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TAXONOMIC NOTES ON *LISPE* (DIPTERA, MUSCIDAE), PARTS 10–12

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Ключевые слова: *Diptera, Muscidae, Lispe, новые виды, новые синонимы, систематика*

Summary. Palaearctic fauna of the *Lispe palposa* and *L. uliginosa* groups and the world fauna of here proposed *Lispe nicobarensis* group are revised; notes on the American fauna of the *L. palposa* and *L. uliginosa* groups are given. Three new species *L. mexicana* **sp. nov.**, *L. aceponti* **sp. nov.**, *L. flaveola* **sp. nov.**, and hitherto unknown female of *Lispe septentrionalis* Xue & Zhang, 2005 are described. Four new synonymies are proposed: *L. frigida* Erichson, 1851 = *Lispe canadensis* Snyder, 1954, **syn. nov.**; *L. superciliosa superciliosa* Loew, 1861 = *Lispe superciliosa cancellata* Canzoneri & Meneghini, 1966, **syn. nov.**; *L. uliginosa* Fallen, 1825 = *Lispe cotidiana* Snyder, 1954, **syn. nov.** = *Lispe neouliginosa* Snyder, 1954, **syn. nov.** The true identity of *L. frigida* Erichson, 1851 and *L. monochaita* Mou et Ma, 1992 is clarified. Original identification keys for considered species-groups are proposed.

Резюме. Ревизована палеарктическая фауна видов *Lispe* из групп *L. palposa* и *L. uliginosa* и мировая фауна предложенной здесь группы *Lispe nicobarensis*; даны краткие таксономические заметки по американской фауне групп видов *L. palposa* и *L. uliginosa*. Описано 3 новых вида: *L. mexicana* **sp. nov.**, *L. aceponti* **sp. nov.**, *L. flaveola* **sp. nov.** и дано описание неизвестной до настоящего времени самки *Lispe septentrionalis* Xue & Zhang, 2005. Предложено 4 новых синонима: *L. frigida* Erichson, 1851 = *Lispe canadensis* Snyder, 1954, **syn. nov.**; *L. superciliosa superciliosa* Loew, 1861 = *Lispe superciliosa cancellata* Canzoneri & Meneghini, 1966, **syn. nov.**; *L. uliginosa* Fallen, 1825 = *Lispe cotidiana* Snyder, 1954, **syn. nov.** = *Lispe neouliginosa* Snyder, 1954, **syn. nov.** Предложена новая интерпретация таксонов *L. frigida* Erichson, 1851 and *L. monochaita* Mou et Ma, 1992. Оригинальные определительные ключи даны для всех рассмотренных групп видов.

INTRODUCTION

There are about 200 species of *Lispe* Latreille 1796 worldwide. The genus seems to have originated from the southern part of the Palaearctic region, since it shows the most impressive diversity in warm zone of Asia and Africa. The subsequent penetration of *Lispe* settlement into Australia (via the warm and dry land bridge in place of the present Torres Strait) and America (via the cold Bering land bridge) also resulted in a significant diversity. *Lispe* have successfully colonized most of the islands including the remote ones. The only large territory where *Lispe* is totally absent is New Zealand.

In my previous papers on *Lispe* [Vikhrev, 2011a, 2011b, 2012a, 2012b, 2012c, 2014] a substantial part of the world fauna was considered, including the entire Palaearctic fauna of *Lispe* except the *Lispe palposa*, *Lispe uliginosa,* and *Lispe caesia* species-groups [Snyder, 1954; Hennig, 1960]. The species belonging to the *Lispe caesia* group inhabit sea coasts and salt inland basins of the Palaearctic, Afrotropical and Australasian regions; they will be considered in a separate paper. The *Lispe palposa* and *Lispe uliginosa* groups have Holarctic distribution. Here I provide a detailed account of the Palaearctic fauna, while notes on Nearctic and Neotropical species are given where the material is available. The *L. nicobarensis* group is proposed in the present paper for the first time. It is a well-bordered group which includes 5 species distributed in Australia and tropical Asia.

Considered species groups may be separated from other *Lispe* species as follows:

1. Either frontal triangle broad, with convex margins, densely silvery dusted, or femora with ventral rows of short spines, or both. (*t2* with or without *ad*.) **..... *Lispe caesia* group**
– Frontal triangle without convex margins; femora without ventral rows of short spines **..... 2**
2. Vibrissae distinctly above mouth margin. Sternite 4 enlarged and merged with tergite 4 in syntergosternite, sternite 4 posterodorsally with a skew process on the right side **..... *Lispe nicobarensis* group**
– Vibrissae at mouth margin. Syntergosternite 4 absent **..... 3**
3. *t2* without *ad* **..... other species of *Lispe***
– *t2* with *ad* **..... 4**
4. *t3* with 1 *av*, 1 *ad* and 1 *pd* **..... *L. kowarzi* species complex** [see Vikhrev, 2014]; ***L. geniseta* and related Afrotropical species; Australian *L. uniseta***

– *t3* at least without *pd* **5**

5. *t3* with *av*. Palpi narrow ..... ***Lispe uliginosa* group**

– *t3* without 1 *av*. Palpi wide to medium wide **6**

6. Palpi bigger, dark or dirty-yellow. Body densely grey to brownish-grey dusted. ♂: Apex of abdomen not flattened and not pointed, black, with a whitish midspot (as on col. pl. I: *18*, *19*). Cercal plate of heart shape, with wide basal half and narrow apical half. ♀: preapical *d* on *t3* at most half as long as *tar3–1* ..... ***L. palposa* group**

– Palpi smaller, deep and pure yellow. Body black, without or with very few dusting. ♂: Apex of abdomen somewhat laterally flattened and dorsally pointed, evenly black, without whitish midspot. Cercal plate not of heart shape and with a thorn at middle. ♀: preapical *d* on *t3* almost as long as *tar3–1* ..... ***L. rigida* group** [see Vikhrev, 2012c].

MATERIAL AND METHODS

The majority of the specimens studied are stored in the Zoological Museum of Moscow University (ZMUM), in this case not indicated in text. Other collections are abbreviated as follows:

BMNH – Natural History Museum, London, UK.

ISEA – Institute of Systematics and Ecology of Animals, Novosibirsk, Russia.

MNHN – Muséum national d'Histoire naturelle, Paris, France.

SDEI – Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany.

ZIN – Zoological Institute, St-Petersburg, Russia.

ZMHU – Museum für Naturkunde, Humboldt–Universität zu Berlin, Germany.

ZMUH – Zoological Museum, Finnish Museum of Natural History, Helsinki, Finland.

Localities (where possible) are given in the following form: country, region, geographical coordinates, the latter are given in the Decimal Degrees format. If coordinates were not present in an original label, they are provided in brackets. Countries and regions are listed in the alphabetical order.

The full names of regions of Russian administrative subdivision are an entangled result of political and historical events of no interest for zoology, so they are listed as name (taken from English version of Wikipedia) and word «region». There are 4 exceptions: Leningrad Oblast and Federal City St-Petersburg are listed as St-Petersburg region; Altai Krai and Altai Republic are listed respectively as Altai Krai region and Altai Republic region; Adygeya Republic enclaved within Krasnodar region is listed under Krasnodar region.

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 [2011a]: 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* = hind basitarsus.

Illustrations are original, unless otherwise indicated.

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

10. *Lispe palposa* species–group

Notes on the *L. palposa* group. The *Lispe palposa* group was firstly proposed by Snyder [1954] for 10 Nearctic species: *L. argentea* Snyder, 1954; *L. bohemica* Becker, 1904; *L. brevipes* Aldrich, 1913; *L. canadensis* Snyder, 1954; *L. jamesi* Snyder, 1954; *L. johnsoni* Aldrich, 1913; *L. palposa* Walker, 1849; *L. probohemica* Speiser, 1914; *L. salina* Aldrich, 1913; *L. sordida* Aldrich, 1913. Later on 3 more species from the *L. palposa* group were described from America: *L. bahama* Snyder, 1958; *L. approximata* Huckett, 1966 and *L. desertorum* Huckett, 1966. Short notes on the American fauna of the *L. palposa* group are given in Part 10.2 of the present paper.

Hennig [1960] revised the *L. palposa* group of the Palaearctic region, totally 10 species were considered: *L. apicalis* Mik, 1869; *L. cinifera* Becker, 1904; *L. elkantarae* Becker, 1907; *L. flavicincta* Loew, 1847; *L. flavinervis* Becker, 1904; *L. frigida* Erichson, 1851; *L. hydromyzina* Fallen, 1825; *L. litorea* Fallen, 1825; *L. loewi* Ringdahl, 1922; *L. superciliosa* Loew, 1861. Two more taxa: *L. parcespinosa* Becker, 1900 and *L. bohemica* Becker, 1904 were regarded by Hennig [1960] as synonyms, but I offer here a different point of view. After Hennig's revision several more species of the *L. palposa* group were described from the Palaearctic region. *Lispe superciliosa cancellata* Canzoneri & Meneghini, 1966 was described from Central Turkey. Chinese authors (the data are summarized in [Xue & Zhang, 2005] and [Zhang et al., 2005]) described 5 more species which belong to the *L. palposa* group: *Lispe appendibacula* Xue & Zhang, 2005; *L. hebeiensis* Ma & Tian, 1993; *L. monochaita* Mou et Ma, 1992; *L. neimongola* Tian & Ma, 2000; *L. tarsocilica* Xue & Zhang, 2005. One more species was described from Japan, *L. ezensis* Shinonaga & Kano, 1983. Part 10.1 of the present paper considers all the Palaearctic species mentioned above.

Species of the *Lispe palposa* group have medium to large size; stumpy body with a dense (and somewhat untidy) grey dusting. Vibrissae present or reduced in some males; *t1* without or with *p* seta; *t2*

always with 1 *ad* and 1 *pd*, some species have additional *ad* or *pd* or *v* seta(e); *t3* in both sexes with 1 *ad* seta only, which is sometimes indistinct among elongated *ad* setulae (exceptions Nearctic *L. sordida* and *L. bahama* with 1 *av* on *t3* in both sexes); hind coxa without or with seta on inner posterior surface; meron usually with hairs above hind coxa; male postabdomen always velvety black with whitish spot in middle (see col. pl. I: *18*, *19*); male cercal plate always of heart shape with elongated apex. Typical habitat of the species of the *Lispe palposa* group is saltish soil near fresh or salt water: river flood-lands, banks of fresh to salt lakes or ponds, seashore salt marshes.

L. palposa group probably is one of the most clearly defined one, but the relationship of the group is not very clear. It seems related to the *Lispe rigida* group (offered by Vikhrev [2012c] for *L. rigida* Becker, 1903; *L. brunnicosa* Becker, 1904 and *Lispe kozlovi* Vikhrev, 2012) with the same leg chaetotaxy in both sexes. These groups can be divided as recommended in Introduction.

The distribution of the *Lispe palposa* group is restricted to the Holarctic region. The group is most common and diverse in the steppe and semidesert climatic zones. The southernmost distributed Palaearctic species are *L. loewi* and *L. apicalis* (recorded at 28N in Morocco), the northernmost species are *L. frigida* (= *L. canadensis*) recorded at 69-70N, well beyond the Polar Circle.

10.1. Palaearctic fauna of the *Lispe palposa* group

Lispe apicalis Mik, 1869
Col. pl. I: *1, 6*
Type locality: **Austria**, Vienna, Brigittenau.
Lispe comitata Becker, 1904: Hennig, 1960: 419-420.
Type locality: **Turkmenistan**, Bayramaly (37.62N 62.15E).
Material examined:
Holotype, *L. comitata* ♂: Transcaspien, Bairam-ali (= **Turkmenistan**, ***Mary*** prov., Bayramaly, 37.62N 62.15E), (ZIN).
Algeria, Biskra (34.85N 5.73E), 04.1905, 12♂, 4♀ (ZMHU).
China, ***Xinjiang*** prov., Kalamaili (Natural Reserve, 45.2N 89.1E), 6.08.2009, D. Zhang, 1♂, 1♀ (MNHN).
Hungary, Kalocsa (46.5N 19.0E), Thalhammer, 1♂ (det. label: T. Becker) (ZMHU).
Kazakhstan: ***Kyzylorda*** reg., 45.76N 62.31E, freshwater pond, 15-19.05.2011, K. Tomkovich, 1♂; ***W Kazakhstan*** reg., Uralsk env., Barbastau R., 51.21N 51.97E, 28.08.2012, K. Tomkovich, 2♂, 3♀; Uralsk env., Shalkar L., 50.646N 51.684E, 27.08.2012, K. Tomkovich, 6♂, 4♀.
Morocco: ***Essaouira*** prov., Essaouira env., 31.47N 9.76W, 1-5.05.2012, N. Vikhrev, 4♂, 7♀; ***Ouarzazate*** prov., 30.97N 6.75W, 12.05.2012, N. Vikhrev, 2♂, 2♀; ***Tan-Tan*** prov., Qued Draa, 28.528N 10.947W, 11.05.2012, N. Vikhrev, 1♂.
Russia: ***Astrakhan*** reg., Baskunchak salt-lake env., 48.19N 46.81E, 3.05.2010, K. Tomkovich, 1♂; ***Kalmykia*** reg.: Arshan-Zelmen L., 47.595N 44.592E, 8.06.2012, N. Vikhrev, 1♂; Ergeninsky env, 47.6N 44.5E, 01.05.2013, N. Vikhrev, 2♂, 1♀; Manych-Gudilo L., 46.029N 43.441E, 9.06.2012, N. Vikhrev, 1♂; nameless lake, 47.875N 44.601E, 8.06.2012, N. Vikhrev, 1♂, 4♀; ***Krasnodar*** reg., Krinitsa env., Pshada R., 44.395N 38.341E, 10.09.2009, K. Tomkovich, 1♂, 1♀; ***Orenburg*** reg., Sol-Iletsk env., 51.15N 55.01E, 28.08.2012, K. Tomkovich, 2♀; ***Rostov*** reg., Kamensk-Shakhtinsky env., 48.242N 40.404E, 1.06.2013, N. Vikhrev, 5♂.
Tajikistan, ***Khatlon*** prov., Farkhor distr, 37.42N 69.35E, 09.06.2010, K. Tomkovich, 1♂.
Turkmenistan: ***Ahal*** reg.: 40 km W of Ashgabat (38.2N 57.9E), 12.05.1984, A. Ozerov, 2♂, 2♀; Kopetdag, Chuli env. (37.97N 58.02E), 5.05.1984, A. Ozerov, 1♂, 1♀; ***Mary*** reg., Kushka env. (35.28N 62.34E), 22.05.1991, A. Ozerov, 2♂.
Turkey: ***Hatay*** prov., Çevlik env., 36.074N 35.953E, salt lake, 16.04.2010, N. Vikhrev, 7♂; ***Zonguldak*** prov., Alaply env., 41.14N 31.36E, 29.08.2009, N. Vikhrev, 1♂.
Distribution. *L. apicalis* inhabits West and Central Palaearctic from Morocco to Central Asia. The westernmost and the southernmost record is 28.528N 10.947W (SW Morocco); the easternmost records are China: Inner Mongolia prov., Ejin Banner (≈ 41.7N 100.3E) and Xinjiang prov., Burqin (≈ 48.7N 87.0E) [Zhang et al., 2005]; the northernmost – 51.21N (NW Kazakhstan).
Remarks. Hennig [1960] synonymized *L. comitata* Becker, 1904 to *L. apicalis* basing on comparison of limited material of *L. apicalis* from Hungary and Algeria with the holotype of *L. comitata*. At first glance this synonymy seems doubtful as the type male specimens differ as follows:

– *f2* with 2-4 fine ventral setae about as long as femur width. *t2* on *ad* surface (apart from strong *ad* seta) with uniform and short setae, shorter than *pd* seta on *t2* ..... ***apicalis*** Mik.
– *f2* with 4-8 stronger and longer (at least 2x as long as femur width) ventral setae. *t2* on *ad* surface (apart from strong *ad* seta) with 1-3 longer setae, stronger and at least as long or longer than *pd* seta on *t2* ..... ***comitata*** Becker.

However, after examination of rich material listed above I had to agree with Hennig's point of view, because males with intermediate characters are common in Caspian region and Central Asia and females are indistinguishable. There is a possibility to regard *L. comitata* as the eastern subspecies of *L. apicalis*.

If so, *L. apicalis comitata* is distributed eastward of Volga River in SW Siberia and Central Asia; whereas nominative *L. apicalis apicalis* inhabits N Africa, Turkey and Europe, but becomes rare in Asia. Personally I prefer to attribute all specimens as *L. apicalis* to avoid uncertainty in determination of females and intermediate males.

