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Psocid News

The Psocidologists' Newsletter

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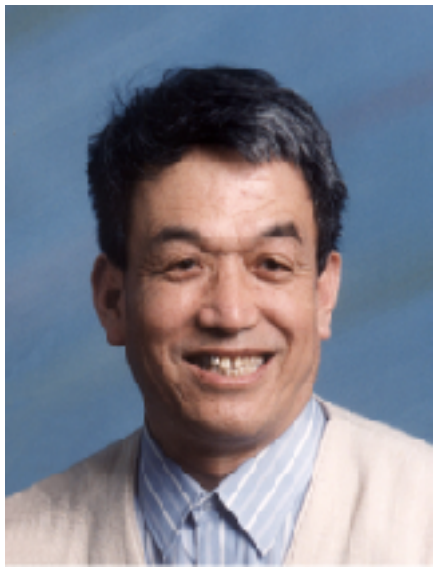

Late Mr. Li Fasheng (Jul 1935–Oct 2021)

OBITUARY: MR. LI FASHENG

Xingyue Liu & Leran Cao (China Agricultural University; The Funeral Committee for Mr. Li Fasheng)

Mr. Fasheng Li, retired as associate professor of College of Plant Protection, China Agricultural University and recognized as an authority taxonomist of Psocodea and Psyllidae from China, died aged 86 from illness at 5:09 pm, October 23, 2021 in Peking University Third Hospital.

Mr. Fasheng Li, who was born in July, 1935 in Qi county, Shanxi Province, China, graduated from Department of Plant Protection, China Agricultural University in 1962. Before he retired in 1995, he was the director of the insect systematics lab and associate professor of Beijing Agricultural University, and the executive director of Beijing Entomological Society. Mr. Fasheng Li devoted himself to the taxonomy of Psocodea and Psylloidea from China, published more than 180 papers and was awarded by the funding from the National Natural Science Foundation of China in several times. He has named, on his own or in collaboration with others, 3 new superfamilies, 12 new subfamilies, 7 new tribes, 98 new genera, 1471 new species of Psocodea and 3 new families or subfamilies, 29 new genera, 396 new species of superfamily Psylloidea, and finally published two monumental monographs, i.e., *Psocoptera from China* and *Psyllidomorpha from China* (both of 1976 pages, published by Science Press, China). All of his achievements have completely changed the backward taxonomic condition of these two groups from China. For more than 50 years, Mr. Fasheng Li has visited more than 400 cities or counties for filed works in 27 provinces, including Tibet, Xinjiang and Yunnan. During this period, he collected more than 250,000 insect specimens that made great contributions to the construction of the Entomological Museum of China Agricultural University.

Mr. Fasheng Li as the leader of project was awarded the second Prize of Science and Technology Progress of Ministry of Agriculture (Classification of Chinese agricultural and forestry insects, 1994) and the second prize of Science and Technology Progress of State Education Commission (Taxonomy of Psocodea from China, 1995). As the main participant of projects, he was awarded the first prize of Ministry of Agriculture for Technical Improvement (Taxonomy of agricultural insecs, 1978), the Second prize of State Education Commission for Scientific and Technological Progress (Taxonomy of Psyllidae from China, 1986), the second prize of Ningxia Hui

Autonomous Region for Scientific and Technological Progress (Study on insect populations, harm and fauna in Ningxia Desert Steppe, 1996), and the first Prize of Natural Science of Chinese Academy of Sciences (Insects in Hengduan Mountains, 1995). In 1993, he was elected as a State Council Expert for Special Allowance.

Mr. Fasheng Li was highly respected by peers and students as engaging in the teaching and research of insect taxonomy, general entomology and agricultural entomology for a long time. Mr. Fasheng Li devoted his whole life to these great causes. We will remember him forever!

ADDITIONS AND CORRECTIONS (PART 21) TO LIENHARD & SMITHERS, 2002: "PSOCOPTERA (INSECTA) – WORLD CATALOGUE AND BIBLIOGRAPHY"

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1. Introduction

This is the 21st part of a series of "Additions and Corrections to the World Catalogue and Bibliography" (Lienhard & Smithers, 2002) published in "Psocid News". Parts 1-20 were published in Psocid News no. 4-23 (see below); a **Synthesis of Parts 1-10** is given by Lienhard (2016d = Psocid News Special Issue 3), a **Synthesis of Parts 11-20** is given by Lienhard (2021b = Psocid News Special Issue 4), see http://hdl.handle.net/2115/35519.

Please send me regularly copies of your papers on Psocoptera, and please inform me about errors that you find in Lienhard & Smithers (2002). If papers which came to your notice are not treated in the "Additions", please send me the bibliographical references by e-mail. In the "Additions to the Bibliography", references to the papers which I have not yet seen are marked with "(Not seen)" or "(Only abstract seen)". Please send me a copy or PDF of these papers if you feel concerned. Only papers which I have seen are analysed for the "Additions to the Catalogue", or those where the matter they deal with is clearly indicated in the title or in the abstract.

In general these "Additions" present the information in the style of the catalogue (Lienhard & Smithers, 2002), according to the criteria mentioned there (pp. ix-xli) and using the same abbreviations (pp. xl-xli). For each family, newly published changes concerning supra-generic taxa are mentioned at the beginning of the family treatment. For genus-group names and species-group names already listed by Lienhard & Smithers (2002) only the author is cited here. For new names the complete reference (author, year, page) is given in their first entry, where new genus-group names are marked with two asterisks (**) and new species-group names with one asterisk (*). For a name not listed by Lienhard & Smithers (2002), but cited in a preceding part of the "Additions", author and year are always mentioned. Genera are listed alphabetically within each family. Species are listed alphabetically within each genus. Species names are cited in the combination used by Lienhard & Smithers (2002), if not an explicit change of combination (or a new synonymy) has been published since.

No nomenclatural act is published in the "Additions to the Catalogue" because articles in "Psocid News" are not considered as published works under the rules of ICZN (see Editorial: Disclaimer). Sometimes recommendations to future revisers are given concerning nomenclatural acts which eventually should be published. Only some mandatory changes are made in the "Additions to the Catalogue" (e. g. adaptation of species name ending to the grammatical gender of the genus name).

2. List of countries mentioned in the "Additions and Corrections to the World Catalogue" (Parts 1-21)

Country checklists of Psocoptera species extracted from Lienhard & Smithers (2002) are given by Lienhard (2016b = Psocid News Special Issue 1).

All additional species records are mentioned in the "Additions and Corrections to the World Catalogue" and all countries mentioned in Parts 1 to 20 of these Additions are listed below, arranged according to the main geographical regions defined for the Catalogue **(I-X)**, with a separate heading for fossils **(A)**, mainly from amber. This list is provided to facilitate computer searching for distributional references in the online version of the different parts (see

Psocid News no. 4-24) or in the **Synthesis of Parts 1-10** given by Lienhard (2016d = Psocid News Special Issue 3) and the **Synthesis of Parts 11-20** given by Lienhard (2021b = Psocid News Special Issue 4) which all can be found at http://hdl.handle.net/2115/35519.

