**Table S2.** List of 53 species used in study, including authorship, collecting data and voucher ID. The table includes 49 species of *Lispe* and 4 species of *Limnophora* representing the outgroup.

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Species | Voucher information | Voucher ID |
| 1 | *Lispe albimaculata* Stein, 1910 | Australia, Seven Mile Beach 34°46'22.2"S 150°48'48.2"E; 27.11.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01426 |
| 2 | *Lispe apicalis apicalis* Mik, 1869 | Russia, Kalmyia reg. 47°52'30.0"N 44°36'03.6"E; 08.06.2012 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01453 |
| 3 | *Lispe apicalis comitata* Becker, 1904 | Uzbekistan, Tudakul Lake 39°47'56.0"N 64°44'26.5"E; 21.06.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01439 |
| 4 | *Lispe assimilis* Wiedemann, 1824 | Australia, Northern Teritory, Darwin 06.11.2017 leg. K. Szpila, det. A. Grzywacz | KEIB\_DIP\_01428 |
| 5 | *Lispe bengalensis* Robineau-Desvoidy, 1830 | Australia, Berrara Creek 35°11'43.8"S 150°31'01.2"E; 01.12.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01435 |
| 6 | *Lispe bivittata*  Stein, 1909 | India, Assam st, Chapar env Champamati R 26°19'12.0"N 90°27'36.0"E; 01-03.01.2014 leg. K. Tomkovich, det. N. Vikhrev | KEIB\_DIP\_01441 |
| 7 | *Lispe brunnicosa* Becker, 1904 | Russia, West Siberia, Omsk Reg 10.05.2009 leg. O.E. Kosteri, det. N. Vikhrev | KEIB\_DIP\_01451 |
| 8 | *Lispe caesia* Meigen, 1826 | Croatia, Stobreč 43°30'01.6"N 16°31'05.5"E; 13.08.2020 leg. K. Szpila, det. A. Grzywacz | KEIB\_DIP\_01655 |
| 9 | *Lispe cana* Walker, 1849 | Australia, Seven Mile Beach 34°46'22.2"S 150°48'48.2"E; 27.11.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01430 |
| 10 | *Lispe capensis* Zielke, 1971 | Namibia, Walvis Bay, Bird Sanct. 22°58'01"S 14°31'56"E; 21.11.2018 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01477 |
| 11 | *Lispe confusa* Vikhrev, 2021 | Namibia, Walvis Bay, Bird Sanct. 22°58'01"S 14°31'56"E; 21.11.2018 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01476 |
| 12 | *Lispe consanguinea* Loew, 1858 | Poland, Wojnicz, Dunajec 49°57'01.0"N 20°52'20.8"E; 14.06.2012 leg. K. Szpila, det. A. Grzywacz | KEIB\_DIP\_01485 |
| 13 | *Lispe desjardinsii* Macquart, 1851 | Tanzania, Dodoma env. 7.385S 37.015E; 11-13.02.2017 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01447 |
| 14 | *Lispe dichaeta* Stein, 1913 | Kenya, Nyandarua Co 0°07'12.0"S 36°25'48.0"E; 20.12.2013 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01450 |
| 15 | *Lispe elengatissima* (Stackelberg, 1937) | Uzbekistan, Tudakul Lake 39°47'56.0"N 64°44'26.5"E; 21.06.2018 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01434 |
| 16 | *Lispe emdeni* Vikhrev, 2012 | India, Rajasthan, Jodhpur  26°13.42' S 73°01.96' E; 11-15.08.2008  leg. M. Irwin, D.M. Pnyadarsanan, det. A. Grzywacz | KEIB\_DIP\_01585 |
| 17 | *Lispe flavicornis* Stein, 1909 | India, Andhra Pradesh, Samalkot 16°59'34.8"N 82°16'19.2"E; 29.01-02.02.2014 leg. K. Tomkovich, det. N. Vikhrev | KEIB\_DIP\_01524 |