Lispe cinifera Becker, 1904
Col. pl. II: *30*
Type locality: **China**, ***Sichuan*** prov. (≈ 32.0N, 99.5E), see comments to the Holotype of *L. brunnicosa*, [Vikhrev, 2012c: 431].
Lispe seticincta Becker, 1904. Type locality: **China**, ***Qinghai*** prov. (≈ 36.2N 97.4E).
Material examined:
Holotype, *L. cinifera*, ♂ (ZIN). The holotype of *L. cinifera* is in good condition. The holotype has the Russian label transliterating as: «r. Dza-chu, 11000' / Kam, bas. Goluboy / Kozlov, ser. IV 01», that means «Dza-chu r(iver), 11000 (feet asl), Kham, Golubaya (river) bas(in), Kozlov (leg.), mid April (19)01» = **China,** ***Sichuan*** prov., about 32.0N, 99.5E, mid April 1901, P. Kozlov. Identification labels by Becker, Hennig and Pont.
Lectotype and paralectotype, *L. seticincta*, 2♀ (ZIN). Both lectotypes are in good condition. The lectotypes have the Russian label transliterating as: kh. Barun-Dzasak, met.st. v. Tsaidam, Kozlov, kon. VII 01, that means: khyrma of Barun-Dzasak, meteorological station, Tsaidam, end of VII.1901, P. Kozlov. (Khyrma is a light fortress made of clay, Dzasak is a rank of a count, here the head of Barun district). Position of khyrma Barun-Dzasak weather station is given in Kozlov [1947] and in modern terms is **China**, ***Qinghai*** prov., 36.2N 97.4E, 2800 m asl. Identification labels by Becker and Pont.
Kazakhstan, ***E Kazakhstan*** reg., Zaysan env., Uidene R. dry bank (≈ 47.47N 84.78E), 20.08.1989, M. Malyanov, 2♂, 2♀ (ZIN).
Kyrgyzstan, ***Naryn*** reg., steppe near Baetov, 41.26N 71.92E, 1050 m asl, 27.06.2009, D. Werner, 2♂ (ZMHU).
Turkmenistan, ***Ahal*** reg., (38.2N 57.9E), 2.05.1984, A. Ozerov, 5♂, 3♀.
Distribution. Central Asia. China: Gansu prov., Subei (≈ 39.7N 98.5E) [Zhang et al., 2005]; Qinghai prov.; Sichuan prov., Xinjiang prov., Tomur Mt. (≈ 41.7N 80.4E) [Zhang et al., 2005]; Kazakhstan, E Kazakhstan prov.; Kyrgyzstan, Naryn reg.; Turkmenistan, Ahal reg.

Lispe elkantarae Becker, 1907
Col. pl. I: *2*
Type locality: **Algeria**, El-Kantara.
Material examined:
Syntypes: 3♂, 8♀: **Algeria**, El-Kantara (35.22N 5.71E), 3-4.05.1905 (ZMHU).
Morocco, ***Essaouira*** prov., Essaouira env., 31.47N 9.76W, 1-5.05.2012, N. Vikhrev, 9♂, 7♀.
Turkey, ***Zonguldak*** prov., Alaply env., 41.14N 31.36E, 19-20.06.2010, N. Vikhrev, 1♀.
Distribution. SW Palaearctic: Algeria; Morocco; Turkey.

Lispe ezensis Shinonaga & Kano, 1983
Type locality: **Japan**, Hokkaido.
Material examined:
Russia, ***Primorsky*** reg., Lazo (43.4N 133.9E) env., 17.08.1987, A. Ozerov, 1♀.
Distribution. Japan, Hokkaido and Russia, Primorsky reg.
Remarks. I have only single female specimen, it has 2+4 *dc* and *f2* with complete rows of *av* and *pv* setulae (about as long as femur width). This is not bad for identification of a female of the *L. palposa* group. The original description of a male [Shinonaga & Kano, 1983] does not add useful information and raises some questions: «hypopleuron bare», but my female's meron actually has 2-3 hairs above hind coxa; «*t3* with *ad*, without long hairs», but the drawing by Shinonaga and Kano [1983: 84, Fig. 2] shows *t3* with *ad* seta hardly distinct among elongated hairs.

Lispe flavicincta Loew, 1847
Col. pl. I: *7, 28*
Type locality: Southern **Russia** (most probably it is Volgograd env., where there was a German settlement in XIX century).
Material examined:
Czech, Zettwing (= Cetviny, 48.615N 14.550E), 20.07.(18)75, Mik, with identification labels by Kowarz and Hennig 1♂ (ZMUM) and 1♂ (ZMHU).
France, Corsica, 7♂, 4♀ (ZMHU).
Georgia, Caucasus, Swanetien (Svaneti, ≈ 42.8N 42.7E), 6♂, 5♀ (ZMHU).
Hungary, Orsova (44.7N 22.4E), 2♂ (ZMHU).
Russia: ***Bashkortostan*** reg., Muraptalovo, Yushatyr R., 52.43N 55.79E, 29.08.2012, K. Tomkovich, 2♂, 4♀; ***Krasnodar*** reg., Sochi distr., Mzymta R. (43.43N 39.94E), 25.09.2006, N. Vikhrev, 1♀.
Tajikistan: ***Dushanbe*** reg., Ramit env., 38.72N 69.32E, 21.6.2010, K. Tomkovich, 3♂, 6♀.
Distribution. Known from Europe to Central Asia.

Lispe flavinervis Becker, 1904
Col. pl. I-II: *5, 12, 27, 29*
Type locality: **China**, ***Qinghai*** prov.
Material examined:
Syntypes *Lispe flavinervis* 1♂, 2♀. (ZIN), all in good condition. The syntypes have the Russian label transliterating as: Kurlyk (-Nor Lake), Baingol (River), vost. (East) Tsaidam (≈ 37.2N 96.9E), Rob(orovsky and) Kozlov, 21.V.1895 = **China**, ***Qinghai*** prov. 37.2N 96.9E. Identification labels by Becker, Hennig

and Pont.

China: Ejin gol [River], Gobi, Mongolia (Should be Ejin R. near Khara Khoto, ancient Tangut city discovered by P. Kozlov in 1908 and revisited by him in 1926, so locality is: ***Inner Mongolia*** prov., Ejin R. (≈ 41.9N 100.6E)), 24.03.1926, P. Kozlov, 1♂.

Kazakhstan: ***Akmola*** reg., Burabay NP: 53.1N 70.3E, Bolshoe Chebachye L., 24-27.07.2013, O. Kosterin, 17♂, 3♀; 53.10N 70.17E, Maloe Chebachye L., 28.07.2013, O. Kosterin, 2♂, 5♀; 53.11N 70.18E, Maybalyk salt L., 26-28.07.2013, O. Kosterin, 12♂, 3♀; ***Kyzylorda*** reg., Aralsk, 46.79N 61.67E, 12-13.05.2011, K. Tomkovich, 1♀.

Russia: ***Altai Krai*** reg., Zmeinogorsk distr,. Kolyvanovskoe L., 51.35N 82.19E, 8.09.2007, O. Kosterin, 1♂; ***Astrakhan*** reg., Baskunchak salt L., 48.2N 46.8E, 2-4.05.2010, K. Tomkovich, 2♂, 3♀; ***Khakassia*** reg., Shirinsky distr., 54.65N 90.18E, 2.07.2011, K. Tomkovich, 23♂, 8♀; ***Kalmykia*** reg.: Manych env. (45.6N 44.5E), 6.08.1918, Pastukhov, 1♂; Manych saltish L., 46.029N 43.441E, 9.06.2012, N. Vikhrev, 1♂, 1♀; Priyutnoe env., 46.1N 43.5E, 2-3.05.2013, N. Vikhrev, 16♂, 16♀; ***Kurgan*** reg., Lebyazhye distr. (55.13N 66.78E), 30.06.2007, V. Sorokina, 5♂, 3♀ (ISEA); ***Novosibirsk*** reg., Karasuk distr., 53.6N 77.8E, 28.06.2002, A. Barkalov, 1♂ (ISEA); ***Omsk*** reg., Russko-Polyansky distr., 53.96N 73.76E, 15.05.2010, O. Kosterin, N. Priydak, 3♂, 1♀; Omsk, Solenoe saltish L., 54.887N 73.349E, 24.07.2012, O. Kosterin, 15♂, 1♀; ***Orenburg*** reg., Sol-Iletsk env., 51.15N 55.01E, 28.08.2012, K. Tomkovich, 1♂, 1♀.

Ukraine: ***Donetsk*** reg., Slavyansk env. (48.87N 37.63E), 1886, Yaroshevskiy, 3♂.

Distribution. Palaearctic from E Europe to China, to the north till 55N.

Remarks. I believe that Hennig's [1960: 427, Text fig. 151] drawing of the antenna of *L. flavinervis* and *L. cinifera* is misleading, actually the length of the arista and aristal hairs is similar in these species, but sometimes arista and aristal hairs are partly broken.

Lispe frigida Erichson, 1851

Col. pl. II: *24*, *25, 26*

Type locality: **Russia**, ***Taymyr*** Peninsula, Boganida (69.35N 86.70E, 25 km E of Dudinka).

Lispe canadensis Snyder, 1954. Type locality: **Canada**, Northwest Territories (***Nunavut*** terr.), Chesterfield (63.34N 90.71W), **syn. nov.**

Material examined:

Holotype *L. frigida*, ♀: **Russia**, (***Krasnoyarsk*** reg., ***Taymyr***), Boganida L. (69.35N 86.70E) (ZIN).

Canada: ***Manitoba***: Churchill (58.77N 94.17W), 26.05.1952, P.R. Ehrlich, 1♀; Warkworth Cr. near Churchill, 5.06.1952, J.G. Chillcott, 1♂; ***NWT***, Yellowknife (62.45N 114.37W), 4.06.1953, J.G. Chillcott, 1♀; ***Nunavut***, Chesterfield (63.34N 90.71W), 12.08.1980, J.R. Vockeroth, 1♂.

Russia: ***Chukotka*** reg., Anadyr env., 64.72N 177.52E, 20.07.2014, A. Barkalov, 1♀ (ISEA); ***Krasnoyarsk*** reg., ***Taymyr*** distr., Dudinka env., 69.4N 86.2E, lake silt, 25-27.07.2011, N. Vikhrev, 3♂; ***Nenets*** reg., Ust-Kara (69.24N 64.94E), 10.08.1961, K. Gorodkov, 1♂ (ZIN); ***Sakha (Yakutia)*** reg.: Verkhoyansk env., (67.55 N 133.35 E), 10.08.1969, V. Sychevskaya, 1♂; Pokhodsk (69.08N 160.97E), 18.07.1973, N. Vinokurov, 1♂ (ZIN); Chersky (68.75N 161.33E), 6.08.1972, K. Gorodkov, 1♂ (ZIN); ***Yamalo-Nenets*** reg., Labytnangi env. (66.66N 66.41E), 19.07.1974, V. Sychevskaya, 1♀; 2.08.1961, K. Gorodkov, 2♂, 1♀ (ZIN).

Distribution. A Holarctic circumpolar species.

The true identity of *L. frigida*. Hennig examined the female holotype of *L. frigida* when it had been already in bad condition (without head) [Hennig, 1960: 435] and identified it as a female belonging to the *L. palposa* group. Hennig took into account visible morphological characters and the fact that the type locality of *L. parcespinosa* is near (measuring by a Siberian yardstick) to the type locality of *L. frigida* and came to conclusion that «only … *L. parcespinosa* are in question». At first glance the conclusion that the female holotype of *L. frigida* and a male syntype of *L. parcespinosa* are conspecific seems correct, but I believe it is not. Hennig [1960] had not mentioned it, but the holotype of *L. frigida* has remarkably enlarged thoracic and abdominal spiracles (see col. pl. II: *25*). Besides, he failed to take into account *L. canadensis* Snyder, 1954 described from N Canada which is notable for its remarkably enlarged thoracic and abdominal spiracles (col. pl. II: *24*, *26*). As follows from the material listed above, actually *L. canadensis* has a Holarctic distribution and in particular 3 males were collected on Taymyr exactly between the type localities of *L. frigida* and *L. parcespinosa*. The thoracic and abdominal spiracles are also enlarged in specimens of *L. parcespinosa* collected at northern localities (see «Discussion» to *L. parcespinosa* and [Snyder, 1954: 26-27]), but not to such an extent. Also the female holotype of *L. frigida* has long *av* setae on the basal half of *f3* which are absent in *L. parcespinosa* but present in *L. canadensis*. These reasons lead me to a conclusion that the presently accepted notion of *L. frigida* as a species with rodlike seta on apex of *tar2-4* in male sex is erroneous, but the female holotype of *L. frigida* is conspecific with *L. canadensis*. Thus, *L. parcespinosa* is not a synonym of *L. frigida*, but becomes a valid name and *Lispe frigida* Erichson, 1851 = *Lispe canadensis* Snyder, 1954, **syn. nov.**

Lispe hebeiensis Ma & Tian, 1993

Col. pl. I-II: *9, 31*

Type locality: **China**, ***Liaoning*** prov.

Material examined:

Greece, Saloniki env., Pikrolimni L., 40.84N 22.80E,

19.06.1939, E. Schmidt, 1♂, 1♀ (BMNH).
Kazakhstan: ***Kyzylorda*** reg., Aralsk, 46.79N 61.67E, 12-13.05.2011, K. Tomkovich, 2♂, 3♀; ***W Kazakhstan*** reg., Uralsk env., Shalkar L., 50.58N 51.79E, 27.08.2012, K. Tomkovich, 1♀.
Russia: ***Altai Krai*** reg., Zmeinogorsk distr., Kolyvanovskoe L., 51.35N 82.19E, 8.09.2007, O. Kosterin, 1♂; ***Astrakhan*** reg., Baskunchak L. env., 48.2N 46.8E, 2-4.05.2010, K. Tomkovich, 2♂; ***Kalmykia*** reg., Priyutnoe env., Manych R., 46.029N 43.439E, 9.06.2013, N. Vikhrev, 6♂, 4♀; ***Omsk*** reg., Omsk, Solenoe salt lake, 54.887N 73.349E, 24.07.2012, O. Kosterin, 2♂; ***Orenburg*** reg., Sol-Iletsk env., 51.15N 55.01E, 28.08.2012, K. Tomkovich, 1♂, 1♀; ***Volgograd*** reg., Breslavka env., 48.535N 44.131E, 30.04.2013, N. Vikhrev, 1♀; ***Zabaykalsky*** reg., Zun-Torey alcaline L., 50.01N 115.72E, 30.07.2011, A. Medvedev, 1♂.
Distribution. Known from E Europe to Far East. The northernmost record 54.88N. China records: Hebei prov., Guyuan (≈ 41N 115E) and Liaoning prov., Shenyang (41.8N 123.4E) [Zhang et al., 2005].

Lispe hydromyzina Fallen, 1825
Col. pl. II: *33*
Type locality: (**Sweden**), Esperod (55.68N 14.24E).
Material examined:
[**Poland**], Stolp in Pommern, 13.08.1929, O. Karl, 1♂, 2♀ (ZMHU).
[**Germany**, ***Lower Saxony*** state], Borkum [Isl., 53.6N 6.7E], 10-12.08.1901, W. Schnuse, 2♂♂, 1♀ (ZMHU).
Russia, ***St Petersburg*** reg., Nizhn. Bronnaya (59.93N 29.63E), 11.05.1919, A. Stackelberg, 1♀ (with Hennig's handwriting label *L. hydromyzina* Fall.) (ZIN).
Distribution. Known only from the shores of the Atlantic seas in W Europe.

Lispe litorea Fallen, 1825
Col. pl. I: *13*
Type locality: (**Sweden**) Bohuslan (58.1N 11.5E).
Lispe pilosa Loew, 1862
Material examined:
Syntypes *Lispe pilosa*, 1♂, 1♀: 594, 595 (**Germany**, North Sea coast) (ZMHU).
Germany: (***Lower Saxony*** state), Mellum (Isl.) (53.72N 8.15E), 24.06.1926, J. D. Alfken, 1♀ (ZMUM), 1♂ (SDEI); Borkum (Isl., 53.6N 6.7E), VII-VIII, W. Schnuse, 4♂, 3♀ (ZMHU).
United Kingdom: Somerset, Berrow (51.27N 3.02W), 10.06.1950, E. Fonseca, 2♂; Gloucestershire (51.77N 2.42W), 10.07.1980, M. Ackland, 1♂, 1♀ (BMNH).
Distribution. Known only from the shores of the Atlantic seas in W Europe.