Part 1 – Psocid News, no. 4 (2003): 2-24 (= Lienhard, 2003a)
Part 2 – Psocid News, no. 5 (2003): 2-37 (= Lienhard, 2003b)
Part 3 – Psocid News, no. 6 (2004): 1-23 (= Lienhard, 2004a)
Part 4 – Psocid News, no. 7 (2005): 1-16 (= Lienhard, 2005a)
Part 5 – Psocid News, no. 8 (2006): 1-18 (= Lienhard, 2006a)
Part 6 – Psocid News, no. 9 (2007): 1-17 (= Lienhard, 2007a)
Part 7 – Psocid News, no. 10 (2008): 1-18 (= Lienhard, 2008a)
Part 8 – Psocid News, no. 11 (2009): 2-16 (= Lienhard, 2009a)
Part 9 – Psocid News, no. 12 (2010): 1-18 (= Lienhard, 2010)
Part 10 – Psocid News, no. 13 (2011): 1-18 (= Lienhard, 2011a)
Synthesis of Parts 1-10, see Lienhard (2016d)
Part 11 – Psocid News, no. 14 (2012): 1-13 (= Lienhard, 2012a)
Part 12 – Psocid News, no. 15 (2013): 1-21 (= Lienhard, 2013)
Part 13 – Psocid News, no. 16 (2014): 1-20 (= Lienhard, 2014)
Part 14 – Psocid News, no. 17 (2015): 1-17 (= Lienhard, 2015)
Part 15 – Psocid News, no. 18 (2016): 1-12 (= Lienhard, 2016a)
Part 16 – Psocid News, no. 19 (2017): 1-18 (= Lienhard, 2017)
Part 17 – Psocid News, no. 20 (2018): 4-17 (= Lienhard, 2018)
Part 18 – Psocid News, no. 21 (2019): 10-34 (= Lienhard, 2019)
Part 19 – Psocid News, no. 22 (2020): 16-29 (= Lienhard, 2020b)
Part 20 – Psocid News, no. 23 (2021): 1-20 (= Lienhard, 2021a)
Synthesis of Parts 11-20, see Lienhard (2021b)
Part 21 – Psocid News, no. 24 (2022) (= present issue)

(I) Albania (Parts 14, 16), Armenia (Parts 19, 21), Austria (Parts 1, 3, 4, 5, 6, 8, 9), Bahrain (Part 8), Belarus (Parts 20, 21), Belgium (Parts 3, 6, 8, 10, 16, 17, 18, 19, 20), Bosnia-Hercegovina (Part 14), Bulgaria (Parts 8, 14, 16, 17, 18, 19, 20, 21), Croatia (Parts 6, 7, 11, 12), Cyprus (Part 11), Czech Republic (Parts 1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 16), Denmark (Parts 10, 12), Egypt (Parts 6, 21), Europe (Parts 10, 11, 12, 19), Finland (Parts 1, 7, 10, 11, 12, 13, 15), France (Parts 1, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 18, 20, 21), Germany (Parts 1, 3, 4, 5, 7, 8, 10, 11, 12, 14, 16, 19, 20, 21), Great Britain (Parts 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19), Greece (Parts 5, 6, 11, 14, 17, 18, 19, 20, 21), Greenland (Part 15), Hungary (Parts 1, 3, 10), Iceland (Part 10), Iran (Parts 6, 8, 15, 16, 17, 18), Ireland (Parts 6, 9, 13, 17, 19), Israel (Parts 4, 6, 8, 11, 15, 16), Italy (Parts 1, 3, 5, 6, 7, 8, 9, 10, 17, 18, 19), Jordan (Part 21), Kosovo (Part 14), Lebanon (Parts 6, 7, 9, 10, 11, 13, 14, 19, 21), Lithuania (Part 8), Luxembourg (Parts 1, 3, 7, 8, 10, 13, 17, 18, 20, 21), Macedonia (Parts 14, 21), Malta (Parts 15, 16), Montenegro (Part 14), Morocco (Parts 10, 15, 21), Netherlands (Parts 4, 7, 9, 11, 14, 16, 17, 19, 21), Norway (Parts 4, 10, 13, 21), Oman (Part 8), Poland (Part 13), Portugal (Parts 6, 7, 18, 19, 21), Romania (Parts 10, 14, 16, 17), Russia (Parts 6, 8, 10, 12, 13, 14, 16, 20), Saudi Arabia (Parts 8, 15), Serbia (Part 14), Slovakia (Parts 1, 11, 13), Spain (Parts 1, 5, 7, 8, 9, 11, 12, 13, 17, 18, 20, 21), Sweden (Part 8, 10, 17), Switzerland (Parts 1, 3, 4, 6, 7, 8, 11, 12, 21), Turkey (Parts 5, 10, 15, 20, 21), UAE (Parts 8, 9), Ukraine (Part 6), Yemen (Parts 4, 8, 18, 20)

(II) Ascension Island (Parts 11, 15), Azores (Parts 5, 11, 21), Canary Islands (Parts 1, 4, 5, 10, 11), Cape Verde Islands (Parts 5, 11, 15), Gough Island (Parts 5, 6), Madeira (Parts 5, 8, 15), Saint Helena (Parts 5, 11), Selvagens Islands (Parts 1, 8)

(III) Bahamas (Part 13), Canada (Parts 4, 6, 7, 8, 13, 18, 19, 20), North America (Parts 11, 12), USA (Parts 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20)

(IV) Antigua (Part 15), Aruba (Part 15), Belize (Parts 1, 4, 6, 8, 9, 10, 15), Costa Rica (Parts 1, 6, 8, 15, 17, 18, 20), Cuba (Parts 6, 11), Curaçao (Part 15), Dominica (Parts 5, 6, 11), Dominican Republic (Parts 4, 6, 7, 8, 12, 13, 14, 18, 19, 20), Guadeloupe (Part 15), Guatemala (Parts 1, 4, 7, 8, 11, 15, 16, 17), Haiti (Parts 1, 4), Hispaniola (Part 10), Honduras (Parts 8, 15), Jamaica (Parts 7, 8, 9, 15, 19), Mexico (Parts 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21), Middle America (Part 11), Nicaragua (Parts 1, 3, 4, 6, 7, 8, 13), Panama (Parts 4, 6, 8, 17, 20), Puerto Rico (Parts 1, 7, 10, 13), Trinidad (Parts 1, 16)

(V) Argentina (Parts 3, 4, 8, 9, 14, 19), Bolivia (Parts 1, 5, 9, 10, 17, 21), Brazil (Parts 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21), Chile (Parts 1, 4, 6, 8, 21), Colombia (Parts 1, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21), Ecuador (Parts 1, 6, 8, 13, 15, 16, 18, 20), French Guiana (Part 18), Paraguay (Parts 13, 14, 15), Peru (Parts 1, 5, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 20, 21), Suriname (Part 10), Venezuela (Parts 1, 4, 6, 7, 8, 10, 15, 17, 18)

(VI) Ethiopia (Part 20), Ghana (Parts 4, 18), Guinea (Parts 1, 20), Kenya (Parts 4, 15, 16, 18, 20), Liberia (Part 15), Madagascar (Part 5), Malawi (Part 3), Mozambique (Parts 15, 20), Namibia (Parts 1, 6, 7, 8, 10, 19), Rwanda (Part 15), Senegal (Parts 15, 20), South Africa (Parts 3, 6, 7, 8, 11, 20), Tanzania (Parts 3, 4, 21), Togo (Part 15), Uganda (Part 6)

(VII) Mauritius (Part 21), Reunion (Part 15)

