials without strong seta; pulvilli small; Afrotropical region.) …. ***ambigua*** species complex …… **7**
– *dc* 2+3 …… **9**
7. *t2* without *ad*. ♂: Hind trochanter with ordinary fine setulae. Cercal plate at apex outside curved and bidental, surstylus long and narrow (Fig. 1: *3*). (Femora yellow at apices; body length 7-7.5 mm. ♀: *f2* without strong median *av*; *f3* with short *av* and *pv* setae. ♂: sternite 4 with anteriorly directed projection in anterior part (Fig. 1: *1*)) …… ***biseta*** Stein
– *t2* with 1 *ad*. ♂: Hind trochanter densely covered with spine-like, appressed setulae. Cercal plate different …… **8**
8. Body length 5.5-6.5 mm. Ethiopia, Kenia. ♂: sternite 4 with anteriorly directed projection in anterior part as in Fig. 1: *1*; cercal plate – Fig. 1: *2*, *5*. ♀: *f2* with median *av* as strong as median *a*. (Femora dark, only knees yellow. ♀: *f3* without distinct ventral setae) …… …… ***ambigua*** Stein
– Body length 7-7.5 mm. S Africa. ♂: sternite 4 simple; cercal plate – Fig. 1: *4*.
♀: *f2* without strong median *av*. …… …… ***surda*** Curran
9. *t3* with 1 *av*, 1 *ad* and 1 *pd*. Lower parafacial with strong seta. (*t1* with 1 median *pv*; *t2* with 1 *pd* and 1 *ad*; pulvilli enlarged, distinctly longer than respective last tarsomeres), general view – Fig. 1: *12*, *13*. ….***geniseta*** species complex ……**10**
– *t3* with 1 *ad* only. Lower parafacial without strong seta. (*t1* usually without strong median setae (except for males of *L. setuligera* and *L. keiseri* with fine *pv*); *t2* with 1 *p*, without *ad* (except for *L. bipunctata*); pulvilli small (except for *L. pygmoza* sp. nov.) …. ***pygmaea*** species complex ……**12**
10. N Australia. Parafacial with 2 rather strong setae, the upper seta weaker, its length 0.4-0.8x of length of the lower one. ♂: cercal plate short and wide, with a small ledge in apical half (Fig. 2: *16*, *19*); surstyli with strong sclerotization, symmetric, both of antler-shaped and of the same length (Fig. 2: *16*) …… …… ***setigena*** Vikhrev & Pont, **sp. nov.**
– S Asia or Africa. Parafacial with only 1 strong setae. ♂: cercal plate longer and less robust; surstyli asymmetric ……**11**
11. SE Asia. ♂: cercal plate wider, gradually narrowed to apex, apex not pointed (Fig. 2: *15*, *18*); the left surstylus long and apically curved; the right one bifurcated with both branches of medium length (Fig. 2: *15*) ….. ***geniseta*** Stein
– Africa. ♂: cercal plate wide basally, narrow in apical part, slightly curved in middle, apex pointed (Fig. 2: *14*, *17*). Both surstyli antler-shaped, the left one 2x longer than the right one (Fig. 2: *14*) …… ***macfiei*** Emden
12. *t2* with 1 *ad*. Abdomen mostly grey dusted and without dark marks, only tergite 4 with a pair of very distinct dark glossy spots (Fig. 2: *21*). ♂: sternites 3 and 4 densely setulose, sternite 5 with dense setulae on posterior margin .. …… ***bipunctata*** Seguy
– *t2* without *ad*. Abdominal tergites 1+2 to 4 with more or less uniform dark spots or with uniformly indistinct spots (in *L. pygmaea*). ♂: sternites without remarkable setae ……**13**
13. Meron with 5-7 hairs above hind coxa and 2-3 hairs below posterior spiracle. Neotropical region ……**14**
– Meron and katepimeron bare. Old World ….. ……**15**
14. Lowlands. ♂: *f3* in basal 3/5 with a row 5-6 *av* and 5-6 *pv*, the latter distinctly longer than half width of femur (♂: cercal plate and surstyli –

Fig. 2: *25*) ..... ***setuligera*** Stein
– Highlands. ♂: *f3* with 2(1) *av* at base and 1 *av* in apical 1/3; *pv* on *f3* shorter than half width of femur ..... ***vilis*** Stein
15. Madagascar. Body length 6.5-7 mm. Tarsi entirely black (Fig. 2: *20*). ♂: *t1* with 1(2) fine and long *pv*; cercal plate remarkably small – Fig. 2: *22*. ♀: *f3* with strong *av* beyond middle .... ***keiseri*** Zielke
– Not Madagascar. Body length 5.5 mm or less. Tarsi basally more or less yellow. ♂: *t1* without *pv*; cercal plate different. ♀: *f3* without submedian *av* **16**
16. *tar1-2* to *tar1-5* widened and shortened. Pulvilli elongated, longer than respective last tarsomeres. Preapical *d* on *t3* at least as long as length of *tar3-1*. Femora entirely dark. Palpus narrow in basal half and abruptly widened in apical half where 2.5x as wide as width of postpedicel. S Australia. ♂: cercal plate – Fig. 2: *23* ..... ***pygmoza*** Vikhrev & Pont, **sp. nov.**
– Fore tarsal segments not widened. Pulvilli small. Preapical *d* on *t3* shorter than half length of *tar3-1*. Femora yellow at apex. Palpus very gradually widened to apex where still very narrow for *Lispe*, 1-1.5 as wide as width of postpedicel. Palaearctic, also N of Afrotropical and N of Oriental regions, Hawaii. ♂: cercal plate – Fig. 2: *24* ..... ***pygmaea*** Fallen

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