Lispe loewi Ringdahl, 1922
Col. pl. I: *17*
Type locality: **Germany**; **Italy**, ***Sicily***; **Sweden**.
Material examined:
(**Algeria**), Biskra (34.85N 5.73E), 1♂ (ZMHU).
(**Egypt)**, Port Said (31.2N 32.3E), 11♂, 5♀ (ZMHU).
Kazakhstan: ***Atyrau*** reg., Ural R. bank, 46.95 N 51.73 E, 21.05.2011, K. Tomkovich, 1♀; ***Kyzylorda*** reg., Aralsk, salt lake, 46.79 N 61.67 E, 12.05.2011, K. Tomkovich, 3♂, 7♀; ***W Kazakhstan*** reg., Shalkar L. env., 50.6N 51.8E, 27.08.2012, K. Tomkovich, 2♂, 7♀.
Morocco: ***El Jadida*** prov., Oualidia lagune, 32.746N 9.024W, 30.04.2012, N. Vikhrev, 1♂, 1♀; ***Essaouira*** prov., Essaouira env., 1-5.05.2012, N. Vikhrev, 13♂, 10♀; ***Tan-Tan*** prov.: Draa R., 28.528N 10.947W, 11.05.2012, N. Vikhrev, 5♂, 1♀; salt lagune, 28.204N 11.779W, 10.05.2012, N. Vikhrev, 16♂, 3♀.
Russia: ***Astrakhan*** reg., Baskunchak salt Lake, 48.2N 46.8E, 2-4.05.2010, K. Tomkovich, 2♂, 7♀; ***Bashkortostan*** reg., Yushatyr R., 52.45N 55.78E, 30.08.2012, K. Tomkovich, 1♂; ***Buryatia*** reg., Kyakhta env., 50.33N 106.70E, 24.07.2012, A. Medvedev, 1♀; ***Kalmykia*** reg., 47.875N 44.601E, 8.06.2012, N. Vikhrev, 1♂, 2♀; Priyutnoe env., 46.1N 43.5E 2-3.05.2013, N. Vikhrev, 2♂, 1♀; ***Omsk*** reg., Omsk, Solenoe salt lake, 54.887N 73.349E, 24.07.2012, O. Kosterin, 1♂; ***Orenburg*** reg., Sol-Iletsk env., 51.342N 55.013E, 28.08.2012, K. Tomkovich, 1♀; ***Rostov*** reg., Kamensk-Shakhtinsky env., 48.29N 40.26E, 25.05.2011, D. Gavryushin, 1♂, 2♀; ***Stavropol*** reg., saltish pond, 45.245N 42.665E, 9.06.2012, N. Vikhrev, 5♂, 3♀; ***Volgograd*** reg., salt pool, 48.465N 44.570E, 8.06.2012, N. Vikhrev, 3♂.
Tajikistan: ***Khatlon*** prov., Jilikul env. (37.5N 68.5E), 16.04.1988, M. Krivosheina, 1♂.
Turkey: ***Adana*** prov., seashore salt marsh, 36.74N 35.62E, 12.04.2010, N. Vikhrev, 21♂♀; ***Hatay*** prov., salt lake, 36.07N 35.96E, 16.04.2010, N. Vikhrev, 14♂♀; ***Mersin*** prov., seashore salt marsh, 36.31N 34.01E, 22.04.2010, N. Vikhrev, 14♂♀, ***Mugla*** prov., Iztuzu beach (36.80N 28.61E), 7-9.06.2010, A. Grzywacz, 2♀.
Turkmenistan: ***Ahal*** reg., 40 km W of Ashgabat (38.2N 57.9E), 12.05.1984, A. Ozerov, 3♀; ***Daşoguz*** reg., Sarykamysh L. (41.6N 57.6E), 8.05.1991, A. Ozerov, 1♂; ***Mary*** reg.; Badhyz NR (35.7N 61.8E), 25.05.1991, A. Ozerov, 4♂, 1♀.
Ukraine: ***Odessa*** reg., Odessa env., Khadzhibey Estuary (46.6N 30.6E),14.09.1938, B. Rohdendorf, 5 ♀.
Distribution. Widespread in sea marshes and at banks of inland salt basins in West and Central Palaearctic. Probably the most southerly distributed species in *Lispe palposa* group, listed for Sudan [Pont, 1986], collected in S Morocco, 28.204N 11.779W. There is a record from China: Liaoning prov., Dalian (39.0N 121.5E) [Zhang et al., 2005].

Lispe neimongola Tian & Ma, 2000.
Col. pl. I-II: *3, 4, 8, 11, 22*
Type locality: **China**, ***Inner Mongolia***, Alashan

(38.8N105.7E).
Material examined:
China, ***Xinjiang*** prov., Kalamaili (Natural Reserve, 45.2N 89.1E), 6.08.2009, D. Zhang, 2♂, 1♀ (MNHN).
Kazakhstan, ***Kyzylorda*** reg., Aralsk, salt lake, 46.79 N 61.67 E, 12.05.2011, K. Tomkovich, 1♂, 1♀.
Mongolia, ***South Gobi*** (***Omnogovi***) prov., Bulgan (44.095N 103.544E), 9-12.09.1970, V. Zaitsev, 3♂ (ZIN).
Russia, ***Astrakhan*** reg., Baskunchak salt lake, 48.2N 46.8E, 2-4.05.2010, K. Tomkovich, 13♂, 6♀; ***Bashkortostan*** reg., Muraptalovo env., Kazlair salt L., 52.455N 55.770E, 30.08.2012, K. Tomkovich, 2♂, 1♀; ***Orenburg*** reg., Sol-Iletsk env., 51.342N 55.013E, 28.08.2012, K. Tomkovich, 2♂, 2♀; ***Stavropol*** reg., (Divnoe env.), brook on pasture, 45.825N 43.194E, 9.06.2012, N. Vikhrev, 10♂; ***Volgograd*** reg., Elton salt L. (49.1N 46.6E) env., 14.07.1999, A. Gusakov, 1♂; (Malye Chapurniki env.), salt pool, 48.465N 44.570E, 08.06.2012, N. Vikhrev, 11♂, 11♀.
Turkmenistan: ***Daşoguz*** reg., Sarykamysh L. (41.6N 57.6E), 21.04.1989, A. Ozerov, 1♂; ***Mary*** prov., Repetek (38.56N 63.17E), 4 and 12.05.1990, A. Ozerov, 2♂, 2♀.
Distribution. Palaearctic species so far know from 38N to 52N and from 43E to 114E (Shanxi prov., Tianzhen, 40.4N 114.1E [Zhang et al., 2005]).
Remarks. Only scarce data were known on *L. neimongola*. Fortunately 3 specimens of *L. neimongola* with Dr. D. Zhang's identification labels are deposited in MNHN in Paris and were examined by author. The above listed material from ZMUM and ZIN collections certainly belongs to this species, thus I can give here the redescription of *L. neimongola*.
Redescription. Male (col. pl. II: *22*), body length 6–6.5 mm.
Head. Frons wide (as in *L. flavinervis*), blackish; frontal triangle dirty-yellowish, not very distinct; fronto-orbital plates dark grey; face and parafacials white, upper part of parafacial black. Fronto-orbital plates with 5(4) inclinate setae; with 2 reclinate setae in upper part and with outer row of about 10 hairs. Parafacials with 1-2 row of hairs. Antennae black, arista with hairs in basal half. Palpi from dirty yellow to dark brown. Vibrissae distinct but rather weak (1.5-2x as long as distance between vibrissae).
Thorax densely grey dusted, vittae indistinct. prst *ac* in 5 irregular rows; *dc* 2+3, all strong. Katepisternals 1+2; anepimeron with 12–13 setulae; meron with 5–7 setulae above hind coxa. Anterior spiracle not enlarged. Wings hyaline, slightly brownish, calypters white, halter yellow.
Legs black with grey dusting. *f1* with typical rows of *pd* and *pv* setae. *t1* without submedian seta. *f2* in basal half with a row of 4-6 long (1-1.5x as long as femur width), strong, slightly outward curved *av* setae (col. pl. II: *22*); also *f2* with typical row of short *a* setae in basal half and 2 *pd* preapicals. *t2* with *pd* and *ad* setae below middle (usually 2-3 shorter additional *ad* present above strong *ad* seta). Mid tarsus as in col. pl. I: *11*, *tar2-5* much longer than *tar2-4*. Hind coxa without seta on inner posterior surface. *f3* with a complete row of 10-12 rather weak *av* setae, *pv* surface bare. *t3* with submedian *ad* seta distinct, setulae on *ad* surface elongate. Hind tarsus as in col. pl. I: *8*, shortened. Palvilli on posterior tarsi reduced, very small.
Abdomen with typical pattern: apex black with whitish midspot. Tergites 3 to 5 each with paired posterolateral spots, more distinct on tergite 5, less distinct on tergite 3. Abdominal spiracles not enlarged. Cercal plate and sternite 5 as in col. pl. I: *3*, *4*.
Female differs from male as follows: body length 6.5-7 mm; parafacials with hairs in 2 rows; *f2* without characteristic *av* row of strong setae; *f3* with only 5-6 *av* in apical half; hind tarsus not shortened; apex of abdomen without pattern typical for males of the *L. palposa* group, usually in females of *Lispe neimongola* it is characteristically orange-yellow coloured.
Diagnosis. The main diagnostic character of *Lispe neimongola* is the row of *av* setae on *f2*. Otherwise the species is rather «plain», it is placed in the key after exclusion of other species.
Ecology. Salt to brackish inland lakes or ponds.

Lispe parcespinosa Becker, 1900
Lispe parcespinosa parcespinosa Becker, 1900
Col. pl. II: *23*
Type locality: **Russia**, ***Krasnoyarsk*** reg., ***Taymyr*** distr., 70.7N 83.4E, 170 km NW of Dudinka.
Lispe bohemica Becker, 1904 sensu Snyder [1954]
Material examined:
Syntypes *L. parcespinosa*, 2♂: **Russia**, (***Krasnoyarsk*** reg., ***Taymyr*** distr.), Nikander Isl. (Nikandrik Isl., Yenisey R. estuary 70.7N 83.4E) (ZMHU and ZMUH).
Russia, ***Nenets*** reg., Sula R., left tributary of Pechora R. (67.2N 52.1E), 20.09.1933, Vorobieva, 1♂ (ZIN).
Distribution. In Palaearctic known from the upper course of the Yenisey and Pechora rivers; in Nearctic from Canada: Quebec, Northwest Territories and Nunavut [Snyder, 1954 (as *L. bohemica*)]. Seems to be a Holarctic circumpolar subspecies.

Lispe parcespinosa bohemica Becker, 1904
Col. pl. I-II: *15*, *32*
Type locality: **Poland,** Warsaw, Wisla R., (52.25N 21.02E).
Material examined:
Syntypes *L. bohemica*, 1♂, 1♀: (**Poland,** Warsaw), Praga (Wisla R., 52.25N 21.02E), Aug. (ZMHU). (**Poland**), Ottlotschin (52.91N 18.73E), 4.08.1906, P. Speiser, 1♂ (ZMHU); Culm an der Weich River

(53.35N 18.40E), 2.09.1906, P. Speiser, 1♂ (ZMHU). **Russia**: ***Chuvashia*** reg., Yadrin env., Sura R., 55.925N 46.228E, 12.07.2009, N. Vikhrev, 1♀; ***Nizhnyi Novgorod*** reg., Dzerzhinsk env., Oka R., 56.2N 43.6E, 17.08.2009, N. Vikhrev, 1♂; ***Ryazan*** reg., Kasimov env., Oka R., 54.94N 41.34E, 22-23.07.2013, N. Vikhrev, 1♂, 3♀ (one pair in copula).

Distribution. Known from the Wisla River and the Volga River basin (the Oka and Sura tributaries of Volga) in Central and East Europe.

Lispe parcespinosa appendibacula Xue & Zhang, 2005
Col. pl. I: *16*

Type locality: **China**, ***Liaoning*** prov., Shenyan Normal University (41.9N 123.4E).

Material examined:

Mongolia, ***Central*** (***Tov***) prov., Tuul R. near Lun (47.86N 105.20E), 4.09.1967, V. Zaitsev, 1♂ (ZIN).

Distribution. Known from N China: Liaoning and Xinjiang prov. and Mongolia. (The female paratype of *L. appendibacula* was collected in Hebei prov. of China, but I excluded it because the paratype conspecifity to the male holotype seems to be doubtful.)

Notes on the syntypes of *L. p. parcespinosa*. Hennig [1960: 434] found that in contrary to description of *L. parcespinosa* by two females the syntype in Berlin (ZMHU) is actually a male. The second syntype stored in Helsinki (ZMUH) was presumed to be a female. To my surprise, the Finnish syntype also turned to be a male. It is in good condition (col. pl. II: *23*) and certainly conspecific to the syntype from Berlin.

Remarks. The true identity of *L. frigida* was discussed above, the female holotype of *L. frigida* is conspecific to *L. canadensis*. Thus, *L. parcespinosa* became the oldest name among several species with rodlike seta on apex of *tar2-4* in males (the same seta is also present in *L. hydromyzina* which differs well by other characters).

Hennig [1960: 434-435] noted that a male syntype of *L. parcespinosa* has the face and cheeks dusting yellowish and the rodlike seta on apex of *tar2-4* longer than *tar2-5*, whereas in *L. bohemica* the head dusting is whitish and the rodlike seta shorter that *tar2-5* (col. pl. I: *15*). Hennig came to conclusion that these differences are not enough and synonymized *L. bohemica* to *L. parcespinosa*.

L. appendibacula. Recently one more similar species with rodlike seta on apex of *tar2-4* in males was described from China, Liaoning prov. [Xue & Zhang, 2005]. Once again *L. appendibacula* was recorded from China, Xinjiang prov. (approx. 46N 86E) [Li et al., 2013]: this article is in Chinese, but illustrated by photos of the general view, head and mid tarsus of male. In the diagnosis (Remarks) the authors compared *L. appendibacula* only with a quite different *L. hydromyzina* [Xue & Zhang, 2005: 128]. In couplet 18 [Xue & Zhang, 2005: 120] of the identification key the authors differentiated *L. appendibacula* from *L. frigida* (it is *L. parcespinosa* sensu this paper) by yellow palpi, the details of shape of the rodlike seta on *tar2-4,* and abdominal pattern.

Available specimens of *L. parcespinosa* still are very scarce. Apart from few specimens seen by Hennig [1960: 434-435] I examined the second syntype of *L. parcespinosa* (from ZMUH), 5 new specimens (2♂, 3♀) collected in Central European Russia, and 1♂ from Mongolia. There are 2 points Hennig did not take into account when proposing the synonymy of *L. bohemica*. *L. parcespinosa* has thoracic and abdominal spiracles enlarged (though less so than in *L. frigida* = *L. canadensis*), whereas in *L. bohemica* spiracles are not enlarged (1). All specimens which fit *L. bohemica* are from localities with temperate climate, whereas *L. parcespinosa* was collected exclusively north of the Arctic Circle (2). So, there are doubts about Hennig's synonymy. But after examination the Mongolian male of *L. appendibacula* I recently found among the unsorted material in ZIN collection I incline to agree with Hennig.

L. appendibacula has intermediate characters between *L. parcespinosa* and *L. bohemica*: face yellowish dusted; thoracic spiracles moderately enlarged, but abdominal ones not enlarged or almost so; rodlike seta on apex of *tar2-4* of intermediate length (col. pl. I: *16*). Note also that known specimens of *L. appendibacula* were collected southerly and much easterly of the localities known for *L. parcespinosa* and *L. bohemica*. Hence it is most convenient to regard the taxa considered as 3 subspecies: *L. parcespinosa parcespinosa* Becker, 1900, *L. parcespinosa bohemica* Becker, 1904 and *L. parcespinosa appendibacula* Xue & Zhang, 2005.

Ecology. All specimens of *L. p. bohemica* I personally collected from European Russia were found on flood-plains of large rivers (Oka and Sura Rivers) on dry sand in 5-10 m from shore line.

Lispe superciliosa Loew, 1861
Lispe superciliosa superciliosa Loew, 1861
Col. pl. I: *14*, *18*

Type locality: **Poland**, Silesia & **Austria**, Carinthian Alps.

Lispe superciliosa cancellata Canzoneri & Meneghini, 1966, **syn. nov.** Type locality: **Turkey**, ***Ankara*** reg., Golbashy (39.8N 32.8E) and Tuz Golu (38.8N 33.6E).

Material examined:

Syntype *L. superciliosa*, ♂: Saualp, Zeller (**Poland,** Silesia?) (ZMHU).

Paratypes *L. superciliosa cancellata*1♂, 1♀: Asia Minor (**Turkey**), ***Ankara*** reg., Golbashy (39.8N 32.8E), 18.05.1961, A. G. Soika (MNHN).

Austria: Vienna (env.), 09.1968, J. Mik, 1♀ (with Hennig's label) (ZIN).

Belarus, ***Minsk*** reg., Barysaw, 54.239N 28.494E, 5.07.2013, D. Gavryushin, 4♀.
Hungary, Kalocsa (46.5N 19.0E), Thalhammer, 2♂, 2♀ (ZMHU).
Kazakhstan: ***E Kazakhstan*** reg., Katon-Karagay NP, 49.07N 86.04E, 1630 m asl, 26-27.07.2010, O. Kosterin, 1♂; ***W Kazakhstan*** reg., Uralsk env., 51.07N 51.05E, 26.08.2012, K. Tomkovich, 1♂, 3♀.
Kyrgyzstan, ***Issyk Kul*** prov., Choktal env, 42.58N 76.75E, 1600 m asl, 22.09.2013, N. Vikhrev, 10♂, 13♀.
Russia: ***Astrakhan*** **reg**., Baskunchak salt Lake, 48.2N 46.8E, 2-4.05.2010, K. Tomkovich, 1♂, 3♀; ***Bashkortostan*** reg., Yushatyr R., 52.45N 55.78E, 30.08.2012, K. Tomkovich, 2♀; ***Kalmykia*** reg., 47.875N 44.601E, 8.06.2012, N. Vikhrev, 3♂, 2♀; ***Khakassia*** reg., Shira env., 54.422N 90.147E, 26.06.2011, K. Tomkovich, 54 ♂♀; ***Krasnoyarsk*** reg., Yenisei R., 55.97N 92.74E, 19.06.2011, K. Tomkovich, 1♂, 1♀; ***Novosibirsk*** reg., Akademgorodok, 54.83N 83.15E, 13.07.2012, O. Kosterin, 1♂, 1♀; ***Orenburg*** reg., Sol-Iletsk env., 51.342N 55.013E, 28.08.2012, K. Tomkovich, 1♀; ***Omsk*** reg., Omsk, Irtysh R., 55.01N 73.32E, 20.06.2011, O. Kosterin, 1♂, 2♀; Omsk, Solenoe salt lake, 54.886N 73.348E, 19.07.2011, O. Kosterin, 7♂, 2♀; ***Rostov*** reg., Kamensk-Shakhtinsky env., 48.29N 40.26E, 25.05.2011, D. Gavryushin, 14 ♂♀; ***Saratov*** reg., Saratov env., 51.60N 46.35E, 24.08.2012, K. Tomkovich, 1♂; ***St-Petersburg*** reg., Nijn. Bronnaya (59.93N 29.63E), 26.07.1918, A. Stackelberg, 1♀ (ZIN); ***Tambov*** reg., Tambov env., 52.677N 41.330E, 6.06.2012, N. Vikhrev, 1♂; ***Ulyanovsk*** reg., 54.01N 48.59E, 2.09.2010, K. Tomkovich, 9 ♂♀; 52.83N 48.36E, 08.05.2011, K. Tomkovich, 14 ♂♀; ***Volgograd*** reg., Novoanninskiy env., 50.418N 42.760E, 7.VI.2012, N. Vikhrev, 4♂, 4♀; Sarpa L., 48.35N 44.61E, 7.06.2012, N. Vikhrev, 2♂; ***Zabaykalsky*** reg., 51.42N 116.24E, 30.06.2011, A. Medvedev, 1♂, 1♀; Zun-Torey alcaline lake, 50.01N 115.72E, 30.07.2011, A. Medvedev, 1♀.
Serbia, Kalna, Timok R., 43.42N 22.42E , 30.06.2015, N. Vikhrev, 1♂.
Turkey: ***Konya*** prov., Beyshehir L., 37.79N 31.64E, 11.09.2009, N. Vikhrev, 8♂, 4♀.
Ukraine: ***Donetsk*** reg., Slavyansk env. (48.87N 37.63E), 1886, Yaroshevsky, 1♂, 1♀ (ZIN).
Distribution. A West Palaearctic subspecies extending to the east until the Yenisey R., in E Palaearctic replaced by the eastern subspecies *L. s. monochaita*. There is a Chinese record of *L. s. superciliosa*: Xinjiang prov. [Zhang et al., 2005].