(VIII) Afghanistan (Part 21), Brunei (Parts 5, 6), China (Parts 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21), Hong Kong (Part 5), India (Parts 3, 5, 6, 7, 11, 15, 20, 21), Indonesia (Parts 1, 3, 5, 6, 10, 15), Japan (Parts 1, 4, 6, 7, 8, 9, 10, 12, 16, 18, 19, 20), Kazakhstan (Part 13), Korea (Part 17), Kuril Islands (Part 4), Kyrgyzstan (Part 5), Laos (Parts 5, 6, 17), Malaysia (Parts 1, 5, 6, 8, 10, 14, 15, 18, 19), Myanmar (Parts 6, 8, 13, 14, 16, 17, 18, 19, 20, 21), Nepal (Parts 7, 18), New Guinea (Parts 3, 5, 8), Pakistan (Part 14), Philippines (Parts 3, 5, 6, 14, 18, 20), Russia (Parts 1, 10, 11, 20, 21), SE-Asia (Part 7), Singapore (Parts 5, 14, 15), Sri Lanka (Parts 4, 6, 19), Taiwan (Parts 1, 6, 7, 8, 13, 15, 17, 18, 21), Thailand (Parts 1, 4, 5, 6, 9, 11, 15, 18, 20), USSR (Parts 4, 9), Vietnam (Parts 4, 5, 6, 8, 13, 14, 15, 17, 20)

(IX) Australia (Parts 1, 4, 5, 6, 7, 8, 10, 12, 13, 14, 20), Lord Howe Island (Parts 4, 7), New Zealand (Parts 1, 4, 13, 16, 18), Subantarctic islands (Part 13), Tasmania (Part 9)

(X) Easter Island (Parts 13, 16), Fiji (Parts 8, 15), Galapagos (Parts 5, 12), Hawaii (Parts 8, 13, 14), New Caledonia (Part 12)

(A) Amber and Copal (or other fossils) (Parts 1, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21)

3. Additions to the Catalogue

Paraneoptera / Acercaria / Permopsocida (selected references)
Rasplus & Cruaud, 2020: Phylogeny. In Permopsocida synonymy proposed (p. 147) between *Mydiognathus eviohlhoffae* Yoshizawa & Lienhard, 2016 and *Psocorrhyncha burmitica* Huang *et al*., 2016. The latter is the junior synonym.

Psocodea (selected general references)
Rasplus & Cruaud, 2020: Phylogeny. Liang Feiyang & Liu Xingyue 2021a, Fig. 3: Comparison of forewing venation of several species of Psocodea.

Psocoptera
Motala *et al*., 2007: Psocoptera of Mauritius (VII) (mentioned according to Turner, 1976, but no species explicitly listed). Petkovski, 2009: Psoc. of Republic of Macedonia (I). Hristovski et al., 2015: Psoc. of Republic of Macedonia (I) (species not listed). Lienhard, 2020d: morphology, biology, taxonomy, keys to families. Cordoba-Aguilar *et al*., 2021: damselflies as predators of psocids. De Vries *et al.,* 2021: elevational species richness, Azores (II). Kiesmüller *et al*., 2021: camouflage of psocid nymphs in Burmese amber (A) from Myanmar (VIII). Klausnitzer, 2021: biography of Michael Rostock. Kuznetsova *et al*., 2021: chromosomes. Lienhard, 2021a: Additions to the World Catalogue and Bibliography, Part 20. Lienhard, 2021b: Synthesis of Additions 11-20 to the World Catalogue and Bibliography. Maia & da Silva, 2021: inquilines in insect galls, Brazil (V). Pizarro-Araya *et al*., 2021: desert ecology Chile (V), Liposcelididae and indeterminate psocids. Ross, 2021a (Psoc.: p. 62, 5 spp.), 2021b (Psoc.: p. 4, 3 spp.): Supplements to Burmese (VIII) amber checklist (A). Stejskal *et al*., 2021: control in stored-products and food industry. Yoshizawa, 2021 (ed.): Newsletter. Saenz Manchola *et al*., 2021: Mitochondrial genome evolution.

Cormopsocidae
Revised family diagnosis and key to species: Wang Qiuzhu *et al*., 2021.
Cormopsocus Yoshizawa & Lienhard, 2020a. Revised diagnosis: Hakim *et al*., 2021a.
Cormopsocus baleoi* Hakim, Azar & Huang, 2021c: 213. Myanmar (VIII), mid-Cretaceous amber (A).

Cormopsocus neli* Hakim, Azar & Huang, 2021a: 179. Myanmar (VIII), mid-Cretaceous amber (A).

Cormopsocus perantiquus (Cockerell). Cumming & Le Tirant, 2021: 10 (species name misspelled *perantiqua*) (**from** *Archaeatropos*), further description and fig., Burmese amber Cretaceous (A), Myanmar (VIII).

Longiglabellus* Wang Qiuzhu, Li Sheng & Yao Yunzhi 2021: 2. Gender: M. Type species: *Longiglabellus pedhyalinus* Wang Qiuzhu, Li Sheng & Yao Yunzhi.

Longiglabellus edentatus* Wang Qiuzhu, Li Sheng & Yao Yunzhi 2021: 3. Myanmar (VIII), mid-Cretaceous amber (A).

Longiglabellus pedhyalinus* Wang Qiuzhu, Li Sheng & Yao Yunzhi 2021: 2. Myanmar (VIII), mid-Cretaceous amber (A).

Stimulopsocus* Liang Feiyang & Liu Xingyue 2021a: 2. Gender: M. Type species: *Stimulopsocus jiewenae* Liang Feiyang & Liu Xingyue.

Stimulopsocus jiewenae* Liang Feiyang & Liu Xingyue 2021a: 3. Myanmar (VIII), mid-Cretaceous amber (A).

Prionoglarididae

Neotrogla Lienhard, 2010. Evolution of nuptial gifts: Kamimura *et al*., 2021.

Palaeosiamoglaris hammanaensis* Hakim, Huang & Azar, 2021d: 4. Lebanon (I), Lower Cretaceous amber (A).

Palaeosiamoglaris hkamtiensis* Jouault, Yoshizawa, Hakim, Huang & Nel, 2021: 2. Myanmar (VIII), Cretaceous amber (A).

Prionoglaris Enderlein. Review of distribution of the genus (including nymphal records) and key to species: Lienhard, 2021c.

Prionoglaris spec. Bulgaria, Greece, Turkey (I): Lienhard, 2021c.

Prionoglaris dactyloides Lienhard. Greece (I): Lienhard, 2021c (partly cf. *dactyloides*; fig.).

Prionoglaris kapralovi* Lienhard, 2021c: 228. Armenia (I).

Prionoglaris lindbergi Badonnel. Afghanistan (VIII): Lienhard, 2021c (holotype examined).

Prionoglaris stygia Enderlein. France, Germany, Luxembourg, Morocco, Portugal, Spain, Switzerland (I): Lienhard, 2021c (partly cf. *stygia*; variability, figs). France (I): Lips *et al*., 2021 (in caves). Germany (I): Zaenker *et al*., 2020 (in caves, fig. of nymph).

Psyllipsocidae

Dorypteryx domestica (Smithers). Netherlands (I): Noordijk, 2021.

Psocathropos lachlani Ribaga. Taiwan (VIII): Triapitsyn & Chan, 2021 (association of a mymarid egg parasitoid with *Psocathropos lachlani*).

Psyllipsocus Selys-Longchamp.

Sinopsyllipsocus Zhang Qingqing, Nel, Azar & Wang Bo 2016. **Synonymy**: Liang Feiyang & Liu Xingyue 2021b: 86 (synonymy suggested on p. 81, formally established on p. 86).

Psyllipsocus (?) spec. Solorzano Kraemer, 2007: 22 (figs). Mexico (IV), Miocene amber (A).

Psyllipsocus fushunensis (Zhang Qingqing, Nel, Azar & Wang Bo 2016). China (VIII), Eocene Fushun amber (A). Liang Feiyang & Liu Xingyue 2021b: 86 (**from** *Sinopsyllipsocus*).

Psyllipsocus myanmarensis* Jouault, Yoshizawa, Hakim, Huang & Nel, 2021: 4. Myanmar (VIII), Cretaceous amber (A).