| 18 | *Lispe flavinervis* Becker, 1904 | Russia, Omsk reg.  53°57'36.0"N 73°45'36.0"E; 15.05.2010 leg. N. Priydak, det. N. Vikhrev | KEIB\_DIP\_01452 |
| 19 | *Lispe geniseta* Stein, 1909 | Cambodia, Siem Reap env. 13°18'00.0"N 103°48'00.0"E; 21-28.02.2017 leg. N. Priydak, O. Kosterin, det. N. Vikhrev | KEIB\_DIP\_01446 |
| 20 | *Lispe glabra* Wiedemann, 1824 | Malaysia, Selangor st, Sungai Pelek 2°36'00.0"N 101°42'00.0"E; 06-07.02.2014 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01438 |
| 21 | *Lispe irvingi* Curran, 1937 | Namibia, Windhoek env. 22°32'24.0"N 17°12'00.0"E; 02-04.12.2018 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01444 |
| 22 | *Lispe kowarzi kowarzi* Becker, 1903 | Portugal, Rio Torto, Guarda D. 40°31'19"N 7°38'23.6"W; 03.10.2015 leg. A. Grzywacz, det. A. Grzywacz | KEIB\_DIP\_01482 |
| 23 | *Lispe kowarzi pallitarsis* Stein, 1909 | Malaysia, Selangor st, Sungai Pelek 2°36'00.0"N 101°42'00.0"E; 06-07.02.2014 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01469 |
| 24 | *Lispe leucospila* (Wiedemann, 1830) | India, Rajasthan, Jodhpur  26°13.42' S 73°01.96' E; 11-15.08.2008  leg. M. Irwin, D.M. Pnyadarsanan, det. A. Grzywacz | KEIB\_DIP\_01586 |
| 25 | *Lispe loewi* Ringdahl, 1922 | Uzbekistan, Olot II 39°18'11.2"N 63°52'26.4"E; 23.06.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01460 |
| 26 | *Lispe longicollis* Meigen, 1826 | Uzbekistan, Tudakul Lake 39°79'89"N 64°74'07"E; 21.06.2018 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01431 |
| 27 | *Lispe madagascariensis* Zielke, 1972 | Mozambique, Sofala Prov., Gorongosa Park 18°41'14.8"S 34°04'28.0"E; 18-30.04.2015 leg. M.Hauser & A.Rung, leg. A. Grzywacz | KEIB\_DIP\_01497 |
| 28 | *Lispe melaleuca* Loew, 1847 | Russia, Volgograd reg, Breslavka 48°32'07.8"N 44°07'51.6"E; 30.04.2013 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01440 |
| 29 | *Lispe mirabilis* Stein, 1918 | Cambodia, Siem Reap env. 13°18'00.0"N 103°48'00.0"E; 21-28.02.2017 leg. N. Priydak, O. Kosterin, det. N. Vikhrev | KEIB\_DIP\_01640 |
| 30 | *Lispe nana* Macquart, 1835 | Uzbekistan, Machitly 39°51'41.0"N 67°15'55.4"E; 26.06.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01473 |
| 31 | *Lispe nasoni* (De Geer, 1776) | United States, Kern Co., Short Canyon 35°42'62"N 117°55'09"W; 21-29.05.2006 det. M.E. Irwin, leg. A. Grzywacz | KEIB\_DIP\_01512 |
| 32 | *Lispe neimongola* Tian et Ma, 2000 | Uzbekistan, Olot II 39°18'11.2"N 63°52'26.4"E; 23.06.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01475 |
| 33 | *Lispe nicobarensis* Schiner, 1868 | Vietnam, Ninh Binh Province; Cuc Phuong National Park 20°12'36.0"N 105°21'00.0"E; 24-28.03.2012 leg. Gaimari, Hauser & Pham, leg. A. Grzywacz | KEIB\_DIP\_01525 |
| 34 | *Lispe nigrimana* (Malloch, 1923) | Australia, Royal National Park 34°08'55"S 151°01'49"E; 02.12.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01433 |
| 35 | *Lispe nivalis* Wiedemann, 1830 | Namibia, Windhoek env. 22°36'00.0"N 17°08'24.0"E; 25-28.11.2018 leg. N. Vikhrev, det. A. Grzywacz | KEIB\_DIP\_01507 |