Lispe superciliosa monochaita Mou et Ma, 1992 **comb. n.**
Lispe monochaita Mou et Ma, 1992, type locality: **China**, ***Liaoning*** prov.
Lispe litorea Fallen, 1825: Zhang et al., 2005: 215, misidentification.
Material examined:
Mongolia: ***South Gobi*** (***Omnogovi***) prov., 80 km SSE of Nomgon (≈ 42.5N 105.5E), 5-8.08.1967, V. Zaitsev, 1♂ (ZIN); ***Central*** (***Tov***) prov., Tuul R. near Lun (47.86N 105.20E), 4.09.1967, V. Zaitsev, 1♀ (ZIN).
Russia: ***Buryatia*** reg., Kyakhta env., 50.33N 106.70E, 24.07.2012, A. Medvedev, 2♀; ***Khabarovsk*** reg., Khabarovsk, Amur R., 48.55N 135.02E, 2-6.06.2014, N. Vikhrev, 5♂, 4♀, 25.06.2014, N. Vikhrev, 3♂; ***Krasnoyarsk*** reg., Yenisei R., 55.97N 92.74E, 19.06.2011, K. Tomkovich, 1♀; ***Primorsky*** reg., Khanka L., 45.06N 131.99E, 15-19.06.2014, N. Vikhrev, 1♂; Ussuriysk, 43.875N 131.960E, 3.07.2014, N. Vikhrev, 1♂; ***Sakha (Yakutia)*** reg., Yakutsk [62.0N 129.7E], 17.06.1927, 1♂ (ZIN); ***Zabaykalsky*** reg.: Undino Posel'e, 51.42N 116.24E, 30.06.2011, A. Medvedev, 1♂, 1♀; Zun-Torey alkaline lake, 50.01N 115.72E, 30.07.2011, A. Medvedev, 2♀.
Distribution. An East Palaearctic subspecies ranging from the Yenisei R. to Far East. The northernmost record is Yakutsk, 62N. There are several Chinese records of *L. s. monochaita*: Jilin, Liaoning and Shanxi prov. [Zhang et al., 2005].
Synonymy. *Lispe superciliosa cancellata* Canzoneri & Meneghini, 1966 (also listed as *Lispe cancellata* Canzoneri & Meneghini, 1966 [www.diptera.org/NomenclatorDetail.php?Recn=432334]) was described from Central Turkey. Authors of subspecies admitted that *L. s. cancellata* has no morphological difference from the nominative form, but the mesolobus of the epandrium is somewhat shorter in *L. s. cancellata*. I examined specimens from the type locality of *L. s. cancellata* and found no reliable differences. So, I believe that description of this subspecies is groundless and *Lispe s. superciliosa* Loew, 1861 = *Lispe superciliosa cancellata* Canzoneri & Meneghini, 1966, **syn. nov.**
The true identity of *L. monochaita*. *Lispe monochaita* Mou et Ma, 1992 was synonymized with *L. litorea* by Zhang et al. [2005] on the basis of presence of additional *ad* setae on *t2*. Actually *L. monochaita* shares this and several other characters (hind coxa with seta on inner posterior surface; vibrissae present; upper parafacial with dark spot) with either *L. litorea* and *L. superciliosa*. However the distributional data make the synonymy offered by Zhang et al. [2005] doubtful: *L. litorea* is known from sea shores of NW Europe only and was never recorded neither in E Europe nor in Asia. The fine structure of male tarsi of *L. monochaita* is identical to that of *L. superciliosa*. Natural habitats of *L. monochaita* and *L. superciliosa* (banks of rivers or banks of fresh or brackish lakes) are also similar. *L. monochaita* differs from *L. superciliosa* in both sexes by absence of *pv* seta on *t2* and absence of submedian *v* seta on *t1*. I regard *L. monochaita* as *L. superciliosa monochaita*, the eastern sub-

species of *L. superciliosa* and the Yenisey R., where both subspecies were collected as a natural border for subspecies.

Lispe tarsocilica Xue & Zhang, 2005
Col. pl. I: *19*, *20*, *21*
Type locality: **China**, ***Hebei*** prov.
Material examined:
Mongolia: ***Bayankhongor*** prov., N bank Orog-Nur L. [45.08N 100.55E], salt marsh, V. Zaitsev, 15-16.08.1967, 2♂, 2♀, A. Emelianov, 19.08.1967, 1♀ (ZIN).
Russia: ***Zabaykalsky*** reg.: Zun-Torey alkaline lake, 50.01N 115.72E, 30.07.2011, A.Medvedev, 16♂, 6♀; 14.08.2012, A.Medvedev, 8♂, 13♀; barrier between Torey Lakes, 50.10N 115.68E, 3-4.08.2011, V. Dubatolov, 1♂, 2♀ (ISEA).
Distribution. China, Hebei prov.; Mongolia, Bayankhongor prov.; Russia, Zabaykalsky reg.

Identification key for Palaearctic species of the *Lispe palposa* group , ♂

(*L. ezensis* is not included in this key.)

1. Hind coxa with seta on inner posterior side. *t2* with additional *ad* setae or with dense setae on *v* surface. (Palpi black to dark brown. Arista distinctly longer than pospedicel, with long, thin and bare apical part, aristal hairs about as long as postpedicel width.) **.. ..... 2**
– Hind coxa bare on inner posterior side. *t2* with only 1 *ad* seta (except in some specimens of *L. apicalis*) and without dense setae on *v* surface **..... 5**
2. Vibrissae absent. Parafacials without dark spot in upper part. Chaetotaxy of *t2*: 1 *ad* seta placed distinctly above middle; 1(2) *p* seta(e) short and weak, also placed above middle; on *v* surface at apical half 1-2 strong spine-like seta(e) and a row of longer fine setae. *tar2-1* with long fine curled ventral setae at base (col. pl. I: *17*). (Mid tarsus shorter than half length of *t2*. Hind tarsus thin and long, about as long as *t3*.) **..... *loewi*** Ringdahl
– Vibrissae present. Parafacials with dark spot in upper part. *t2* with 2-3 *ad* and *pd* setae placed below middle, *pd* seta(e) strong, *v* surface bare (but 1 strong *pv* present in *L. superciliosa superciliosa*), *tar2-1* without long seta at base **..... 3**
3. *t3* with *ad* strong and very distinct. *tar2-1* to *tar2-3* with long (longer than tarsus width) setulae on *a* surface (col. pl. I: *13*). Vibrissae strong (2.5-3x as long as distance between vibrissae). Mid tarsus about half as long as *t2*. *t1* with fine but distinct *pv* seta below middle. *f3* with 10-12 *av* setae **..... ..... *litorea*** Fallen
– *t3* with elongated *ad* setulae, but without distinct *ad* seta. *tar2-1* to *tar2-3* with only usual short hairs (col. pl. I: *14*). Vibrissae rather weak (1.5-2x as long as distance between vibrissae). Mid tarsus almost as long as *t2*. *t1* without *pv*, with or without *v* in apical 1/4. *f3* with 6-8 *av* setae **..... ..... 4 (*superciliosa*** Loew**)**
4. *t2* with strong *pv* seta. *t1* with short but distinct *v* in apical 1/4-1/5. Europe – W Siberia **..... *superciliosa superciliosa*** Loew
– *t2* without *pv*. *t1* without *v* near apex. E Siberia – Far East **..... *superciliosa monochaita*** Mou & Ma
5. *t2* with 1 strong *pv* seta, also with 1 *ad* and 1 *pd* below middle. Hind tarsus shortened and strongly depressed laterally (col. pl. I: *9*). All frontal setae (about 10) backward directed (col. pl. II: *31*). (Abdominal tergites 3 to 5 evenly grey dusted without distinct black pattern. Frons relatively narrow and narrowed in lower part. Parafacials without dark spot in upper part. *t1* without *p*. *f3* with 7-8 *av* setae.) **..... *hebeiensis*** Ma & Tian
– *t2* without *pv*. Hind tarsus not or less depressed laterally (compare col. pl. I: 6, 7, 8 with col. pl. I: 9). Only 2 upper frontal setae are reclinate, 4-5 lower setae are inclinate (as on col. pl. II: 32) **..... 6**
6. Vibrissae indistinct or very weak (*L. flavicincta*), shorter than distance between vibrissa bases. Smaller species (usually 4.5-6.5 mm). Arista short to medium long; aristal hairs longer, at least as long as width of antenna **..... 7**
– Vibrissae strong (rather weak in *L. neimongola*), always distinctly longer than distance between vibrissa bases. Larger species (6-8 mm). Arista usually long; aristal hairs short, shorter than width of antenna **..... 11**
7. *tar2-4* at apex with anterior spine-like projection subequal in length to *tar2-5* (col. pl. I: *15*, *16*). Parafacials bare in upper 2/3. Either parafacials with a dark spot in upper part (col. pl. II: *32*) or frons evenly silvery-whitish dusted (col. pl. II: *33*). Frons wider **..... 8**
– *tar2-4* without such projection. Parafacials with a complete row of setulae and without dark spot in upper part. Frons narrower **..... 9**
8. Frons and fronto-orbital plates evenly whitish dusted, almost unicolourous, frontal triangle wide, whitish dusted, hardly distinct from whitish frons (col. pl. II: *33*). Parafacials without dark spot in upper part. Antennae and arista remarkably short. Palpi yellow. *t1* with short but distinct *p* below middle. *t3* with *ad* seta weak, not very distinct among *ad* setulae. Thorax and abdomen evenly light-grey dusted, without black stripes or spots **..... *hydromyzina*** Fallen
– Frons dark; parafacials with dark spot in upper part; frontal triangle distinct (as col. pl. II: *32*). Antennae longer. Palpi dark brown to yellow. *t1* without *p*. *t3* with *ad* distinct. Thorax and abdomen not evenly light-grey dusted, with black stripes and spots **..... *parcespinosa*** Becker
9. *f3* with a complete rows of about 12 strong and

long *av* setae. Hind tarsus as col. pl. I: *7*: *tar3-5* narrowed and long, about as long as *tar3-4* and *tar3-3* together. (Meron with setulae above hind coxa. *f2* with a complete row of rather strong ventral setae. *t3* with *ad* seta much stronger than elongated setulae in *ad* row. Wing not darkened.) ..... ***flavicincta*** Loew

– *f3* with 3-5 less strong *av* setae in apical half only. Hind tarsus as col. pl. I: *6*: *tar3-5* as wide as *tar3-4* and shorter than *tar3-4* and *tar3-3* together **10**

10. Wings darkened antero-apically around R4+5 and R2+3 (in specimens from Morocco darkening may be hardly distinct). Meron with setulae above hind coxa. *t3* with *ad* seta much stronger than elongated setulae in *ad* row. Cercal plate: col. pl. I: *1* ..... ***apicalis*** Mik

– Wings not darkened. Meron bare above hind coxa. *t3* with *ad* seta hardly distinct, longer but about as strong as other elongated setulae in *ad* row. Cercal plate: col. pl. I: *2* ..... ***elkantarae*** Becker

11. Anterior thoracic spiracle (col. pl. II: *24*) and abdominal spiracles (col. pl. II: *26*) enlarged. Scutum in posterior view black almost without grey dusting. North ..... ***frigida*** Erichson (= ***canadensis*** Snyder)

– Abdominal spiracles not enlarged. Scutum with distinct dusting **12**

12. Mid tarsus modified: *tar2-1* shortened (shorter than *tar2-4* and *tar2-3* together), with a tuft of 10-12 long waved *v* setae at base (col. pl. I: *20*); *tar2-1* to *tar2-3* each with several elongated *a* setulae. Postpronotal lobe, anepisternum, katepisternum and lateral surface of abdomen (often dorsal surface too) with distinct yellow tint (col. pl. I: *19*, *21*). *t1* with *p* seta short but strong. *t2* with only 1 *pd* setae. Parafacials with dark spot in upper part. E Asia ..... ***tarsocilica*** Xue & Zhang

– Mid tarsus not modified **13**

13. Meron bare above hind coxa. Frons narrowed as on col. pl. II: *30*. *f3* with several long *pv* in basal third. Hind tarsus with pulvillus longer than half length of claw. (Parafacials without dark spot in upper part. *t1* without *p* seta. Large species.) ..... ***cinifera*** Becker

– Meron with hairs above hind coxa. Frons wider as on col. pl. II: *29*. *f3* without *pv*. Hind tarsus with pulvillus reduced shorter than half length of claw **14**

14. *t1* with fine *pd* seta and with *d* setulae elongated (as long as tibia width). *f2* without strong *av* setae, at most with fine hairs at base (do not confuse with *a* setae). Vibrissae strong. Mid tarsus as on col. pl. I: *12*, *tar2-5* thick and short. Body length 7-7.5 mm ..... ***flavinervis*** Becker

– *t1* without *pd* seta or elongated *d* setulae. *f2* in basal half with 4-6 strong *av* setae 1-1.5x as long as femur width (col. pl. I: *21*). *f3* without *pv*. Vibrissae usually weak. Mid tarsus as on col. pl. I: *11*, *tar2-5* thin and long. Body length 6-6.5 mm ..... ***neimongola*** Tian & Ma

Identification key for Palaearctic species of the *Lispe palposa* group , ♀

1. Hind coxa with seta on inner posterior side. *t2* with more than 1 *ad* setae. Palpi black to dark brown **2**

– Hind coxa bare on inner posterior side. *t2* with only 1 *ad* setae **5**

2. *t2* with 1 strong *pv* seta. *t1* with short but distinct *v* in apical 1/4-1/5. (Parafacials with dark spot in upper part at level of insertion of antenna. Besides above mentioned 1 *pv*, *t2* with only 1 *pd* and several *ad* setae 1-2 of which much longer than other. *f3* with 5-6 *av*. Abdominal tergites 3-5 with a broadly triangular dark median spot; paired lateral dark spots from very conspicuous to almost indistinct. Europe – W Siberia (till Yenisey River). River banks or freshwater to brackish lakes.) .... ***superciliosa superciliosa*** Loew

– *t2* without *pv* seta. *t1* without short *v* in apical 1/4-1/5, but usually with *p* seta slightly below middle **3**

3. Parafacials without dark spot in upper part. *t2* with 2 medium strong *ad* and 3 short *pd*, either *ad* and *pd* of even length and widely separated, upper *ad* and *pd* set above middle of tibia. (*f3* with 4-5 *av*. *t1* with *p* slightly below middle. Abdomen with conspicuous dark midline.) Widespread in Palaearctic; the southernmost species of *L. palposa* group, recorded till 28N. Salt lakes or saline seashore marshes .. .. ***loewi*** Ringdahl

– Parafacials with a dark spot in upper part at level of antennae. *t2* with 3-4 *ad* and 1-2 *pd*, all setae on *t2* densely set below middle, *ad* setae of different length, 1(2) *ad* much longer than other **4**

4. *t1* with *p* seta. *f3* with 7-9 *av*. Abdomen with dark midline inconspicuous. W Europe. Seashore marshes ..... ***litorea*** Fallen

– *t1* without *p*. *f3* with 4-5 *av*. Abdomen with a conspicuous dark midline. East Palaearctic from Yenisey River to Far East. River banks or freshwater to saltish lakes .... ***superciliosa monochaita*** Mou & Ma

5. *t2* with 1 strong *pv* seta in addition to 1 *ad* and 1 *pd*. (Abdominal tergite 4 with a pair of postero-lateral spots, otherwise tergites 3 to 5 evenly grey dusted without distinct black pattern, rarely indistinct dark midline present. Antennae short, arista short haired, about as long as postpedicel. Parafacials without dark spot in upper part. *t1* without *p*. *f3* with 4-7 *av* setae. Palpi brown to black.) E Europe to Far East ..... ***hebeiensis*** Ma & Tian