Psyllipsocus ramburii Selys-Longchamp. Germany (I): Zaenker *et al*., 2020 (in caves).

Psyllipsocus yangi* Liang Feiyang & Liu Xingyue 2021b: 82. Myanmar (VIII), Cretaceous amber (A).

Archaeatropidae

Cumming & Le Tirant, 2021: Cretaceous Archaeatropidae, review and key to species.

Archaeatropos alavensis Baz & Otuño. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Archaeatropos randatae (Azar & Nel, 2004). Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Bcharreglaris amooni* Kaddumi, 2007. Amber of Jordan (I), Cretaceous (A). Cumming & Le Tirant, 2021: Discussion.

Bcharreglaris amunobi Azar & Nel, 2004. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Bcharreglaris haddadini* Kaddumi, 2007. Amber of Jordan (I), Cretaceous (A). Cumming & Le Tirant, 2021: Discussion.

Heliadesdakruon* Cumming & Le Tirant, 2021: 4. Gender: N. Type species: *Heliadesdakruon morganae* Cumming & Le Tirant.

Heliadesdakruon morganae* Cumming & Le Tirant, 2021: 4. Myanmar (VIII), Cretaceous amber (A).

Libanoglaris chehabi Azar & Nel, 2004. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Libanoglaris mouawadi Azar, Perrichot, Néraudeau & Nel, in: Perrichot et al., 2003: 677. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Proprionoglaris axioperierga Azar, Nel & Perrichot, 2014. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Proprionoglaris guyoti Perrichot, Azar, Néraudeau & Nel, 2003. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Prospeleketor albianensis Perrichot, Azar, Néraudeau & Nel, 2003. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Setoglaris reemae Azar & Nel, 2004. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Empheriidae

Cumming & Le Tirant, 2021: Cretaceous Empheriidae, review and key to species.

Hakim *et al*., 2021b: Checklist of fossil Empheriidae known from amber.

Burmempheria densuschaetae Li Sheng, Wang Qiuzhu & Yao Yunzhi 2020. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Burmempheria raruschaetae Li Sheng, Wang Qiuzhu & Yao Yunzhi 2020. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Empherium* Hakim, Huang & Azar, 2021b: 189. Gender: N (erroneously considered as of masculine gender by the authors). Type species: *Empherium rasnitsyni* Hakim, Huang & Azar.

Empherium rasnitsyni* Hakim, Huang & Azar, 2021b: 189. Russia (VIII), Cretaceous Siberian amber (A).

Empheropsocus arilloi Baz & Ortuño, 2001b. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Empheropsocus margineglabrus Baz & Ortuño, 2001b. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Jerseyempheria grimaldii Azar, Nel & Petrulevicius, 2010. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Preempheria antiqua Baz & Ortuño, 2001b. Cumming & Le Tirant, 2021: Discussion and Fig. Cretaceous (A).

Psoquillidae

Rhyopsocus afer (Badonnel). Tanzania: Zanzibar (VI): Georgiev, 2021c.

Trogiidae

Hakim *et al*., 2021b: Checklist of fossil Trogiidae known from amber.

Cerobasis guestfalica (Kolbe). Greece (I): Georgiev, 2021a, 2021e. Norway (I): Thunes *et al*., 2021.

Eolepinotus zherikhini* Hakim, Huang & Azar, 2021b: 192. Russia (VIII), Cretaceous Siberian amber (A).

Lepinotus spec. Wei Dan-Dan *et al*., 2021: mitochondrial genome.

Lepinotus reticulatus Enderlein. Belarus (I): Ostrovsky & Georgiev, 2021. Greece (I): Georgiev, 2021a.

Trogium pulsatorium (Linnaeus). Greece (I): Georgiev, 2021a. Tanzania: Zanzibar (VI): Georgiev, 2021c.

Lepidopsocidae

Echmepteryx lunulata Thornton, Lee & Chui. Tanzania: Zanzibar (VI): Georgiev, 2021c.

Echmepteryx madagascariensis (Kolbe). Tanzania: Zanzibar (VI): Georgiev, 2021c.

Echmepteryx pallida Smithers. Tanzania: Zanzibar (VI): Georgiev, 2021c.

Lepidopsocus pretiosus (Banks). Tanzania: Zanzibar (VI): Georgiev, 2021c.
Lepolepis bicolor Broadhead. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Thylacella angustipennis Broadhead & Richards. Tanzania: Zanzibar (VI): Georgiev, 2021c.

Pachytroctidae
Nanopsocus oceanicus Pearman. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Pachytroctes cf. ***bicoloripes*** Badonnel. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Tapinella curvata Badonnel. Tanzania: Zanzibar (VI): Georgiev, 2021c.

Liposcelididae
Chile (V): Pizarro-Araya *et al*., 2021 (desert ecology, Liposcelididae and indeterminate psocids).
Belaphopsocus murphyi Lienhard. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Belaphotroctes spec. Solorzano Kraemer, 2007: 22 (figs). Mexico (IV), Miocene amber (A).
Liposcelis spec. Moura *et al*., 2021: *Liposcelis* spec. as predator of eggs of *Aedes aegypti,* under laboratory conditions.
Liposcelis albothoracica Broadhead. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Liposcelis annulata Badonnel. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Liposcelis bostrychophila Badonnel. Bulgaria (I): Georgiev, 2021b. Greece (I): Georgiev, 2021a. Tanzania: Zanzibar (VI): Georgiev, 2021c. Pest: Lu Xin-Xin *et al*., 2021 (control); Ocran *et al.*, 2021b (management by dehumidification); Ponce *et al*., 2021 (behaviour in stored products); Qi Xiao-jie *et al*., 2021 (control).
Liposcelis decolor (Pearman). Bulgaria (I): Georgiev, 2021b. Egypt (I): Georgiev, 2021f. Greece (I): Georgiev, 2021a, 2021e. Pest: Ocran *et al.*, 2021b (management by dehumidification).
Liposcelis entomophila (Enderlein). Pest: Zeng Lingyu *et al*., 2021 (LAMP, rapid molecular identification; Ocran *et al.*, 2021b (management by dehumidification). Phys.: Miao Shiyuan *et al*., 2021a, 2021b (vitellogenesis and gene expression); Wang Suisui *et al*., 2021 (vitellogenin receptor).
Liposcelis formicaria (Hagen). Belarus (I): Ostrovsky & Georgiev, 2021.
Liposcelis obscura Broadhead. Biol.: Ocran *et al.*, 2021a (temperature- and humidity-dependent development).
Liposcelis paeta Pearman. Pest: Wakil *et al.*, 2021a, 2021b, 2021c (control); Ocran *et al.*, 2021b (management by dehumidification).
Liposcelis paetula Broadhead. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Liposcelis pearmani Lienhard. Greece (I): Georgiev, 2021a.
Liposcelis plesiopuber Broadhead & Richards. Tanzania: Zanzibar (VI): Georgiev, 2021d.
Liposcelis priesneri Enderlein. France (I): Piednoir, 2021 (ecol.).
Liposcelis puber Badonnel. Tanzania: Zanzibar (VI): Georgiev, 2021d.
Liposcelis silvarum (Kolbe). Belarus (I): Ostrovsky & Georgiev, 2021. Bulgaria (I): Georgiev, 2021b. Greece (I): Georgiev, 2021a.

Psocomorpha
Mitochondrial genome evolution: Saenz Manchola *et al*., 2021.

Archipsocidae
Archipsocus spec. Solorzano Kraemer, 2007: 18-20 (3 spp., figs). Mexico (IV), Miocene amber (A).
Archipsocus textor Enderlein. Tanzania: Zanzibar (VI): Georgiev, 2021c.