| 36 | *Lispe nuba* Wiedemann, 1830 | Tanzania, Mikumi NP. env. 7.385S 37.015E; 24-25.02.2017 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01456 |
| 37 | *Lispe orientalis* Wiedemann, 1824 | India, Meghalaya st, Sohra (Cherrapunjee) 25°18'00.0"N 91°42'00.0"E; 14-26.12.2013 leg. K. Tomkovich, det. N. Vikhrev | KEIB\_DIP\_01471 |
| 38 | *Lispe pectinipes* Becker, 1903 | Portugal, Vila do Conde, Porto D. 41°21'06.6"N 8°44'53"W; 06.10.2015 leg. A. Grzywacz, det. A. Grzywacz | KEIB\_DIP\_01493 |
| 39 | *Lispe polonaise* Vikhrev, 2021 | Namibia, Walvis Bay, Bird Sanct. 22°58'01"S 14°31'56"E; 21.11.2018 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01494 |
| 40 | *Lispe pumila* Wiedemann, 1824 | Australia, Berrara Creek 35°11'43.8"S 150°31'01.2"E; 01.12.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01429 |
| 41 | *Lispe pygmaea* Fallén, 1825 | Russia, Ryazan reg., Kasimov env. 54°56'24.0"N 41°20'24.0"E; 17-19.06.2013 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01470 |
| 42 | *Lispe rigida* (Becker, 1903) | Uzbekistan, Olot II 39°18'11.2"N 63°52'26.4"E; 23.06.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01474 |
| 43 | *Lispe scalaris* Loew, 1847 | Namibia, Windhoek env. 22°32'24.0"N 17°16'12.0"E; 21-24.11.2018 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01458 |
| 44 | *Lispe sericipalpis* Stein, 1904 | India, Meghalaya st, Sohra (Cherrapunjee) 25°18'00.0"N 91°42'00.0"E; 14-26.12.2013 leg. K. Tomkovich, det. N. Vikhrev | KEIB\_DIP\_01436 |
| 45 | *Lispe superciliosa* Loew, 1861 | Belarus, Gomel reg. 51°56'45.6"N 29°20'56.4"E; 30.07.2019 leg. N. Vikhrev, det. N. Vikhrev | KEIB\_DIP\_01442 |
| 46 | *Lispe sydneyensis* Schiner, 1868 | Australia, Seven Mile Beach 34°46'22.2"S 150°48'48.2"E; 27.11.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01427 |
| 47 | *Lispe tentaculata* (De Geer, 1776) | Poland, Różankowo 53°05'41.3"N 18°32'12.0"E; 15.09.2015 leg. A. Grzywacz, det. A. Grzywacz | KEIB\_DIP\_01500 |
| 48 | *Lispe uliginosa* (Fallén, 1825) | Poland, Toruń, Kępa Bazarowa 53°00'27.7"N 18°37'35.7"E; 19.09.2020 det. A. Grzywacz, leg. A. Grzywacz | KEIB\_DIP\_01670 |
| 49 | *Lispe xenochaeta* Malloch, 1923 | Australia, Wattamolla, RNP 34°08'15"S 151°07'E; 28.11.2019 leg. KEiB exp., det. A. Grzywacz | KEIB\_DIP\_01432 |
| 50 | *Limnophora pollinifrons* Stein, 1916 | Poland, Toruń, Port Drzewny 53°01'12.0"N 18°29'47.7"E; 30.05.2020 leg. A. Grzywacz, det. A. Grzywacz | KEIB\_DIP\_01521 |
| 51 | *Limnophora simulans* Stein, 1913 | South Africa, KwaZulu Natal; Drakensberg Mts 29°07'48.0"N 29°19'48.0"E; 14.11.2006 leg. A.C. Pont & D. Werner, det. A.C. Pont | KEIB\_DIP\_01520 |
| 52 | *Limnophora tigrina* (Stein, 1860) | Poland, Toruń, Port Drzewny 53°01'11.2"N 18°29'43.5"E; 30.05.2020 leg. A. Grzywacz, det. A. Grzywacz | KEIB\_DIP\_01523 |
| 53 | *Limnophora triangula* (Fallén, 1825) | Poland, Toruń, Port Drzewny 53°01'11.2"N 18°29'43.5"E; 30.05.2020 leg. A. Grzywacz, det. A. Grzywacz | KEIB\_DIP\_01522 |