– *t2* without *pv* **6**
6. *t1* with *p* seta **7**
– *t1* without *p* seta **9**
7. Frons and fronto-orbital plates evenly whitish dusted, almost concolour, frontal triangle wide, whitish dusted, hardly distinct from whitish frons. Parafacials without dark spot in upper part (see: col. pl. II: *33*). Antennae and arista remarkably short. Thorax and abdomen almost evenly light-grey dusted. Small species, body length 5-6 mm. Sea shores of W Europe ..... ***hydromyzina*** Fallen
– Frons black, frontal triangle of typical shape, distinct, parafacials with dark spot in upper part (col. pl. II: *29*). Antennae and arista longer. Thorax and abdomen brown-grey dusted, with distinct dark pattern. Large species, body length 6-7.5 mm. Inland regions of E Europe and Asia **8**
8. *t2* often with 2 *p* setae at least on one side. Postpronotal lobe and lateral surface of abdomen with concolour grey dusting. Recorded from 37E to 100E ..... ***flavinervis*** Becker
– *t2* with 1 *p* seta. Postpronotal lobe and lateral surface of abdomen with a yellow tint. Recorded from 100E to 120E ..... ***tarsocilica*** Xue & Zhang
9. Frons narrowed as on col. pl. II: *30*. Meron bare above hind coxa. *f3* with several long *pv* in basal third. Hind tarsus with pulvilli longer than half length of claw. Parafacials without dark spot in upper part. *t1* without *p* seta. Large species, body length 7-8 mm ..... ***cinifera*** Becker
– Frons wide (as on col. pl. II: *29*) **10**
10. Anterior thoracic spiracle and abdominal spiracles enlarged (col. pl. II: *24*, *25*, *26*). Parafacials with dark spot in upper part. Holarctic, from 60N and northward ..... ***frigida*** Erichson (= ***canadensis*** Snyder)
– Anterior thoracic spiracle and abdominal spiracles not enlarged (col. pl. II: *27*). Parafacials without dark spot in upper part. Palaearctic from 55N and southward **11**
11. Abdominal tergites 3 to 5 with characteristic pattern: median and a pair of submedian vittae (col. pl. II: *28*) ..... ***flavicincta*** Loew
– Abdomen without such pattern **12**
12. *dc* 2+4. Far East ..... ***ezensis*** Shinonaga & Kano
– *dc* 2+3 ..... **13**
13. *t2* with *ad* seta almost as long as distance from its insertion to apex of tibia. Hind tarsus with pulvilli longer than half length of claw. Palpi yellow **14**
– *t2* with *ad* seta shorter hardly longer than half distance from its insertion to apex of tibia. Hind tarsus with pulvilli shorter than half length of claw. Palpi brownish to black **15**
14. Meron bare above hind coxa. Algeria and Morocco ..... ***elkantarae*** Becker
– Meron with several hairs above hind coxa. From W Palaearctic (including Algeria and Morocco) to Central Asia ..... ***apicalis*** Mik
15. Parafacials with 1 sparse row of hairs. *t2* with 1 strong *ad* only. Apex of abdomen always grey. Sand beaches along big rivers ..... ***parcespinosa*** Becker
– Hairs on upper half of parafacials in 2 rows. *t2* usually with 2-3 short setae above strong *ad*. Apex of abdomen usually orange-yellow. Brackish lakes ..... ***neimongola*** Tian & Ma

10.2 Nearctic fauna of the *Lispe palposa* group

Notes on the Nearctic fauna of the *Lispe palposa* group. The Nearctic fauna of the *Lispe palposa* group was revised even longer ago than the Palaearctic one [Snyder, 1954]. I had a possibility to examine only limited American material, but I hope that even short comments on the species I personally examined may be of some use.

Lispe palposa Walker, 1849
Col. pl. I: *10*
Lispe nigromaculata Stein, 1898
Material examined:
Syntypes *L. nigromaculata* 1♂, 5♀: **USA**: ***KS***, Lawrence (39.0N 95.3W), 1♂, 1♀; ***ID***, Moscow (46.7N 117.0W), 2♀, ***SD***: Elmira (44.9N 97.2W), 1♀, Brookings (44.3N 96.8W), 1♀ (all coll.: J.M. Aldrich, all ZMHU).
Canada: ***Manitoba***, Whitewater L. (49.2N 100.3W), 22.06.1958, R.D. Bird, 1♂, 1♀; ***Quebec***, Hemmingford (45.1N 73.6W), 29.06.1923, C.H. Curran, 1♂.
USA, ***WA***, Pullman (46.7N 117.2W), 16.08.1907, 1♂, 1♀ (ZMHU).
Remarks. A detailed description of *L. palposa* was given in [Aldrich, 1913]. The species which gave the name to the *L. palposa* group has few specific diagnostic characters: upper part of parafacials with black spots, very distinct and extensive; vibrissae absent; palpi black; leg chaetotaxy without special features. I would like to offer one more character for males: *tar2-3* and *tar2-4* at apex on posterior side with distinct curved setulae which are longer than length of respective tarsal segments (col. pl. I: *10*).

Lispe probohemica Speiser, 1914
Material examined:
USA, ***GA***, Decatur Co., Spring Creek (30.855N 84.584W), 16-29.07.1912, 1♂ (ZMHU).
Remarks. Species of the *L. palposa* group with the rodlike seta on *tar2-4* are rare in collections and their taxonomic status requires specification. The validity of Nearctic *L. probohemica* seems to me doubtless because the rodlike seta is situated on the posterior surface of *tar2-4*; the rodlike seta is curved; *tar2-4* to *tar2-2* are remarkably shortened.

Lispe salina Aldrich, 1913
Material examined:
Syntypes, 2♂ and 1♀: **USA**: ***UT***, Great Salt Lake

(40.7N 112.5W), (J.M. Aldrich), 31.07.1908, 1♂, 1♀ (ZMHU); ***NV***, Walker Lake (38.65N 118.75W), (J.M. Aldrich), 25.07.1908, 1♂ (SDEI). Male from SDEI labeled as syntype by N. Vikhrev.

Canada: ***Manitoba***: Whitewater L. (49.2N 100.3W), 22.06.1958, R.D. Bird, 1♀; 15 miles S Brandon (49.60N 99.95W), 7.08.1958, J.G. Chillcott, 1♂; ***Saskatchewan***, Great Deer (52.58N 107.06W), 25.04.1948, J.R. Vockeroth, 1♂.

Remarks. In 1908 Aldrich sent several specimens from the type series of *L. salina* to T. Becker. Becker informed Aldrich that he could not distinguish this species from *L. cinifera* Becker, 1904 [Aldrich, 1913]. In spite of this, Aldrich described *L. salina* in [1913]. Afterwards the doubts on the validity of *L. salina* were discussed by Snyder [1954] and Hennig [1960]. I have both species in hand and I am sure that *L. salina* is a good species. *L. salina* shares with *L. cinifera* the presence of long *pv* setae on the basal part of *f3*, but *L. salina* has about 15 these setae whereas *L. cinifera* 4-6 setae; *L. salina* has the frons wider; the meron hairy; the fine structure of male tarsi quite different. The fine structure of male tarsi of *L. salina* resembles that of *L. flavinervis*, these species differ as follows:

– *t1* without *p*; *f2* in basal half with *av* and *pv* setulae 2x longer than femur width. ♂: *f3* with about 15 *pv* in basal half ..... ***salina*** Aldrich

– *t1* with *p*; *f2* in basal half with ventral setulae not longer than femur width. ♂: *f3* without *pv* setae ..... ***flavinervis*** Becker

Lispe sordida Aldrich, 1913

Material examined:

Syntypes, 3♂, 4♀: **USA**, ***UT***, Brigham (41.2N 112.2W), (J.M. Aldrich), 4.07.1911 (2♂, 3♀, ZMHU and 1♂, 1♀, ZMUM). **USA**, ***UT***, Roy (41.2N 112.2W), 25.08.1957, G.F. Knowlton, 1♂.

Remarks. *L. sordida* has several diagnostic characters which make it easy to distinguish in both sexes: *t3* with 1 *av* in apical third; *t1* with submedian *p* seta; *t2* with 2 *pd*; ♂ *tar2-2* shortened, shorter than *tar2-3*; *f3* with a complete row of 8-10 remarkably long *av*. The first character (*t3* with 1 *av*) was unique in the *L. palposa* group until the description of *L. bahama* Snyder, 1958 (type locality: S Caicos Isl., 21.5N 71.5W). According to [Snyder, 1958] *L. bahama* shares with *L. sordida* all diagnostic characters except that «tarsal segments not unusually modified». Surprisingly, Snyder [1958] did not compare *L. bahama* with *L. sordida*, so reexamination of *L. bahama* is quite desirable.

11. *Lispe uliginosa* species–group

Notes on the *L. uliginosa* group. The *Lispe uliginosa* group was proposed by Snyder [1954] for **7** Nearctic species: *L. albitarsis* Stein, 1898; *L. antennata* Aldrich, 1913; *L. cotidiana* Snyder, 1954; *L. nasoni* Stein, 1898; *L. neouliginos*a Snyder, 1954; *L. nudifacies* Snyder, 1954; *L. polita* Coquillett, 1904 and the European *L. uliginosa* Fallen, 1825. Four more species belonging to the *L. uliginosa* group are distributed in South and Central America: *L. latana* Snyder, 1949; *L. levis* Stein, 1911; *L. lisarba* Snyder, 1949; *L. serotina* Wulp, 1896. The Palaearctic fauna of the *L. uliginosa* group sensu Hennig [1960] is represented by *L. cotidiana* and *L. uliginosa* only. Snyder characterized the *L. uliginosa* group as follows: *t1* with *p*; *t2* with 1 *ad* and 1 *pd*; *t3* with 1 *av*; palpi narrow and very gradually divergent; abdomen cylindrical; halves of cercal plate separated; sternite 5 reduced to a pair of membranous sclerites. Hennig added to these characters that katepisternal setae forms a triangle near to equilateral. Hennig [1960: 445] supposed relationship of *Lispe melaleuca* Loew, 1847 to the *L. uliginosa* group. Actually, the Palaearctic *L. melaleuca* shares all the characters of the *L. uliginosa* group mentioned above. The third Palaearctic species *Lispe septentrionalis* Xue & Zhang, 2005 has intermediate characters and supports the relationship of *L. melaleuca* and *L. uliginosa*.

L. uliginosa is variable, widespread and the northernmost distributed species of the group and I believe that the American species of the *L. uliginosa* group are descendants of this single species which colonized America via the Bering land bridge. All American species (including small *L. albitarsis*) share two apomorphic characters: several additional *ad* setae/setulae on *t3* and *d* seta in apical 1/3 of *t1*, while these characters are absent in Palaearctic *L. melaleuca* and *L. septentrionalis*.

11.1. Palaearctic fauna of the *Lispe uliginosa* group

Lispe melaleuca Loew, 1847

Col. pl. II-III: *34*, *41*

Type locality: **Italy**, ***Sicily***.

Material examined: 200 ♂ and ♀ from:

Azerbaijan, **Belarus**, Minsk reg.; **Israel**; **Hungary**; **Kazakhstan**: ***Akmola***, ***Atyrau***, ***Kyzylorda***, ***W Kazakhstan*** regions; **Kyrgyzstan**, ***Chuy*** prov.; **Mongolia**: ***Bayankhongor***, ***Govi-Altai***, ***Uvs*** prov.; **Russia**: ***Astrakhan***, ***Bashkortostan***, ***Kaliningrad***, ***Kalmykia***, ***Khakassia***, ***Krasnodar***, ***Omsk***, ***Orenburg***, ***Rostov***, ***Ryazan***, ***Saratov***, ***Stavropol***, ***Volgograd***, ***Zabaykalsky*** regions; **Serbia**; **Spain**; **Tajikistan**, Khatlon; **Turkey**: Antalya, ***Hatay***, ***Konya***, ***Mersin***, ***Sakarya*** prov.; **Turkmenistan**: ***Ahal*** and ***Daşoguz*** regions; **Ukraine**, ***Kherson*** reg.; **Uzbekistan**, ***Karakalpakstan*** reg.

Distribution. *L. melaleuca* inhabits the Palaearctic from W Europe to E Siberia (the easternmost record is in Zabaykalsky reg., 51.42N 116.25E). In E Europe and Siberia the northern border of distribution of *L. melaleuca* is situated along 54N-55N (Kaliningrad reg. – 54.73N; Minsk reg. – 54.239N; Ryazan

reg. – 54.94N, Omsk reg. – 54.97N, Khakassia reg. – 54.65N).

Lispe septentrionalis Xue & Zhang, 2005
Col. pl. II-III: *35*, *40*
Type locality: **China**, ***Liaoning*** and ***Heilongjiang*** prov.
Material examined:
Russia, *Primorsky reg*.: Khanka L., 45.06N 131.99E, 15-19.06.2014, N. Vikhrev, 5♂, 3♀; 4-6.07.2014, N. Vikhrev, 9♂, 4♀; Gornye Klyuchi, Ussuri R., 45.25N 133.50E, 6-7.07.2014, N. Vikhrev, 1♀.
Distribution. So far known from China: Hebei, Heilongjiang, Liaoning prov. and Russia, Primorsky reg. (*Lispe* sp. from Harbin [Heilongjiang prov.] mentioned by Hennig [1960: 460] certainly is *L. septentrionalis*.)
Description of female. Body length 5.0-6.5 mm. *Head*. Upper fronto-orbital plates, frons and frontal triangle black; lower fronto-orbital plates black with yellowish dusting; frontal triangle not very distinct. Face, parafacials and cheeks yellowish-grey dusted, occiput grey. Fronto-orbital plates with 3 inclinate, 2 reclinate setae and an outer row of setulae. Parafacials with 2-3 irregular rows of hairs. Antennae black, but apex of pedicel and inner basal part of postpedicel yellow. Longest aristal hairs 1.5x as long as width of antenna. Palpi narrow, yellow. *Thorax* black; scutum with thin brownish-grey dusting and 3 narrow indistinct vittae, median and a pair of submedian ones along *dc* rows; pleura with whitish dusting. Chaetotaxy: *dc* 2+3, all strong*;* katepisternals 1:1:1, with sparse additional hairs; anepimeron with 5-7 setulae; meron with 3-5 hairs above hind coxa (in the description of ♂ *L. septentrionalis* [Xue & Zhang, 2005] «meron bare», actually meron with 3-5 hairs in both sexes). Wings hyaline, calypters yellow-white, halter yellow-brown. *Legs* with tibiae and apex of *f2* yellow, the rest of leg dark. *t1* with 1 *pv* in apical 1/3. Fore tarsus entirely dark, tarsal segments not shortened. *f2* in basal part a row of short *a* setae, the last *a* seta before middle long and strong; 2 *pd* at apex. *t2* below middle with 1 *ad* and 1 *pd*. *f3* with 1 median *av* and 1 *av* near apex. *t3* with 1 median *ad* and 1 *av* in apical 1/3. Abdomen dark with indistinct whitish-grey median vitta and whitish-grey dusted posterior margin of tergites.
Male (col. pl. III: *40*) differs as follows. Fore tarsus slightly modified: *tar1-1* to *tar1-3* dark dorsally and yellowish ventrally, *tar1-4* and *tar1-5* entirely dark; *tar1-2* to *tar1-5* shortened and broadened, though less so than in *L. melaleuca*. *f2* with rows of short *av* and *pv* setae. *f3* in basal 2/3 with *av* and *pv* rows of 6-7 strong setae. Abdomen cylindrical, glossy black, with pairs of contrasting white spots on posterior margin of tergites 1+2 to 4.