Paracaeciliidae
Enderleinella obsoleta (Stephens). Greece (I): Georgiev, 2021e.
Paracaecilius lucidus Broadhead & Richards. Tanzania: Zanzibar (VI): Georgiev, 2021c.

Stenopsocidae
Graphopsocus cruciatus (Linnaeus). Norway (I): Thunes *et al*., 2021.
Stenopsocus lachlani Kolbe. Norway (I): Thunes *et al*., 2021.

Caeciliusidae

Stenocaecilius casarum (Badonnel). Tanzania: Zanzibar (VI): Georgiev, 2021d [misidentified as *S. gilvus* (Pearman) by Georgiev, 2021c].
Valenzuela burmeisteri (Brauer). Norway (I): Thunes *et al*., 2021.
Valenzuela despaxi (Badonnel). Norway (I): Thunes *et al*., 2021.
Valenzuela flavidus (Stephens). Norway (I): Thunes *et al*., 2021. Azores (II): Marcellino *et al*., 2021.
Valenzuela virgatus (Broadhead & Richards). Tanzania: Zanzibar (VI): Georgiev, 2021c.

Homilopsocidea
Saenz Manchola *et al*., 2021: Monophyly of Homilopsocidea questioned, based on mitochondrial genomes.
Burmesopsocus** Yoshizawa, 2021 *in* Yoshizawa & Yamamoto, 2021: 5. Gender: M. Type species: *Burmesopsocus lienhardi* Yoshizawa. Genus placed *incertae sedis* within Homilopsocidea, phylogenetic placement discussed.
Burmesopsocus lienhardi* Yoshizawa, 2021 *in* Yoshizawa & Yamamoto, 2021: 5. Myanmar (VIII), mid-Cretaceous amber (A).

Lachesillidae
Saenz Manchola *et al*., 2021: Monophyly of Lachesillidae questioned, based on mitochondrial genomes.
Lachesilla Westwood. Saenz Manchola *et al*., 2021: *Lachesilla* is paraphyletic.
Lachesilla aethiopica (Enderlein). India (VIII): Ramesh *et al*., 2021.
Lachesilla bernardi Badonnel. Bulgaria (I): Georgiev, 2021b. Egypt (I): Georgiev, 2021f.
Lachesilla byei* Garcia Aldrete & Casasola-Gonzalez, 2021: 290 (assigned to *rufa* group). Mexico (IV).
Lachesilla furthi* Garcia Aldrete & Casasola-Gonzalez, 2021: 292 (assigned to *rufa* group). Mexico (IV).
Lachesilla pedicularia (Linnaeus). Bulgaria (I): Georgiev, 2021b. Egypt (I): Georgiev, 2021f. Greece (I): Georgiev, 2021a, 2021e.
Lachesilla quercus (Kolbe). Egypt (I): Georgiev, 2021f. Norway (I): Thunes *et al*., 2021.
Lachesilla raramuri* Garcia Aldrete & Casasola-Gonzalez, 2021: 292 (assigned to *rufa* group). Mexico (IV).
Lachesilla vellimalai* Ramesh, Babu, Subramanian & Garcia Aldrete, 2021: 284 (assigned to *pedicularia* species group). India (VIII).

Peripsocidae
Peripsocus spec. Norway (I): Thunes *et al*., 2021 (*didymus* or *phaeopterus*)
Peripsocus keniensis Broadhead & Richards. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Peripsocus milleri (Tillyard). Netherlands (I): Noordijk & Kruithof, 2021.
Peripsocus phaeopterus (Stephens). Norway (I): Thunes *et al*., 2021.
Peripsocus subfasciatus (Rambur). Norway (I): Thunes *et al*., 2021.

Ectopsocidae
Ectopsocopsis cryptomeriae (Enderlein). Greece (I): Georgiev, 2021a, 2021e.
Ectopsocopsis spathulata (Ball). Tanzania: Zanzibar (VI): Georgiev, 2021c.
Ectopsocus briggsi McLachlan. Greece (I): Georgiev, 2021a, 2021e. Azores (II): Marcellino *et al*., 2021.
Ectopsocus coccophilus Ball. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Ectopsocus longisetosus Broadhead & Richards. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Ectopsocus petersi Smithers. Greece (I): Georgiev, 2021e.
Ectopsocus vachoni Badonnel. Egypt (I): Georgiev, 2021f. Greece (I): Georgiev, 2021e.

Elipsocidae
Elipsocidae gen spec. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Cuneopalpus cyanops (Rostock). Norway (I): Thunes *et al*., 2021.
Elipsocus abdominalis Reuter. Norway (I): Thunes *et al*., 2021.
Elipsocus annulatus Roesler. Bulgaria (I): Georgiev, 2021b.
Elipsocus brincki Badonnel. Azores (II): Marcellino *et al*., 2021.
Elipsocus moebiusi Tetens. Bulgaria (I): Georgiev, 2021b. Norway (I): Thunes *et al*., 2021.

Elipsocus pumilis (Hagen). Norway (I): Thunes *et al*., 2021.
Reuterella helvimacula (Enderlein). Norway (I): Thunes *et al*., 2021.

Mesopsocidae
Mesopsocus immunis (Stephens). Norway (I): Thunes *et al*., 2021.
Mesopsocus laticeps (Kolbe). Norway (I): Thunes *et al*., 2021.
Mesopsocus unipunctatus (Müller). Norway (I): Thunes *et al*., 2021.

Philotarsidae
Philotarsus parviceps Roesler. Norway (I): Thunes *et al*., 2021.

Trichopsocidae
Trichopsocus clarus (Banks). Azores (II): Marcellino *et al*., 2021.
Trichopsocus coloratus Lienhard. Tanzania: Zanzibar (VI): Georgiev, 2021c.
Trichopsocus dalii (McLachlan). Egypt (I): Georgiev, 2021f. Greece (I): Georgiev, 2021a, 2021e.

Calopsocidae (= Pseudocaeciliidae *sensu* Yoshizawa & Johnson, 2014)
Mepleres maculatus (Broadhead & Richards). Tanzania: Zanzibar (VI): Georgiev, 2021c.

Ptiloneuridae
Euplocania atlantica* Silva-Neto, 2021: 2 (assigned to *marginata* species group). Brazil (V).
Euplocania uariniensis Silva Neto, Garcia Aldrete & Rafael, 2019. Figs of holotype male: Silva-Neto, 2021.
Loneura Navas. Checklist of species (with distribution) and key to species: Gonzalez-Obando *et al*., 2021a. Key to males (from Brazil), checklist of species with distribution and diagnosis of species groups I and II: Cutrim *et al*., 2021c.
Loneura amankii* Gonzalez-Obando, Carrejo-Gironza & Garcia-Aldrete 2021a: 2. Peru (V).
Loneura boliviana Williner. Cutrim *et al*., 2021b: considered as nomen dubium, type apparently lost.
Loneura crenata Navas. Redescription: Cutrim *et al*., 2021a.
Loneura digitiformis* Cutrim, Silva Neto, Garcia Aldrete & Rafael, 2021c: 490. Brazil (V).
Loneura duckei* Cutrim, Silva Neto, Garcia Aldrete & Rafael, 2021c: 497. Brazil (V).
Loneura kosnipatensis* Gonzalez-Obando, Carrejo-Gironza & Garcia-Aldrete 2021a: 2. Peru (V).
Loneura manauara* Cutrim, Silva Neto, Garcia Aldrete & Rafael, 2021c: 492. Brazil (V).
Loneura marinonii* Cutrim, Silva Neto, Garcia Aldrete & Rafael, 2021c: 494. Brazil (V).
Loneura meridionalis Garcia Aldrete, 2003. Redescription, reinstated as a valid species (not synonym of *L. boliviana* Williner): Cutrim *et al*., 2021b.
Loneura ocotensis Garcia Aldrete. Further description, reinstated as a valid species (not synonym of *L. crenata* Navas): Cutrim *et al*., 2021a.
Loneura willineri* Cutrim, Silva Neto, Garcia Aldrete & Rafael, 2021b: 136. Bolivia (V).
Ptiloneura baiana (Silva Neto, Garcia Aldrete & Rafael, 2018). Brazil (V): Silva Neto *et al*., 2021b (first description of male, revised diagnosis, variation of forewing venation).
Timnewia amazonense* Silva Neto, Garcia Aldrete, Araujo Barroso & Rafael, 2021c: 572. Brazil (V).
Timnewia greeni (New). Figs of holotype: Silva Neto *et al*., 2021c.
Timnewia jeaneae Silva Neto, Garcia Aldrete & Rafael, 2016d. Brazil (V): Silva Neto *et al*., 2021c (variation of forewing venation).
Triplocania Roesler. Key to males, checklist of species (with distribution) and definition of species groups: Gonzalez-Obando *et al*., 2021c. List of Brazilian species (with distribution); revised internal classification in species groups: Moura-Lima *et al*., 2021. Key to males of Brazilian species and checklist of Brazilian species (with distribution): Silva Neto *et al*., 2021a.
Triplocania altamira* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 11. Colombia (V).
Triplocania annyae* Moura-Lima, Silva-Neto, Bravo & Garcia-Aldrete, 2021: 2. Brazil (V).
Triplocania antioquensis* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 14. Colombia (V).

Triplocania antisuyuensis* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 18. Colombia (V).
Triplocania atratoensis* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 18. Colombia (V).
Triplocania brancoi* Silva Neto, Garcia Aldrete, Rafael & Ferreira, 2021a: 541. Brazil (V) (in cave).
Triplocania caguanensis* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 21. Colombia (V).
Triplocania capixaba Silva Neto, Garcia Aldrete & Rafael, 2016b. Brazil (V): Moura-Lima *et al*., 2021.
Triplocania caquetensis* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 24. Colombia (V).
Triplocania diamantina* Moura-Lima, Silva-Neto, Bravo & Garcia-Aldrete, 2021: 2. Brazil (V).
Triplocania einsteini* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 26. Colombia (V).
Triplocania fabridiazi* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 29. Colombia (V).
Triplocania ferratilis* Silva Neto, Garcia Aldrete, Rafael & Ferreira, 2021a: 543. Brazil (V) (in caves).
Triplocania galileii* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 31. Colombia (V).
Triplocania hawkingi* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 33. Colombia (V).
Triplocania lauziae* Moura-Lima, Silva-Neto, Bravo & Garcia-Aldrete, 2021: 5. Brazil (V).
Triplocania mancocapaci* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 35. Peru (V).
Triplocania manueli Silva Neto, Garcia Aldrete & Rafael, 2016b. Brazil (V): Moura-Lima *et al*., 2021.
Triplocania matildae Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2017a. Description of male: Gonzalez-Obando *et al*., 2021c: 47. Colombia (V).
Triplocania miltoni* Moura-Lima, Silva-Neto, Bravo & Garcia-Aldrete, 2021: 5. Brazil (V).
Triplocania molanoi* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 35. Colombia (V).
Triplocania nerudai* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 38. Colombia (V).
Triplocania pains* Silva Neto, Garcia Aldrete, Rafael & Ferreira, 2021a: 546. Brazil (V) (in caves).
Triplocania roesleri* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 40. Colombia (V).
Triplocania sarriae Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2017a. Description of male: Gonzalez-Obando *et al*., 2021c: 49. Colombia (V).
Triplocania tahuantisuyuensis* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 40. Peru (V).
Triplocania yupanquii* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2021c: 44. Peru (V).
Triplocania zairae* Silva Neto, Garcia Aldrete, Rafael & Ferreira, 2021a: 549. Brazil (V) (in cave).

Epipsocidae
Bertkauia lucifuga (Rambur). Germany (I): Zaenker *et al*., 2020 (in caves, figs of female).
Goja Navas. Key to males and list of species with distribution: Carrejo *et al*., 2021a. Phylogenetic analysis: Carrejo *et al*., 2021b.
Goja andina* Carrejo, Gonzalez Obando, Casasola-Gonzalez & Garcia Aldrete, A. N. 2021b: 461. Colombia (V).
Goja caldasensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 505. Colombia (V).
Goja camachensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 505. Colombia (V).

Goja caucana* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 508. Colombia (V).
Goja chiquihuitensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 512. Mexico (IV).
Goja cuasiguatemalensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 513. Mexico (IV).
Goja cuasispinosissima* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 515. Mexico (IV).
Goja farallones* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021: 516a. Colombia (V).
Goja galarzai* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 518. Colombia (V).
Goja garridoi* Carrejo, Gonzalez Obando, Casasola-Gonzalez & Garcia Aldrete, A. N. 2021b: 463. Colombia (V).
Goja horquetensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 518. Colombia (V).
Goja korytkowskii* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 521. Colombia (V).
Goja meremberg* Carrejo, Gonzalez Obando, Casasola-Gonzalez & Garcia Aldrete, A. N. 2021b: 465. Colombia (V).
Goja munchiquensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 524. Colombia (V).
Goja pillcopatensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 526. Peru (V).
Goja risaraldensis* Carrejo, Gonzalez Obando, Casasola-Gonzalez & Garcia Aldrete, A. N. 2021b: 465. Colombia (V).
Goja sierrajuarez* Carrejo, Gonzalez Obando, Casasola-Gonzalez & Garcia Aldrete, A. N. 2021b: 468. Mexico (IV).
Goja svanhildae* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 526. Colombia (V).
Goja tacanaensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 530. Mexico (IV).
Goja tamensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 532. Colombia (V).
Goja tenerife* Carrejo, Gonzalez Obando, Casasola-Gonzalez & Garcia Aldrete, A. N. 2021b: 469. Colombia (V).
Goja toleditensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 534. Colombia (V).
Goja vallecaucana* Carrejo, Gonzalez Obando, Casasola-Gonzalez & Garcia Aldrete, A. N. 2021b: 472. Colombia (V).
Goja vavilovi* Carrejo, Gonzalez Obando, Casasola-Gonzalez & Garcia Aldrete, A. N. 2021b: 472. Colombia (V).
Goja yarumosensis* Carrejo, Gonzalez Obando, Garcia Aldrete & Mendivil, 2021a: 534. Colombia (V).
Neurostigma Enderlein. Key to males, checklist of species (with distribution) and phylogenetic analysis: Gonzalez-Obando *et al*., 2021b.
Neurostigma lienhardi* Gonzalez-Obando, Carrejo-Gironza, Mendivil-Nieto & Garcia-Aldrete, 2021b: 85. Colombia (V).
Neurostigma mockfordi* Gonzalez-Obando, Carrejo-Gironza, Mendivil-Nieto & Garcia-Aldrete, 2021b: 85. Colombia (V).
Neurostigma newi* Gonzalez-Obando, Carrejo-Gironza, Mendivil-Nieto & Garcia-Aldrete, 2021b: 88. Colombia (V).
Neurostigma thorntoni* Gonzalez-Obando, Carrejo-Gironza, Mendivil-Nieto & Garcia-Aldrete, 2021b: 88. Colombia (V).
Neurostigma valderramae* Gonzalez-Obando, Carrejo-Gironza, Mendivil-Nieto & Garcia-Aldrete, 2021b: 92. Colombia (V).