Lispe uliginosa Fallen, 1825
Col. pl. II-III: *36*, *39*
Type locality: Sweden: Vastra Gotaland & Skane (Västergötland, ≈ 58N 13E).
Lispe cotidiana Snyder, 1954. Type locality: **Canada**, Alberta, Suffield (50.2N 111.2W), **syn. nov.**
*Lispe neouliginos*a Snyder, 1954. Type locality: **USA**, California, Lone Pine (36.6N 118.1W), **syn. nov.**
Material examined:
Belarus, *Minsk* reg., Barysaw, Berezina R., 54.239N 28.494E, 5.07.2013, D. Gavryushin, 1♂.
Canada: ***Alberta*** prov., Empress (50.96N 110.01W), 7.06.1957, Brooks & MacNay, 1♂, 1♀; ***Manitoba*** prov., Fort Churchill (58.76N 94.08W), 8.07.1952, C.D. Bird, 1♂; Whitewater L., (50.8N 100.4W), 14.08.1958, J.G. Chillcott, 1♂, 1♀.
China, *Qinghai* prov., Kurlyk (-Nor Lake), Baingol (River), vost. (East) Tsaidam (≈ 37.2N 96.9E), Rob(orovskyiy and) Kozlov, 21.05.1895, 1♂, 2♀ (ZIN).
Denmark, Greenland, Sondrestrom Air Base (Kangerlussuaq, 67.0N 50.7W), 21.06.1952, W.J. Brown, 1♂, 1♀.
Germany, Lower Saxonia state, 54.305N 10.780E, C. Kassabeer, 5.07.2014 and 13.08.2014, 2♂.
Hungary, Apaj-Puszta (47.1N 19.1E), swamp, 25.06.1970, K. Gorodkov, 7♂, 2♀ (ZIN).
Kazakhstan: ***Almaty*** prov., Issyk Lake (43.25N 77.48E, 1720 m asl), 7.09.1959, V. Sychevskaya, 1♂; ***E Kazakhstan*** reg.: Tarbagatay range, 1700 m asl, 49.07N 86.01E, 26-27.07.2010, O. Kosterin, 1♂, Bukhtarminskoe Lake, 2070 m asl, 49.27N 86.97E, 4.07.2012, O. Kosterin, 1♂, 1♀; ***N Kazakhstan*** reg., Ishim R., 53.35N 67.05E, 15.VIII.2015, O.Kosterin, 1♂.
Kyrgyzstan, ***Issyk Kul*** prov., Choktal env, 42.58N 76.75E, 1600 m asl, 22.09.2013, N.Vikhrev, 10♂.
Mongolia: ***Bayankhongor*** prov., Orog-Nur L. (45.08N 100.55E), 6-30.06.1926, P. Kozlov, 1♀ (ZIN); ***Central*** (***Tov***) prov.: Sharkhay-Khunde, 24.07.1909, P. Kozlov, 1♀ (ZIN); Tuul R. near Lun (47.86N 105.20E), 4.09.1967, V. Zaitsev, 1♂ (ZIN); Uvs prov.; 50 km E of Ulangom (49.99N 92.75E, Uvs-Nuur L.), 10-11.07.1967, M. Kozlov, 1♂ (ZIN); 6.08.1970, E. Nartchuk, 1♂ (ZIN); Sagil distr., 1630 m asl, 50.171N 90.728E, 11-13.07.2010, A. Reshchikov, 1♀.
Russia: ***Altai Republic*** reg., 10 km E Chike-Taman pass, B. Ilgumen R. (50.64N 86.41E), 28.07.2006, A. Ovchinnikov, 1♀ (ZIN); ***Buryatia*** reg., Troitskosavsk (Kyakhta, 50.35N 106.45E), 13.07.1926, Mikhno, 1♀ (ZIN); ***Chelyabinsk*** reg.: Zlatoust env., 55.3N 59.8E, 850 m asl, 18-24.07.2008, K. Tomkovich, 1♂; ***Khakassia*** reg., Shira distr.: M. Spirinskoe freshwater L., 54.422N 90.147E, 26.06.2011, K. Tomkovich, 16♂, 3♀; Shira L. env., salt pond, 54.445N 90.331E; 28.06.2011, K. Tomkovich, 2♂; Khabarovsk reg, Khabarovsk, 48.6N 135.1E, 2-6.06.2014, N. Vikhrev, 8♂, 3♀; ***Khanty-Mansi*** reg., Shapsha, secondary branch of Ob River, 14-16.07.2010, 61.09N 69.44E, K. Tomkovich, 27♂, 19♀; ***Kaliningrad*** reg., Khrabrovo env., 54.88N 20.60E, 23.08.2013, K. Tomkovich, 2♀; ***Krasnoyarsk*** reg., Yenisei R., 55.97N 92.74E,

31.07.2009, K. Tomkovich, 1♂; ***Kurgan*** reg., Lebyazhye distr., 55.13N 66.78E, 21.07.2012, V. Sorokina, 2♂, 2♀ (ISEA); ***Moscow*** reg., Yurievo, 56.006N 35.545E, 6.08.2007, A. Ozerov, 1♂; ***Omsk*** reg., Omsk, Irtysh R., 54.96N 73.37E, 27.08.2007, O. Kosterin, 1♂; Omsk, Krugloe L., 54.89N 73.36E, O. Kosterin, 24.07.2012, 1♂, 2♀; 29.06.2013, 1♀; ***Primorsky*** reg.: Nikolsk-Ussuriysk (Ussuriysk, 43.80N 131.95E), V. Plyater-Plochtskaya, 14.08.1931, 1♀ (ZIN); Khanka L., 45.06N 131.99E, 15.06-6.07.2014, N. Vikhrev, 16♂, 7♀; Gornye Klyuchi, Ussuri R., 45.25N 133.50E, 6-7.07.2014, N. Vikhrev, 1♂; ***Sakha (Yakutia)*** reg., 70 km NEE Khandyga, Teplyi Klyuch (62.78N 136.80E), salty bank, 20.08.1974, K. Gorodkov, 1♂, 1♀ (ZIN); ***St-Petersburg*** reg., Ukki (60.11N 30.30E), 14.08.1932, A. Stackelberg, 1♂, 1♀ (with Hennig's handwriting label *L. uliginosa* Fall.); ***Tumen*** reg., Surgut (61.25N 73.45E), 25.07.1977, K. Gorodkov, 1♂, 1♀ (ZIN); ***Zabaykalsky*** reg.: N of Nerchinsk, Shamany (56.0N 115.8E), 30.06.1910, Kychakov, 1♀ (ZIN); Ulyatuy, 51.18N 116.19E, 6.07.2012, A. Medvedev, 1♂.

Distribution. With synonymy proposed below, *L. uliginosa* is a widespread Holarctic species. The southernmost record – 37N, the northernmost one – 67N.

Synonymy. ***L. cotidiana***. According to Snyder [1954] *L. cotidiana* differs from *L. uliginosa* as follows: *L. cotidiana* has *t2* with a submedian *av* to *v* seta (1); shape of cercal plate [Snyder, 1954: Figs 23, 24] (2); katepimeron («beret») is setulose in *L. cotidiana* and bare in *L. uliginosa* [Snyder, 1954: 21] (3). The following considerations should, however, be taken into account.

(1) Submedian *a-av* seta on *t2* does not seem to me a convincing argument that *L. cotidiana* is a valid species. This seta is often present on the right or left leg only (the pore from broken seta is easily visible on the yellow surface of tibia), One of my specimens has 2 *a-av* seta on the left tibia, several specimens have *av* seta on the right or left side only. Besides *a-av* seta may be strong or weak. In specimens from Europe and Altai (both Kazakh and Russian Altai) *a-av* seta on *t2* is absent. In specimens from Kyrgyzstan, China, Mongolia, East Siberia, Russian Far East and North America *a-av* seta on *t2* is usually present, though in some specimens from Mongolia, Far East and North America (*L. neouliginosa* sensu Snyder) it is absent. Material from West Siberia is a mixture of specimens with or without this seta.

(2) In Hennig's opinion [1960] the differences which Snyder [1954] had found in the shape of the male genitalia are not well grounded. I came to the same conclusion after examination of genitalia of specimens with or without *a-av* seta on *t2*.

(3) The presence of setulae on the katepimeron is not correlated with the presence or absence of *av* on *t2*. Some specimens from Canada have the katepimeron with 3-5 rather strong setulae; other Canadian specimens and some specimens from Mongolia and W. Siberia have 1-2 weak setulae. In vast majority of specimens the katepimeron is bare. It seems that the katepimeron is more often haired in specimens from cold regions. It is remarkable that even the typical hairs on the meron sometimes are entirely absent (2 males from Russia, Primorsky reg.).

Presence of *a-av* seta on *t2* has a distinct trend to be more frequent in the E Palaearctic and N America. It is possible to regard such specimens with *a-av* seta on *t2* as subspecies *L. uliginosa cotidiana*, but I believe that assuming *L. uliginosa* as a variable Holarctic species describes the situation more appropriately. Thus, in my opinion *L. uliginosa* Fallen, 1825 = *Lispe cotidiana* Snyder, 1954 **syn. nov.**

L. neouliginosa. Taking into account the high variability of *L. uliginosa*, especially in the leg chaetotaxy I regard the validity *L. neouliginosa* as totally groundless. According to Snyder [1954], these species can be identified as follows:

♂: *t1* with distinct *av* to *v* seta at apex. ♀: *f3* without distinct preapical *av*. …*L. uliginosa*

♂: *t1* without distinct *av* to *v* seta at apex. ♀: *f3* with distinct preapical *av*. …*L. neouliginosa*

Some of the Palaearctic specimens from various localities run to *L. neouliginosa*. The drawing [Snyder, 1954: Fig. 22] shows male cerci of *L. neouliginosa* somewhat wider than that of *L. uliginosa*, but of the same shape. At some angles of view, the cerci of *L. uliginosa* may look identical under. So, *L. uliginosa* Fallen, 1825 = *Lispe neouliginosa* Snyder, 1954 **syn. nov.**

Identification key for Palaearctic fauna of the *Lispe uliginosa* group, ♂♀

1. *t3* with several additional *ad* setae of various length. *t1* with *d* seta in apical 1/3. ♂: Cercal plates with rounded apex (col. pl. II: *36*). ♀: *f3* with 1-2 *av* in basal 1/3 and 1(2) near middle **. . . . *uliginosa*** Fallen
– *t3* with single submedian *ad* setae. *t1* without *d* seta. ♂: cercal plates with pointed apex. ♀: *f3* at most with 1 *av* near middle **. 2**
2. ♂: *f3* without strong ventral setae, only weak *av* and *pv* at apex and some fine setulae may present near base. Fore tarsus remarkably modified: *tar1-5* to *tar1-2* shortened and broadened; *tar1-5* to *tar1-3* black, *tar1-4* bicolour, *tar1-1* yellow. Cercal plates – col. pl. II: *34*. ♀: *f3* without submedian *av*. Palaearctic from W Europe to E Siberia **. . . . . *melaleuca*** Loew
– ♂: *f3* in basal 2/3 with *av* and *pv* rows of 6-7 strong setae. Fore tarsus slightly modified: *tar1-2* to *tar1-5* less shortened and broadened than in *L. melaleuca*; *tar1-1* to *tar1-3* dark dorsally and yellowish ventrally, *tar1-4* and *tar1-5* entirely dark. Cercal plates – col. pl. II: *35*. ♀: *f3* with 1 submedian *av*. Far

East ..... ***septentrionalis*** Xue & Zhang

11.2 North American fauna of the *Lispe uliginosa* group

Lispe albitarsis Stein, 1898
Material examined:
Syntypes 8♂, 9♀: **USA**: ***Georgia***, Tifton, collector Hough: 3.09.1896, 1♂, 1♀; 4.09.1896, 1♂, 2♀; 6.09.1896, 2♂; 1.10.1896, 1♀; 2.10.1896, 2♂; 5.10.1896, 3♀; ***Illinois***, Algonquin, 11.08.1896, Nason, 1♀; ***Massachusetts***: New Bedford, 30.08.1896, Hough, 2♂; Horse Neck Beach, 5.08.1896, Hough, 1♀ (all ZMHU).
Canada: ***New Brunswick***, Kouchibouguac NP (46.8N 65.0W), D.B. Lyons, 8.08.1978, 1♀;
Ontario, (Thousand Islands) NP, St. Lawrence (44.35N 76.00W), H.J. Teskey, 13.07.1975, 1♂.
USA: ***Florida***, Everglades NP, Mahogany Hammock (25.2N 80.8W), H.G. Chillcott, 2.12.1961, 1♂, 1♀; ***Wisconsin***, Dane County (43.1N 89.4W), 24.07.1936, F. Snyder, 1♂.

Lispe antennata Aldrich, 1913
Col. pl. II: *38*
No material examined.

Lispe latana Snyder, 1949
No material examined. See «Remarks» to *L. levis*.

Lispe levis Stein, 1911
Paralectotype ♂: **Chile**, Arica (18.5S 70.3W), 4.11.1902, Schnuse, 1♂ (ZMHU).
Descriptive notes on paralectotype. Palpi yellow. *dc* 2+3, all strong; *prst ac* in 4 rows. Meron with 5-6 hairs above hind coxa. Femora dark; knees and tibiae yellow; tarsi dark except for yellowish *tar1-1* to *tar1-3*. *t1* with 1 *ad* and 1 *p* below middle. *f2* with a complete row of *av* (sparser and longer in basal half, denser and shorter in apical half) and with several dense short spine-like *pv* setae in basal half. *t2* with 1 *ad* and 1 *pd*. *f3* with 4-5 strong *av* in basal 1/2 and 4-5 strong *pv* in basal 2/3. *t3* with 1 *av* and 3 *ad* in basal half (the lower – the strongest, the upper – the weakest). Abdomen grey dusted with pairs of dark spots on tergites 3 to 5.
Remarks. According to Snyder [1949] *L. latana* differs from *L. levis* and *L. lisarba* by 2+4 (instead of 2+3) *dc* of which only 2 posterior pairs are strong. *L. lisarba* differs from *L. levis* only by weaker anterior *post dc* seta and by entirely yellowish pedicel (partly so in *L. levis*). In my opinion the validity of these Snyder's species requires confirmation. *L. levis* (as well as *L. latana* and *L. lisarba*) differs from other S American species of the *L. uliginosa* group as follows:
– Meron setulose above hind coxa. ♂: *f3* with 4-5 *av* and 4-5 *pv* in basal half ..... ***levis*** Stein
– Meron bare. ♂: *f3* 1 long *av* in basal 1/3 and 1 very long *v* at base ..... ***serotina*** Wulp

Lispe lisarba Snyder, 1949
No material examined. See «Remarks» to *L. levis*.

Lispe mexicana **sp. nov.**
Col. pl. II: *37*
Holotype, ♂: **Mexico**, San Angelo (***Federal*** distr., 19.345N 99.192W, 2300 m asl), 4.07.1927, B. Antipovich (ZIN).
Paratypes 2♂, 3♀: same label as the holotype, 1♂, 1♀; **Mexico**, D. F. (***Federal*** distr., 19.42N 99.15W, 2230 m asl), B. Antipovich, 5.05.1927, 1♂, 1♀; 4.07.1927, 1♀ (ZIN).
Description. Male, body length 6.0-6.5 mm.
Head. Frons dark; fronto-orbital plates and frontal triangle dirty-yellowish; face, parafacials and cheeks whitish dusted, occiput grey. Fronto-orbital plates with 4 inclinate, 2 reclinate setae and an outer row of setulae. Parafacials with 1-2 irregular rows of hairs. Antennae black, but apex of pedicel yellow. Longest aristal hairs 1.5-2x as long as width of antenna. Palpi narrow, yellow with thin white dusting.
Thorax. Scutum and pleura densely brownish-grey dusted, scutum with 3 narrow brownish vittae, median and a pair of submedian along *dc* rows. Chaetotaxy: *dc* 2+3, all strong; katepisternals 1:1:1, with sparse hairs; anepimeron with 5-7 setulae; meron with 2-3 hairs above hind coxa and 4-5 hairs below posterior spiracle; katepimeron bare. Wings hyaline, calypters yellow-white, halter yellow-brown.
Legs with tibiae yellow, femora and tarsi dark (but ventral surface of fore tarsus more or less yellow in basal segments). *t1* below middle with 1 *pv* and 1 *d*. *f2*: in basal part with a row of short *a* setae, the last seta before middle long and strong, 3 av, 4 pv; at apex 2 *pd*. *t2* below middle with 1 *ad*, 1 *pd* and 1 *av*. *f3* in basal 2/3 with 4-5 long *av* and 3-4 short *pv*; near apex 1 *av*. *t3* with 1 long *ad* below middle, 1 short *ad* below and 3 longer *ad* above the strongest one; 1 *av* in apical 1/3; *pd* surface without elongated setae.
Abdomen densely dirty-grey dusted with large paired dark spots on tergites. Cercal plate as on col. pl. II: *37*. *Female* differs as follows: *f2* without *av* and *pv* setae. *f3* in basal 2/3 with 2-3 *av*, without pv. Abdomen wider and more flattened.
Diagnosis. Hennig [1960: 429] also examined this series of specimens from Mexico City in ZIN and found it undistinguishable from *L. cotidiana* except for absence of elongated *pd* setae on *t3*. I had not found other difference in chaetotaxy too. However, male genitalia are strikingly different (col. pl. II: *36*, *37*). Short and wide cercal plate of *L. mexicana* sp. nov. resembles that of *L. antennata* [Snyder, 1954: 11, fig. 28], but *L. antennata* differs by yellow(ish) tarsi and the presence of *av* on *t2* was never reported in *L. antennata* or related *L. nudifacies*.

Etymology. Named after the country and city where the type series was collected.

Lispe nasoni Stein, 1898
Material examined:
Syntypes 2♂, 2♀: (**USA**), ***Illinois***, Algonquin (42.165N 88.295W), 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♀.
Mexico, ***Chiapas*** state, Chiapa de Corzo (16.70N 93.01W), 9.11.2010, A. Grzywacz, 2♂; Sonora state, Ciudad Obregon (27.5N 109.9W), 16.05.1961, Howden & Martin, 1♂.
USA: ***Texas***, Davis Mts State Park (30.6N 103.9W), 19-20.07.1973, E. Lindquist, 1♂; ***Wisconsin***, Dane Country (43.1N 89.4W), 31.07-2.08.1935, F. Snyder, 2♂, 1♀ (ZMHU).

Lispe nudifacies Snyder, 1954
Material examined:
Canada, ***Ontario***, (Thousand Islands) NP, St. Lawrence (44.35N 76.00W), Raid, 7.07.1976, 1♂,
A. Carter, 7.07.1976, 1♀; One Sided Lake (49.06N 93.89W), Kelton & Whiyney, 16-17.06.1960, 1♂.

Lispe polita Coquillett, 1904
Material examined:
USA, ***Colorado***, Doolittle ranch, Mt Evans (≈ 39.5N 105.5W), 9.08.1961, W.R.M. Mason, 1♂, 1♀.