Myopsocidae
Myopsocus spec. Solorzano Kraemer, 2007: 21 (figs.). Mexico (IV), Miocene amber (A).

Psocidae
Amphigerontia bifasciata (Latreille). Norway (I): Thunes *et al*., 2021.
Amphigerontia contaminata (Stephens). Bulgaria (I): Georgiev, 2021b.
Blaste conspurcata (Rambur). Norway (I): Thunes *et al*., 2021.
Clematoscenea Enderlein. Key to species: Jie Lulan & Liu Xingyue 2021: 46.
Clematoscenea biprocessus* Jie Lulan & Liu Xingyue 2021: 47. China (VIII).
Loensia spec. Norway (I): Thunes *et al*., 2021 (*variegata* or *pearmani*).
Loensia fasciata (Fabricius). Norway (I): Thunes *et al*., 2021.
Loensia pearmani Kimmins. Greece (I): Georgiev, 2021a.
Metylophorus nebulosus (Stephens). Norway (I): Thunes *et al*., 2021.
Neopsocus rhenanus Kolbe. Bulgaria (I): Georgiev, 2021b. Greece (I): Georgiev, 2021a.
Psococerastis gibbosa (Sulzer). Norway (I): Thunes *et al*., 2021.
Ptycta kiboschoensis (Enderlein). Tanzania: Zanzibar (VI): Georgiev, 2021c.
Trichadenotecnum sexpunctatum (Linnaeus). Norway (I): Thunes *et al*., 2021.

4. Additions to the Bibliography

NOTE: Complete bibliographical references to publications cited in the present paper, which are not listed here, can be found in the World Bibliography (Lienhard & Smithers, 2002: 493-664) or in Parts 1 to 20 of the "Additions"; see also **Synthesis of Parts 1-10** (Lienhard, 2016d = Psocid News Special Issue 3) and **Synthesis of Parts 11-20** (Lienhard, 2021b = Psocid News Special Issue 4).

Remarks: Papers with two authors are listed in alphabetical order of second authors after the chronological list of papers with the first author as unique author. Papers with more than two authors (i. e. "first author *et al*."-papers) are listed chronologically after the two-author papers. References to papers published in the same year are distinguished by suffix-letters added to the publication year. No cross-references to co-authors or editors are given.
For a **subject bibliography** see below and Lienhard, 2016c (Psocid News Special Issue 2) and Lienhard, 2021b (Psocid News Special Issue 4).

Anonymous 2021. Obituary. Mr Li Fasheng (1935.7-2021.10). Online at: psocodea.org (1 photograph).

Carrejo, N., Gonzalez Obando, R., Garcia Aldrete, A. N. & Mendivil, J. 2021a. New species of *Goja* Navas (Psocodea: 'Psocoptera': Epipsocidae) from Colombia, Mexico and Peru. *Zootaxa* 4903 (4): 501-541, 141 figs.

Carrejo, N., Gonzalez Obando, R., Casasola-Gonzalez, J. A. & Garcia Aldrete, A. N. 2021b. New Colombian *Goja* Navas (Psocodea: 'Psocoptera': Epipsocidae) with peculiar genitalia, and the first *Goja* with brachypterous male, from Oaxaca, Mexico. *Zootaxa* 5040 (4): 451-481, 59 figs.

Cordoba-Aguilar, A., San Miguel-Rodriguez, M., Rocha-Ortega, M., Lanz-Mendoza, H., Cime-Castillo, J. & Benelli, G. 2021. Adult damselflies as possible regulators of mosquito populations in urban aeras. *Pest Management Science* 77(10): 4274-4287. **(Only abstract seen)**.

Cumming, R. T. & Le Tirant, S. 2021. Review of the Cretaceous †Archaeatropidae and †Empheriidae and description of a new genus and species from Burmese amber (Psocoptera). *Faunitaxys* 9(16): 1-11, 7 figs.

Cutrim, M., Silva-Neto, A. M. da, Garcia-Aldrete, A. N. & Rafael, J. A. 2021a. On *Loneura crenata* Navas and *Loneura ocotensis* Garcia Aldrete (Psocodea, 'Psocoptera', Ptiloneuridae). *Papeis Avulsos de Zoologia*, v. 61: e20216141 (5 pp., 17 figs).

Cutrim, M., Silva Neto, A. M. da, Garcia Aldrete, A. N. & Rafael, J. A. 2021b. A new species of *Loneura* Navas and taxonomic update of *L. boliviana* Williner and *L. meridionalis* Garcia Aldrete (Psocodea: Psocomorpha: Ptiloneuridae). *Zootaxa* 4969 (1): 135-148, 47 figs.

Cutrim, M., Silva Neto, A. M. da, Garcia Aldrete, A. N. & Rafael, J. A. 2021c. Identification key, checklist and new species of *Loneura* Navas (Psocodea: 'Psocoptera': Ptiloneuridae) from Brazil. *Zootaxa* 5057 (4): 487-502, 35 figs.

de Vries, J. P. R., van Loon, E. & Borges, P. A. V. 2021. A small-scale analysis of elevational species richness and beta diversity patterns of Arthropoda on an Oceanic island (Terceira, Azores). *Insects* 12 (10)): article number 936. **(Only abstract seen)**.

Garcia Aldrete, A. N. & Casasola-Gonzalez, J. A. 2021. Three new species of *Lachesilla* in the *rufa* group (Psocodea: Psocomorpha: Lachesillidae) from the Sierra Tarahumara, Mexico. *Zootaxa* 5071 (2): 289-295, 15 figs.

Georgiev, D. 2021a. On the Psocoptera fauna of Thassos Island (North Aegean, Greece). *Parnassiana Archives* 9: 3-7, 3 figs.

Georgiev, D. 2021b. Some Psocoptera records from South-West Bulgaria. *ZooNotes* 171: 1-3, 1 fig.

Georgiev, D. 2021c. On the fauna of Psocoptera of Unguja (Zanzibar) Island (Tanzania, East Africa). *Historia naturalis bulgarica* 42: 35-42, 3 figs.

Georgiev, D. 2021d. Additions and corrections to the list of Psocoptera of Unguja Island (Zanzibar, Tanzania). *ZooNotes* 187: 1-3, 3 figs.

Georgiev, D. 2021e. Contribution to the knowledge of Psocoptera of Pieria (North Greece). *Parnassiana Archives* 9: 109-110.

Georgiev, D. 2021f. New records of Psocoptera from Egypt. *Journal of BioScience and Biotechnology* 10(2): 103-105, 2 figs.

Gonzalez-Obando, R., Carrejo-Gironza, N. & Garcia-Aldrete, A. N. 2021a. New species of *Loneura* Navas, 1927 (Insecta: Psocodea: 'Psocoptera': Ptiloneuridae) from Peru. *Papeis Avulsos de Zoologia* 2021, v.61: e20216123, 8 pp., 18 figs.

Gonzalez-Obando, R., Carrejo-Gironza, N., Mendivil-Nieto, J. & Garcia-Aldrete, A. N. 2021b. *Neurostigma* (Psocodea: Psocomorpha: Epipsocidae) from Colombia: new species and an identification key. *Acta Entomologica Musei Nationalis Pragae* 61(1): 83-98, 51 figs.

Gonzalez-Obando, R., Carrejo-Gironza, N. & Garcia Aldrete, A. N. 2021c. New species of *Triplocania* Roesler (Psocodea: 'Psocoptera': Ptiloneuridae) from Colombia and Peru. *Zootaxa* 5080 (1): 1-63, 157 figs.