Lispe serotina Wulp, 1896
Lispe edwardsi Malloch, 1934
Material examined:
Argentina: ***Corrientes*** prov., Andino, 32.674S 60.865W, 12-18.12.2013, K. Tomkovich, 1♂, 7♀; ***Misiones*** prov., Puerto Libertad env., 25.908S 54.551W, 2-5. 01.2013, K. Tomkovich, 4♂, 4♀; ***Santa Fe*** prov., Riachualo, Pexoa R., 27.56S 58.723W, 20-25.12.2013, K. Tomkovich, 4♂, 1♀.
Brazil, ***Rio de Janeiro*** st., Gavea (22.99S 43.24W), 18.03.1937, S. Souza Lopes, 1♂, 1♀ (ZMHU).

Identification key for N American fauna of the *Lispe uliginosa* group, ♂♀

1. Meron bare. Body length 4-5.5 mm. ♂: *f3* in basal 1/3 with 1(2) *av* and 1 remarkably long (2.5-3x as long as femur width) *v* seta **. 2**
– Meron setulose. Body length more than 5.5 mm. ♂: *f3* in basal part with 4-5 *av* and *pv*, without remarkably long *v* at base **. 3**
2. *f2* with strong and long (1.5x as long as femur width) *av* seta slightly apical the level of submedian *a* seta. ♂: Fore tarsus modified: *tar1-1* to *tar1-3* elongated, narrow, yellow (*tar1-1* darkened at base); *tar1-4* and *tar1-5* shortened, wide, black. ♀: *f3* in basal 1/3 with 1 *av* **. . . . . *albitarsis*** Stein
– *f2* without *av* seta as above. ♂: Fore tarsus unmodified, entirely dark. ♀: *f3* with 1 *av* in middle and with 1 *v* at base **. . . . . *serotina*** Wulp
3. Entirely black species, legs and abdomen glossy black, scutum only with thin brown dusting. Pulvilli elongated, fore pulvilli longer than half length of *tar1-5* (♀) or longer than length of *tar1-5* (♂). (*t2* with 1 *av*.) **. . . . . *polita*** Coquillett
– Densely grey dusted species with paired marks on abdomen. At least tibiae yellow. Pulvilli shorter **. 4**
4. *dc* 2+4, two anterior pairs of *post dc* weak. ♂: Cercal plate – [Snyder, 1954: 11, fig. 29] **. . . . . *nasoni*** Stein
– *dc* 2+3, all strong. ♂: Cercal plate different **. 5**
5. Dorsal and lateral surface of tarsi yellow(ish) on at least the basal three segments. *t2* without *av* **. 6**
– Dorsal and lateral surface of tarsi dark. *t2* usually with *av* **. 7**
6. ♂: Parafacials setulose along their entire length. Cercal plate – col. pl. III: *38* **. . . . *antennata*** Aldrich
– ♂: Middle of parafacials bare. Cercal plate, see Snyder [1954: 11, fig. 27] **. . . . . *nudifacies*** Snyder
7. ♂: *t3* without elongate *pd* setulae. Cercal plate – col. pl. II: *37*. Mexico **. . . . . *mexicana* sp. nov.**
– ♂: *t3* with elongate *pd* setulae. Cercal plate – col. pl. II: *36*. USA and Canada **. . . . . *uliginosa*** Fallen

12. World fauna of the *Lispe nicobarensis* species–group

Notes on the *L. nicobarensis* group.
I offer to place *Lispe aceponti* sp. nov., *Lispe flaveola* sp. nov., *Lispe nicobarensis* Schiner, 1868, *Lispe nigrimana* Malloch, 1925, and *Lispe sydneyensis* Schiner, 1868 into the here proposed *Lispe nicobarensis* species-group. *L. nicobarensis* group is distributed in Australia and tropical Asia. Species of the *L. nicobarensis* group are easily recognizable: small flies with long legs; setae on thorax and legs reduced; male legs intricately modified. *L. nicobarensis* group seems to have 2 apomorphic characters: vibrissae inserted on half distance between mouth margin and tip of antenna (1); sternite 4 enlarged and merged with tergite 4 in syntergosternite, sternite 4 posterodorsally with a skewed process on the right side, sternite 5 reduced (possibly the skewed process on syntergosternite 4 is the rest of sternite 5) (2).
Species of the *L. nicobarensis* group have similar ecology: they are typical on boulders of small forest streams, but also may be found on boulders and silt near ponds or pools. These flies distinctly avoid direct sunshine. According to my observations, they mostly feed on invertebrate carrion like drown ants or spiders (col. pl. III: *42*). *L. sydneyensis* is rather deviated ecologically, it prefers shores of large basins, especially artificial reservoirs, also lakes and big rivers.

***Lispe aceponti* sp. nov.**

Col. pl. III: *45*, *47*

Holotype, ♂: **Sri Lanka**, Marawila env., 7.440N 79.816E, 26-31.12.2012, N. Vikhrev. Paratypes 17♂, 12♀:

India: ***Goa*** state: Calangut (15.54N 73.77E), 27.01.2008, N. Vikhrev, 1♂, 1♀; (Margao env.), 15.124N 74.003E, 19.02-4.03.2009, K. Tomkovich, 1♂, 1♀; ***Gujarat*** state, Junagadh env., 21.517N 70.455E, 20-30.10.2012, K. Tomkovich, 10♂, 3♀; ***Orissa*** state, Daspalla env., 20.38N 84.77E, 17-25.01.2014, K. Tomkovich, 1♂, 4♀; ***Rajasthan*** state, Sawai Madhopur env., 26.02N 76.38E, 25.02.2011, N. Vikhrev, 1♂, 1♀.

Sri Lanka: Negombo, 7.23N 79.84E, 16-18.12.2012, N. Vikhrev, 1♀; Marawila env., 7.440N 79.816E, 26-31.12.2012, N. Vikhrev, 1♂**,** 1♀; Pinnawala env., 7.28N 80.39E, 19-21.12.2012, N. Vikhrev, 2♂.

Description. Male, body length 4.2–4.7 mm.

Head. Fronto-orbital plates black in upper 2/3, silvery dusted in lower 1/3, with 2 inclinate and 1 reclinate setae, all weak and short. Interfrontalia black, frontal triangle glossy black. Face, parafacials and genae golden-yellow to whitish-grey dusted. Occiput glossy in upper 1/3, dirty-yellow dusted in lower 2/3; almost bare except for postocular row and a pair of vertical rows of strong spinulose setulae. Antennae black, about as long as half distance from lunula to mouth margin; arista plumose in basal half, the longest hairs about as long as antenna width. Vibrissae distinct but short; inserted at half distance between mouth margin and tip of antenna. Palpi yellow, moderately widened. Proboscis glossy black.

Thorax. Scutum and scutellum evenly glossy black with trace of yellow dusting only on notopleura and postpronotal calli. Pleura densely and evenly grey dusted. Thoracic setae reduced: 2 notopleurals; 1 *post* intraalar; 1 *post* supraalar; 1 weak postalar; 0+1 *dc*, a single pair is medium strong. Scutellum with 2 pairs of setae. Pleura bare, almost without ground setulae; anepisternum with 1 strong and several weak setae; katepisternals 1:1:1, but only the posterior seta is strong; anepimeron with 3-4 hairs; meron and katepimeron bare. Wing hyaline, slightly brownish, vein M straight, calypters and halteres yellow.

Legs black, but trochanters and bases of posterior tibia yellow. *t1* without setae, flattened laterally. Fore tarsus not modified. *f2* elongated; with sparse and short ground hairs and short preapical *pd* seta only. *t2* elongated; with 1 short median *p*. Mid tarsus modified: *tar2-1* with a row of curved ventral setulae, the most apical one the strongest and spine-like; more apical *tar2-1* with short, straight spine with blunted apex; *tar2-2* and *tar2-3* with curved ventral setula each. *f3* curved; with 4 long (3-4x as long as femur width) *v-av* setae in basal half. *t3* curved, with 1 median *ad* and a sparse row of fine *pv* setulae (about as long as tibia width). Hind tarsus not elongated, about as long as *t3*; *tar3-1* about half as long as *t3*, with slightly elongated setulae on *av* surface.

Abdomen black, with a pair of white lateral spots on tergite 4. Sternite 4 enlarged and merged with tergite 4 into a syntergosternite; sternite 4 posterodorsally with a skewed process on the right side. Sternite 5 reduced (possibly the skewed process on syntergosternite 4 is the rest of sternite 5). Tergite 7 without row of curved setae (in contrast to *L. nicobarensis*). Male cercal plate – col. pl. III: *46*, similar to that of *L. nicobarensis*.

Female differs from male as follows: body length 5.3–5.8 mm; mid tarsus and hind leg unmodified.

Diagnosis. The differences between *L. aceponti* sp. nov. and widespread *L. nicobarensis* are given in the identification key below. Otherwise these species are very similar including the same shape of the cercal plate (it is not surprisingly as the shape of the cercal plate of *L. sydneyensis* and *L. nigrimana* is also identical). No males with intermediate characters were found among rich material examined. I had not found difference between *L. aceponti* sp. nov. and *L. nicobarensis* in female sex, however I decided to include females of *L. aceponti* sp. nov. in the type series because male specimens from any Indian localities are either *L. aceponti* sp. nov. or *L. nicobarensis*. I suspect that *L. aceponti* sp. nov. are distributed further west to Pakistan and Iran, but material from these countries is not available.

Etymology. The species is named in honour of an outstanding dipterologist Adrian Charles Pont, UK, Oxford.

***Lispe flaveola* sp. nov.**

Col. pl. III: *43*

Holotype: male, **Australia**, ***Qld***, Pentland env., forest creek, 20.52S 145.40E, 1.02.2013, N. Vikhrev.

Paratypes 2♂, 3♀: **Australia**, ***Qld***: Reid R., 19.758S 146.834E, 31.01.2013, N. Vikhrev, 1♀; Pentland env., forest creek, 20.52S 145.40E, 1.02.2013, N. Vikhrev, 1♂, 2♀; ***NT***, Tennant Creek, 19.561S 134.225E, 5.02.2013, N. Vikhrev, 1♂.

Description. Male, body length 5.0–5.5 mm.

Head. Fronto-orbital plates black in upper 2/3, yellow dusted in lower 1/3, with 2 inclinate and 1 reclinate setae, all weak and short. Interfrontalia black, frontal triangle glossy black. Face, parafacials and genae densely golden-yellow dusted. Occiput glossy in upper 1/3, dirty-yellow dusted in lower 2/3; almost bare except for postocular row and a pair of vertical rows of strong spinulose setulae. Antennae short, shorter that half distance from lunula to mouth margin; pedicel and base of postpedicel yellow, apical 2/3 of postpedicel dark; arista plumose in basal half, the longest hairs about as long as antenna width. Vibrissae distinct but short; inserted on half distance between

mouth margin and tip of antenna. Palpi yellow, moderately widened. Proboscis glossy black.
Thorax. Scutum and scutellum evenly glossy black with trace of yellow dusting only on notopleura and postpronotal calli. Pleura densely and evenly yellow dusted. Thoracic setae remarkably reduced: 2 notopleurals; 1 *post* intraalar; 1 *post* supraalar; 1 weak postalar; 0+1 *dc*, a single pair is weak. Scutellum with 2 pairs of setae. Pleura bare, almost without ground setulae; anepisternum with only 1 seta; katepisternals 0:2 or 0:1 (lower katepisternal reduced to a fine setula distinct only due to absence of ground setulae); anepimeron with 3-4 hairs; meron and katepimeron bare. Wing hyaline, slightly brownish, vein M straight, calypters and halteres yellow.
Legs remarkably long; yellow, but *t1* and fore and hind tarsi black. *t1* without setae, flattened laterally. Fore tarsus not modified. *f2* elongated; with sparse and short ground hairs and short preapical *pd* seta only. *t2* elongated; with 1 median *p* and slightly elongated *pd* setulae in apical half. Mid tarsus modified: *tar2-1* triangulary widened at apex, *tar2-1* on ventral surface with a row of 5-6 fine long setulae and with a row of 7-8 short spinules; *tar2-2* and *tar2-3* slightly widened at apex, each with short blunt ventral spines at base. *f3* with a sparse row of 4 fine,1.5x as long as femur width *v* setulae in basal half. *t3* without setae, with elongated setulae on *v* surface. Hind tarsus modified, shortened, hardly half as long as *t3* length; *tar3-1* with a row of 4-5 long fine *av* setulae, with short dense hairs on ventral surface and with a pair of d setae at apex.
Abdomen yellow with large brown trapezoid marks on tergites 3 to 5 and brown antero-lateral stripes on tergite 5. Sternite 4 enlarged and merged with tergite 4 in a ring. Male genitalia not examined.
Female differs from male as follows: body length 5.5–6 mm; mid tarsus and hind leg unmodified.
Diagnosis. An unmistakable species, see col. pl. III: *43* and identification key below.
Etymology. The name refers to the yellow body colour unusual in the genus *Lispe*.

Lispe nicobarensis Schiner, 1868
Col. pl. III: *42*
Type locality: **India**, ***Andaman and Nicobar Islands***, Tillangchong (8.48N 93.63E).
Lispe binotata Becker, 1914. Type locality: **Taiwan**.
Lispe albimacula Malloch, 1923. Type locality: **Australia**, ***QLD***, Babinda (17.34S 145.92E).
Material examined:
Syntypes *L. binotata*, 3♂, 4♀: (**Taiwan**): Tainan, 05.1912, 1♂; Kankau, 11.1912, 1♂, 3♀; Kosernpo, 05.1912, 1♂; Pilam, 08.1912, 1♀ (ZMHU).
India: ***Orissa*** state, Puri env., 19.82N 85.85E, 11-14.01.2014, K. Tomkovich, 1♂, 1♀; ***Uttarakhand*** state, Rishikesh env., Chilla, 29.976N 78.209E, 14-16.04.2013, K. Tomkovich, 1♂, 3♀.
Other material examined: about 170 ♂ and ♀ from:
Australia, *QLD*; **Burma** (**Maynmar**), *Shan* state; **Cambodia**: *Kampot*, *Kep* and *Koh Kong* provinces; **Indonesia**: *Bali*, *Nusa Tenggara Barat* and *Papua* provinces;
Malaysia: *Pahang*, *Sabah* and *Selangor* states; **Thailand**: *Chantaburi*, *Chiang Mai*, *Chonburi*, *Kanchanaburi*, *Mae Hong Son*, *Nakhon Ratchasima*, *Phang Nga*, *Phuket*, *Surat Thani*, *Trat* provinces; **Vietnam**, *Lao Cai* province.
Distribution. Widespread from N Australia to E India.

Lispe nigrimana Malloch, 1923
Col. pl. III: *44*
Type locality: **Australia**, ***QLD***, Burnett R. (≈ 25S 152E).
Australia: ***QLD***: Proserpine env, 20.4S 148.6E, 29-30.01.2013, N. Vikhrev, 8♂, 6♀; Reid R., 19.758S 146.834E, 31.01.2013, N. Vikhrev, 1♀; Pentland env., forest creek, 20.52S 145.40E, 1.02.2013, N. Vikhrev, 11♂, 5♀; Camoweal, 19.92S 138.11E, 5.02.2013, N. Vikhrev, 1♂.
NT: Mac Donnell NP, Glen Helen [resort], 23.68S 132.67E, 13.10.2002, D. Werner, 1♂, 2♀ (ZMHU); Tennant Creek, 19.561S 134.225E, 5.02.2013, N. Vikhrev, 4♂, 2♀; ***NSW***, Jindabyne L., 900 m asl, 36.41S 148.60E, 16.02.2013, N. Vikhrev, 1♂.
Distribution. Australia, mostly dry regions in the northern half of the continent.

Lispe sydneyensis Schiner, 1868
Col. pl. III: *46*
Type locality: **Australia**, ***NSW***, Sydney.
Lispe atrifrontata Malloch, 1922. Type locality: **Australia**, S Queensland.
Australia: ***QLD***: Monduran L., 24.868S 151.849E, 24.01.2013, N. Vikhrev, 2♂, 2♀; Proserpine env., 20.4S 148.6E, 29-30.01.2013, N. Vikhrev, 1♂; ***NSW***: Jindabyne L., 900 m asl, 36.41S 148.60E, 16.02.2013, N. Vikhrev, 13♂, 11♀; Bombala env, 36.9S 149.2E, 14-16.02.2013, N. Vikhrev, 6♂, 2♀; ***VIC***: Narrawong env., 38.26S 141.70E, 12-13.02.2013, N. Vikhrev, 1♂; half dry river, 37.112S 142.187E, 11.02.2013, N. Vikhrev, 6♂, 5♀: ***SA***, Morgan env., Murray R, 34.03S 139.73E, 10.02.2013, N. Vikhrev, 5♂, 1♀; ***ACT***, Canberra, 35.284S 149.107E, 20.02.2013, N. Vikhrev, 9♂, 4♀.
Distribution. Australia, mostly eastern and southern regions.

Identification key for the World fauna of the *Lispe nicobarensis* group, ♂♀

1. Pleura, femora, tibiae and abdomen light yellow (col. pl. III: *43*). *t3* without *ad*. Anterior katepisternal seta absent **. . . . . *flaveola* sp. nov.**
– At most apical half of femora and tibiae dark yel-

low. *t3* with *ad*. Anterior katepisternal seta present **2**

2. Posterior femora yellow in apical halves, posterior tibiae entirely yellow (col. pl. III: *44*). ♂: *tar2-1* with a complete row of 13-15 *v* setulae; *f3* with 3-4 long (3-4x as long as femur width) *v* setae in 2nd quarter and with a dense row of *pv* setulae in apical half; *t3* in middle third with a row of 10 long, fine *pv* and with elongated *ad* setulae in basal half; *tar3-1* laterally curved, on *a* surface in basal 1/3 with long dense setulae, in apical 1/3 with shorter setulae, *v* surface covered with dense hairs; *tar3-2* with elongated *a* setulae ..... ***nigrimana*** Malloch

– Posterior femora and tibiae entirely black (col. pl. III: *42*, *45*). ♂: leg chaetotaxy different **3**

3. Mid and fore trochanters densely grey dusted, concolour with femora. Tergite 3 with lateral spots. Postpronotal seta weak. Australia (mostly S Australia). ♂: *tar1-4* and *tar1-5* shortened and widened; mid tarsus unmodified; *f3* in basal half with a tuft of 9-11 close-set long backcurved *v* setae. Cercal plate as in col. pl. III: *46* ..... ***sydneyensis*** Schiner

– Mid and fore trochanters yellow, contrasting to densely grey dusted femora. Tergite 3 without lateral spots. Postpronotal seta stronger. From W India to N Australia. ♂: fore tarsus unmodified; *tar2-1* with 2 strong *v* setae in apical 1/3; *f3* in basal half with a sparse row of 3-4 long backcurved *v* setae. Cercal plate as in col. pl. III: *47* 4

4. ♂: *f3* on *v* surface, apart from 3 long backcurved setae, covered with a complete row of erect hairs. *t3* in middle with several *pv* setulae 2-2.5x as long as tibia width. Hind tarsus more than 1.5x longer than *t3*, *tar3-1* almost as long as *t3*. *tar3-2* with hairs on *a* surface 2-3x longer that tarsus width. Apex of abdomen (tergite 7) with a row of long downcurved marginal setae ..... ***nicobarensis*** Schiner

– ♂: *f3* on *v* surface with 4 long backcurved setae, without a row of erect hairs. *t3* on *pv* surface covered with uniform setulae hardly longer than tibia width. Hind tarsus hardly longer than *t3*, *tar3-1* two times shorter than *t3*. *tar3-2* with hairs on *a* surface hardly longer that tarsus width. Tergite 7 without remarkable setae ..... ***aceponti*** **sp. nov.**

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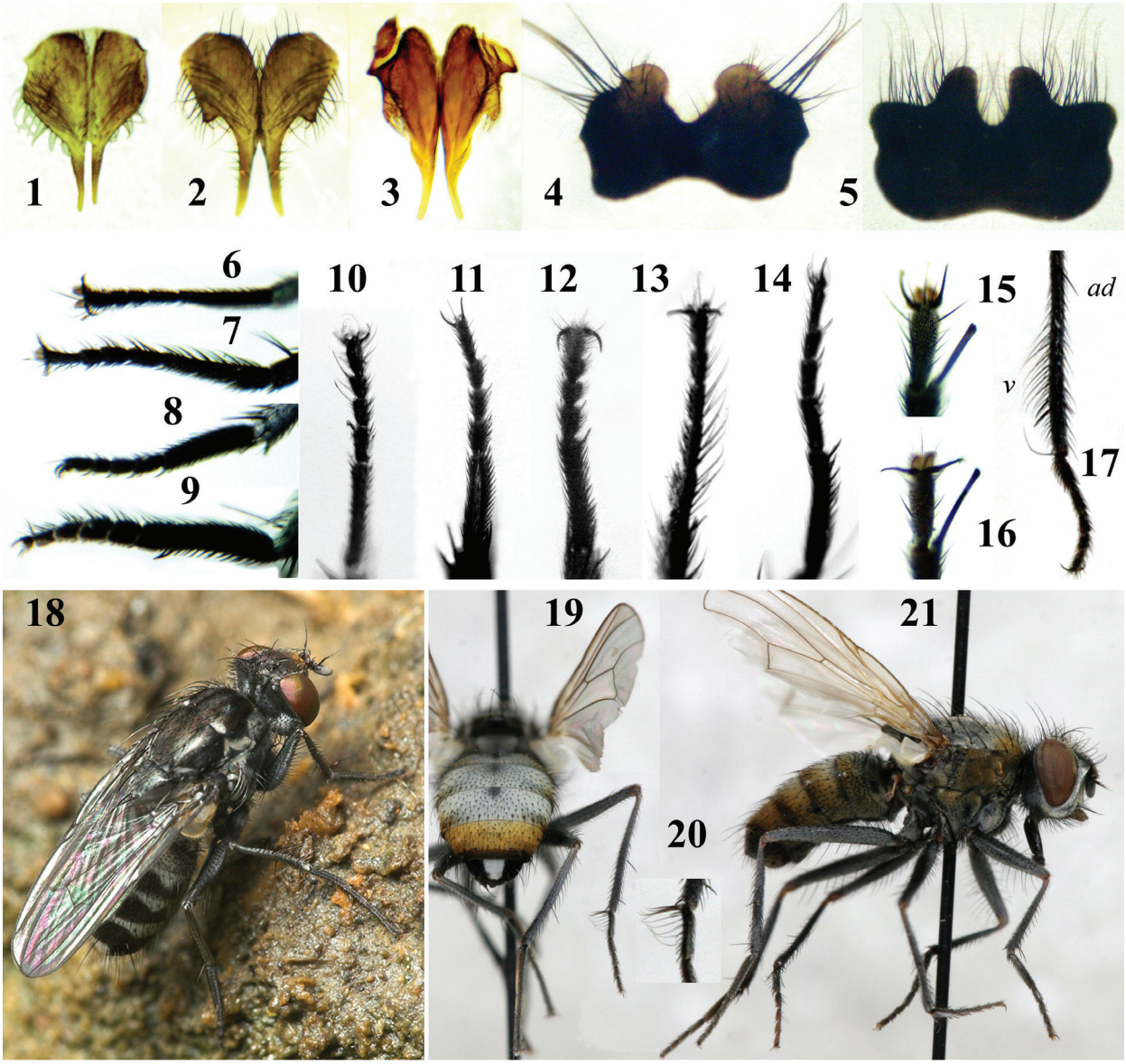
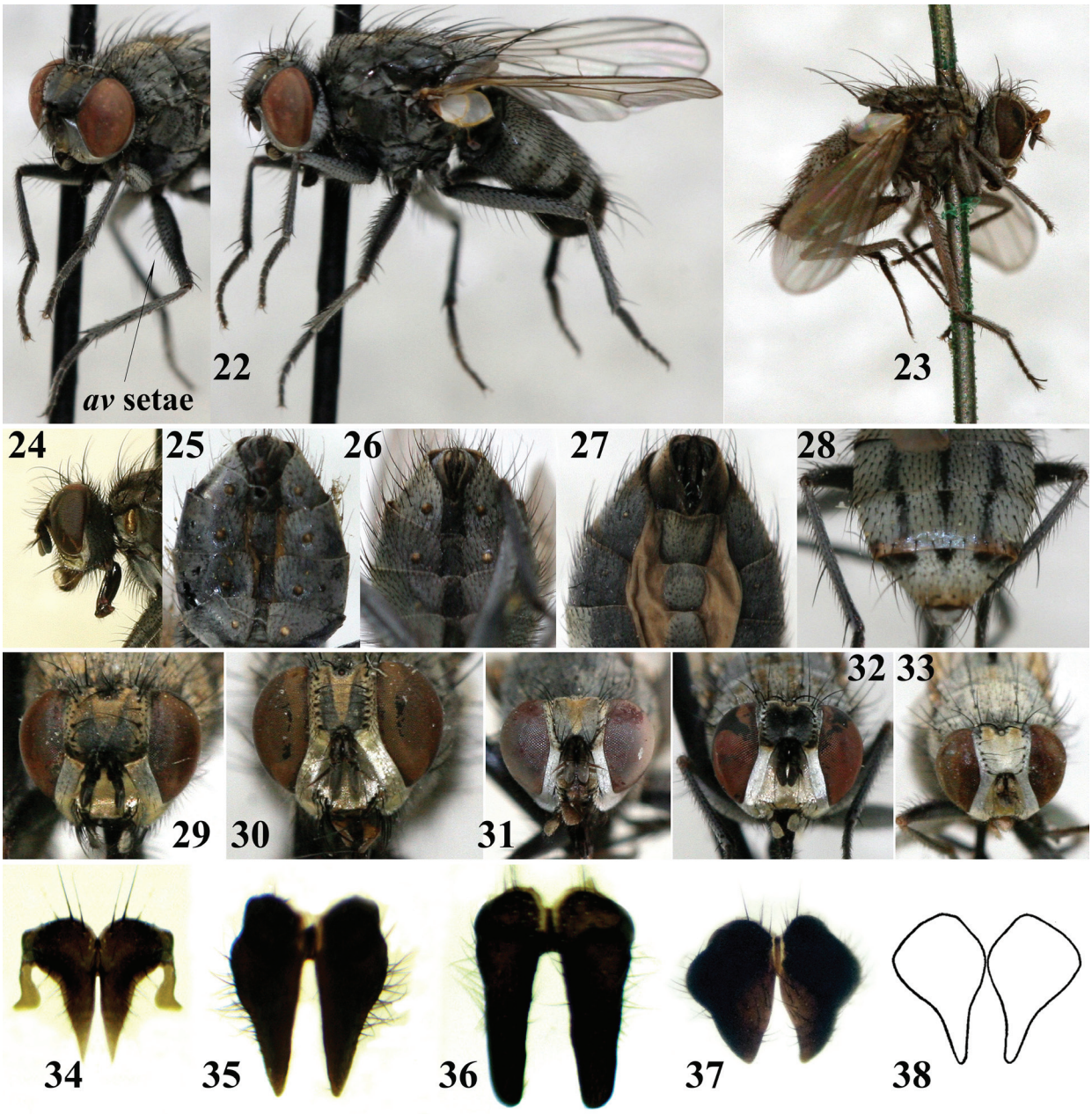
ЦВЕТНАЯ ТАБЛИЦА I **COLOR PLATE I**



Lispe palposa group, ♂: *1-3*, cercal plates: *L. apicalis* (***1***); *L. elkantarae* (***2***); *L. neimongola* (***3***). *4-5*, sternite 5: *L. neimongola* (***4***); *L. flavinervis* (***5***). *6-9*, hind tarsus: *L. apicalis*, dorsal view (***6***); *L. flavicincta*, dorsal view (*7*); *L. neimongola*, lateral view (***8***); *L. hebeiensis*, lateral view (***9***). *10-15*, left mid tarsus, dorsal view: *L. palposa* (***10***); *L. neimongola*, (***11***); *L. flavinervis* (***12***); *L. litorea* (***13***); *L. s. superciliosa* (***14***); *L. p. bohemica*, apex (***15***); *L. p. appendibacula*, apex (***16***); Mid leg, *L. loewi* (***17***). *L. s. superciliosa* (photo: Dm. Gavryushin) (***18***). *19-21*, *L. tarsocilica*: posterior view (***19***); *tar2-1*, posterior view (***20***); lateral view (***21***).

Группа видов ***Lispe palposa*****,** ♂: *1-3*, церки: *L. apicalis* (***1***); *L. elkantarae* (***2***); *L. neimongola* (***3***). *4-5*, стернит 5: *L. neimongola* (***4***); *L. flavinervis* (***5***). *6-9*, задняя лапка: *L. apicalis*, вид сверху (***6***); *L. flavicincta*, вид сверху (*7*); *L. neimongola*, вид с боку (***8***); *L. hebeiensis*, вид с боку (***9***). *10-15*, левая средняя лапка, вид сверху: *L. palposa* (***10***); *L. neimongola*, (***11***); *L. flavinervis* (***12***); *L. litorea* (***13***); *L. s. superciliosa* (***14***); *L. p. bohemica*, апекс (***15***); *L. p. appendibacula*, апекс (***16***); Средняя нога, *L. loewi* (***17***). *L. s. superciliosa* в природе, фото Дм. Гаврюшина (***18***). *19-21*, *L. tarsocilica*: брюшко, вид сзади (***19***); tar2-1, вид сзади (***20***); вид с боку (***21***).

ЦВЕТНАЯ ТАБЛИЦА II **COLOR PLATE II**



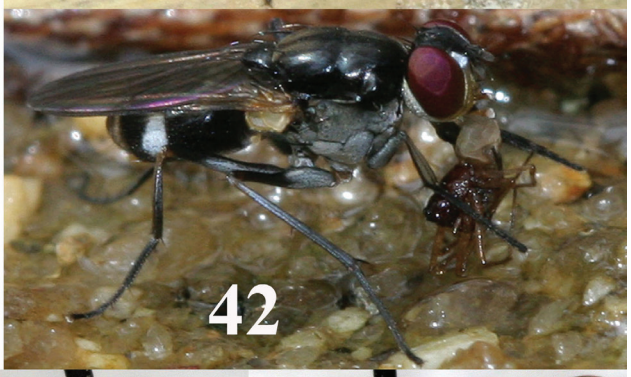
Lispe palposa group: *L. neimongola*, general view semilateral (with *av* row on *f2*) and lateral (***22***). Syntype of *L. p. parcespinosa* from Helsinki, ZMUH (***23***). *L. frigida* (=*L. canadensis*) ♂, thoracic spiracle enlarged (***24***). *25-27*, ♀ abdomen, ventral view with abdominal spiracles: Holotype *L. frigida* (***25***); *L. frigida* (=*L. canadensis*) (***26***); *L. flavinervis* (***27***). *L. flavicincta*, ♀ abdominal pattern (***28***). *29-33*, head: *L. flavinervis*, ♀ (***29***); *L. cinifera*, ♀ (***30***); *L. hebeiensis*, ♂ (***31***); *L. p. bohemica*, ♂ (***32***); *L. hydromyzina*, ♂ (***33***).

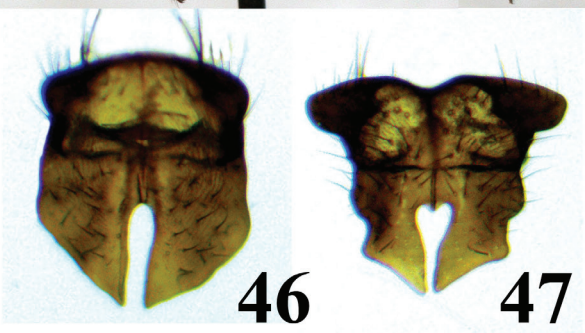
Lispe uliginosa group, ♂ cercal plates: *34-38*: *L. melaleuca* (***34***); *L. septentrionalis* (***35***); *L. uliginosa* (***36***); *L. mexicana* **sp. nov.** (***37***); *L. antennata*, from Snyder [1954: 11, fig. 28] (***38***).

Группа видов *Lispe palposa*: *L. neimongola*, общий вид в пол-оборота (с рядом *av* щетинок на *f2*) и с боку (***22***). Синтип *L. p. parcespinosa* из Хельсинки, ZMUH (***23***). *L. frigida* (=*L. canadensis*) ♂, видно увеличенное переднее грудное дыхальце (***24***). *25-27*, ♀ брюшко с вентральной стороны, с брюшными дыхальцами: Голотип *L. frigida* (***25***); *L. frigida* (=*L. canadensis*) (***26***); *L. flavinervis* (***27***). *L. flavicincta*, ♀ окраска брюшка (***28***). *29-33*, голова: *L. flavinervis*, ♀ (***29***); *L. cinifera*, ♀ (***30***); *L. hebeiensis*, ♂ (***31***); *L. p. bohemica*, ♂ (***32***); *L. hydromyzina*, ♂ (***33***).

Группа видов *Lispe uliginosa*, церки ♂: *34-38*: *L. melaleuca* (***34***); *L. septentrionalis* (***35***); *L. uliginosa* (***36***); *L. mexicana* **sp. nov.** (***37***); *L. antennata*, по Snyder [1954: 11, fig. 28] (***38***).

ЦВЕТНАЯ ТАБЛИЦА III **COLOR PLATE III**





Lispe uliginosa group, ♂: *39-41*: *L. uliginosa* (***39***); *L. septentrionalis* (***40***); *L. melaleuca* (***41***).

Lispe nicobarensis group: *42-45*: *L. nicobarensis*, ♀ feeding on drown spider (***42***); *L. flaveola* **sp. nov.**, ♂ (***43***); *L. nigrimana*, ♂ (***44***), *L. aceponti* **sp. nov.**, copula (***45***). *46-47*, cercal plates: *L. sydneyensis* (***46***); *L. aceponti* **sp. nov.** (***47***).

Группа видов *Lispe uliginosa*, ♂: *39-41*: *L. uliginosa* (***39***); *L. septentrionalis* (***40***); *L. melaleuca* (***41***).

Группа видов *Lispe nicobarensis* group: *42-44*: *L. nicobarensis*, ♀ питающаяся утонувшим в ручье пауком (***42***); *L. flaveola* **sp. nov.**, ♂ (***43***); *L. nigrimana*, ♂ (***44***); *L. aceponti* **sp. nov.**, копулирующая пара (***45***). *46-47*, церки: *L. sydneyensis* (***46***); *L. aceponti* **sp. nov.** (***47***).