Hakim, M., Azar, D., Fu Yan-Zhe, Cai Chen-Yang & Huang Di-Ying 2021a. A new cormopsocid from mid-Cretaceous Burmese amber (Psocodea: Trogiomorpha: Cormopsocidae). *Palaeoentomology* 4 (2): 178-185, 6 figs.

Hakim, M., Huang Di-Ying & Azar, D. 2021b. New fossil psocids from Cretaceous Siberian ambers (Psocodea: Trogiomorpha: Atropetae). *Palaeoentomology* 4 (2): 186-198, 8 figs.

Hakim, M., Azar, D. & Huang Di-Ying 2021c. A new species of Cormopsocidae from Burmese amber (Psocodea; Trogiomorpha). *Palaeoentomology* 4 (3): 213-217, 3 figs.

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Hristovski, S., Slavevska-Stamenković, V., Hristovski, N., Arsovski, K., Bekchiev, R., Chobanov, D., Dedov, I., Devetak, D., Karaman, I., Kitanova, D., Komnenov, M., Ljubomirov, T., Melovski, D., Pesic, V., Simov, N. 2015. Diversity of invertebrates in the Republic of Macedonia. *Macedonian Journal of Ecology and Environment* 17(1): 5-44. (Psoc. p. 11).

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5. Subject Bibliography for Part 21 of the Additions

NOTE: A Subject Bibliography for Lienhard & Smithers (2002) and for Parts 1-15 of the Additions is given by Lienhard (2016c = Psocid News Special Issue 2) and for Parts 16-20 in Lienhard (2021b = Psocid News Special Issue 4).

Behaviour

2021 Kamimura *et al*., 2021 (Add. 21) (mating, sex role reversal, *Neotrogla* spp.)
2021 Kiesmüller *et al*., 2021 (Add 21) (camouflage of psocid nymphs in Burmese amber)
2021 Ponce *et al*., 2021 (Add. 21) (*Liposcelis* in stored products)

Biology, life history, physiology, genetics

2021 Kamimura *et al*., 2021 (Add. 21) (nuptial gifts, *Neotrogla* spp.)
2021 Kuznetsova *et al*., 2021 (Add. 21) (chromosomes)
2021 Miao Shiyuan *et al*., 2021a (Add. 21) (vitellogenesis, *Liposcelis*)

2021 Miao Shiyuan *et al*., 2021b (Add. 21) (gene expression, *Liposcelis*)
2021 Moura *et al*., 2021 (Add. 21) (*Liposcelis* sp. as predator of eggs of *Aedes aegypti,* under laboratory conditions)
2021 Ocran *et al.*, 2021a (Add. 21) (temperature- and humidity-dependent development *Liposcelis*)
2021 Saenz Manchola *et al*., 2021 (Add. 21) (mitochondrial genomes)
2021 Wang Suisui *et al*., 2021 (Add. 21) (vitellogenin receptor, *Liposcelis*)
2021 Wei Dan-Dan *et al*., 2021 (Add. 21) (mitochondrial genome, *Lepinotus* spec.)

Ecology
2020 Zaenker *et al*., 2020 (Add. 21) (cave psocids in Germany)
2021 de Vries *et al.,* 2021 (Add. 21) (elevational species richness, Azores)
2021 Lienhard, 2021c (Add, 21) (*Prionoglaris* in caves)
2021 Lips *et al*., 2021 (Add. 21) (*Prionoglaris* in caves, France).
2021 Maia & da Silva, 2021 (Add. 21) (inquilines in insect galls, Brazil)
2021 Ostrovsky & Georgiev, 2021 (Add. 21) (in animals' nests: bird, wasp, ant, marten; *Liposcelis* etc.)
2021 Piednoir, 2021 (Add. 21) (*Liposcelis* on river drifted woods, France)
2021 Pizarro-Araya *et al*., 2021 (Add. 21) (Atacama desert, pitfall traps, Chile)
2021 Silva Neto *et al*., 2021a (Add. 21) (*Triplocania* in Brazilian caves)
2021 Thunes *et al*., 2021 (Add. 21) (fauna of oak canopies in Norway)

General treatises, keys, **bibliographies**
2020 Lienhard, 2020d (Add. 21) (Morphology, biology, taxonomy, keys to families)
2021 Lienhard, 2021a (Add. 21) (Additions to the World Catalogue and Bibliography, Part 20)
2021 Lienhard, 2021b (Add. 21) (Synthesis of Additions 11-20 to the World Catalogue and Bibliography)

History, biographies
2021 Anonymous, 2021 (Add. 21) (obituary Li Fasheng)
2021 Klausnitzer, 2021 (Add. 21) (biography of Michael Rostock)

Morphology, anatomy
2021 Lienhard, 2021c (Add, 21) (neotenic claw morphology in *Prionoglaris*)

Palaeontology
2007 Kaddumi, 2007 (Add. 21) (Cretaceous amber of Jordan)
2007 Solorzano Kraemer, 2007 (Add. 21) (Mexican amber, Miocene)
2021 Cumming & Le Tirant, 2021 (Add. 21) (Cretaceous amber)
2021 Hakim *et al*., 2021a, 2021c (Add. 21) (Cretaceous Burmese amber)
2021 Hakim *et al*., 2021b (Add. 21) (Cretaceous Siberian amber)
2021 Hakim *et al*., 2021d (Add. 21) (Cretaceous Lebanese amber)
2021 Jouault *et al*., 2021 (Add. 21) (Cretaceous Burmese amber)
2021 Kiesmüller *et al*., 2021 (Add 21) (camouflage of psocid nymphs in Burmese amber)
2021 Liang Feiyang & Liu Xingyue 2021a, 2021b (Add. 21) (Cretaceous Burmese amber)
2021 Ross, 2021a, 2021b (Add. 21) (supplements to Burmese amber checklist).
2021 Wang Qiuzhu *et al*., 2021 (Add. 21) (Cretaceous Burmese amber)
2021 Yoshizawa & Yamamoto, 2021 (Add. 21) (Cretaceous Burmese amber)

Pests
2021 Lu Xin-Xin *et al*., 2021 (Add. 21) (control, *Liposcelis bostrychophila*)
2021 Ocran *et al.*, 2021b (Add. 21) (management by dehumidification, *Liposcelis* spp.).
2021 Qi Xiao-jie *et al*., 2021 (Add. 21) (control, *Liposcelis*).
2021 Stejskal *et al*., 2021 (Add. 21) (control)
2021 Wakil *et al.*, 2021a, 2021b, 2021c (Add. 21) (*Liposcelis paeta,* control).

Phylogeny, evolution, classification
2020 Rasplus & Cruaud, 2020 (Add. 21) (phylogeny of Hexapoda)
2021 Kamimura *et al*., 2021 (Add. 21) (coevolution, *Neotrogla* spp.)

2021 Saenz Manchola *et al*., 2021 (Add. 21) (mitochondrial genome evolution)

Predators, parasites, parasitoids
2021 Cordoba-Aguilar *et al*., 2021 (Add. 21) (damselflies as predators of psocids)
2021 Triapitsyn & Chan, 2021 (Add. 21) (association of a mymarid egg parasitoid with *Psocathropos lachlani*)

Techniques
2021 Zeng Lingyu *et al*., 2021 (Add. 21) (LAMP, rapid molecular identification, *Liposcelis*)

EDITORIAL

"Psocid News" publishes any kinds of topics (formal or informal) that may be interesting for psocidologists, but articles containing official nomenclatural acts (e.g. descriptions of new taxa, proposals of new combinations or new synonyms) will not be accepted for publication by the editor (see below).

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Next issue. About Feb. 2023. Please let me have all contributions by Jan. 31 2023.

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