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Scale insect genus-group names and their families (Hemiptera: Sternorrhyncha: Coccoidea)

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Abstract

Genus names of the scale insects (Hemiptera: Coccoidea) are listed with their current families. The list includes all generic names that are currently valid with synonyms, unjustified emendations, homonyms, *nomia nuda* and misspellings. The list has been compiled from many sources as discussed in the introduction. This is the first list to be prepared in recent years of all generic names and it is in alphabetical order.

Key words: genera, families, scale insects, list

Introduction

This list of genus names in the superfamily Coccoidea or scale insects, together with their assignment to the 49 families presently recognized in the superfamily, has been compiled from many sources. Although the names can be found in recent printed catalogues and in ScaleNet, an online database of the scale insects (Ben-Dov *et al.*, 2013), the names are scattered. At present, there is no single complete list of genera and their families, and it is hoped that the present list will help new students of the group and anyone else interested in scale insects. The list has been kept simple and includes present valid names, synonyms, unjustified emendations, *nomia nuda*, misspellings and homonyms. Further information on all these names can be found in the recent catalogues.

Works checked include that by Signoret (1869), one of the first lists to be published after Linnaeus (1758). Signoret's paper was followed by a catalogue of scale insects of the world by Fernald (1903) and, despite its age, it is still widely used for important information on early authors and names and for many new combinations. Another work on scale insects of the world was by MacGillivray (1921). This was more than a catalogue but rather a textbook with keys to genera and species. It included many new genera as shown in the present list. The work was described by Ferris (1957) as "nothing more than a calamity" but it cannot be ignored. Lindinger (1937) listed genera and their synonyms but many of the synonyms proposed have not been accepted. Catalogues of the family Eriococcidae by Hoy (1963) and of the armoured scale insects (Diaspididae) by Borchsenius (1966) set new standards in more modern times and both are referred to frequently. An annotated list of generic names in the scale insects by Morrison & Morrison appeared in 1966 and has proved invaluable to scale insect workers. This was followed by supplements compiled by Russell (1970), Kosztarab & Russell (1974), and Kosztarab *et al.* (1986). There have been short lists on lac insects by Kapur (1958) and by Varshney (1990) and a catalogue of Palaearctic scale insects by Kozár (1998).

Recent printed catalogues that have been widely used in compiling the present list include Ben-Dov (1993) (Coccidae); Ben-Dov (1994) (Pseudococcidae); Miller & Gimpel (2000) (Eriococcidae); Ben-Dov (2005) (Margarodidae *sensu* Morrison (1928)); Ben-Dov & German (2003) and Miller & Gimpel (2009) (Diaspididae); and Miller *et al.* (2005) and Ben-Dov (2006) which cover all the remaining smaller families. All of these catalogues have been updated in the online database ScaleNet (Ben-Dov *et al.*, 2013).

The present list does not include the genus *Chermes* Linnaeus. Since Linnaeus (1758) described it and provided distinct characters separating it from *Coccus* Linnaeus, this name has been in use for many species of scale insects for well over 100 years. However, the name *Chermes* has now been replaced by *Psylla* Geoffroy in the superfamily Psylloidea and is discussed more fully by Favret *et al.* (2014). The genus-group names *Naibia* Shcherbakov, *Coccavus* Shcherbakov and *Panirena* Shcherbakov, claimed by Sshcherbakov (2007) to be scale insect stem groups and placed in the family Naibiidae, are also excluded because their position in the scale insects has been disputed by Gullan & Cook (2007).

References

- Ben-Dov, Y. (1993) *A Systematic Catalogue of the Soft Scale Insects of the World (Homoptera: Coccoidea)*. Sandhill Crane Press, Gainesville, Florida, 536 pp.
- Ben-Dov, Y. (1994) *A Systematic Catalogue of the Mealybugs of the World (Insecta: Homoptera: Coccoidea: Pseudococcidae and Putoidae with Data on Geographical Distribution, Host Plants, Biology and Economic Importance)*. Intercept limited, Andover, U.K., 686 pp.
- Ben-Dov, Y. (2005) *A Systematic Catalogue of the Scale Insect Family Margarodidae (Hemiptera: Coccoidea) of the World*. Intercept Ltd, Wimborne, U.K., 400 pp.
- Ben-Dov, Y. (2006) *A Systematic Catalogue of Eight Scale Insect Families (Hemiptera: Coccoidea) of the World. Aclerodidae, Asterolecaniidae, Beesoniidae, Carayonemidae, Conchaspidae, Dactylopiidae, Keriidae and Lecanodiaspididae*. Elsevier, Amsterdam, i–xix, 1–368.
- Ben-Dov, Y. & German, V. (2003) *A Systematic Catalogue of the Diaspididae (Armoured Scale Insects) of the World. Subfamilies, Aspidiotinae, Comstockiinae and Odonaspidae*. Intercept, Andover, Hants, U.K., 1112 pp.
- Ben-Dov, Y., Miller, D.R. & Gibson, G.A.P. (2013) ScaleNet: A Database of the Scale Insects of the World. Available from: <http://www.sel.barc.usda.gov/scalenet/scalenet.htm> (accessed 15 April 2014)
- Borchsenius, N.S. (1966) *A Catalogue of the Armoured Scale Insects (Diaspidoidea) of the World*. Nauka, Moscow and Leningrad, 449 pp.
- Favret, C., Ouvrard, D. & Williams, D.J. (2014) Annotated list of the species-group taxa described in combination with *Chermes* Linnaeus 1758 (Hemiptera: Sternorrhyncha). *Transactions of the American Entomological Society*, 140, 67–81.
- Fernald, M.E. (1903) A catalogue of the Coccidae of the world. *Bulletin of the Hatch Experimental Station of the Massachusetts Agricultural College*, 88, 350 pp.
- Ferris, G.F. (1957) A brief history of the study of the Coccoidea. *Microentomology*, 22, 39–57.
- Gullan, P.J. & Cook, L.G. (2007) Phylogeny and higher classification of the scale insects (Hemiptera: Sternorrhyncha: Coccoidea). *Zootaxa*, 1668, 413–425.
- Hoy, J.M. (1963) A catalogue of the Eriococcidae (Homoptera: Coccoidea) of the world. *Bulletin New Zealand Department of Scientific and Industrial Research*, 150, 1–260.
- Kapur, A.P. (1958) *Catalogue of Lac Insects (Lacciferidae, Hemiptera)*. Indian Lac Cess Committee, Ranchi, Bihar, India, 47 pp.
- Kosztarab, M. & Russell, L.M. (1974) An annotated list of generic names of the scale insects (Homoptera: Coccoidea). Second Supplement. *Miscellaneous Publications United States Department of Agriculture*, 1285, 1–22.
- Kosztarab, M., Ben-Dov, Y. & Kosztarab, M.P. (1986) An annotated list of generic names of the scale insects. Third Supplement. *Bulletin Agricultural Experimental Station, Virginia Polytechnic Institute and State University*, 862, i–ii, 1–38.
- Kozár, F. (1998) *Catalogue of Palaearctic Coccoidea*. Plant Protection Institute, Hungarian Academy of Sciences, Budapest, Hungary, 526 pp.
- Kozár, F., Kaydan, M.B., Konczné Benedicty, Z. & Szita, É. (2013) *Acanthococcidae and Related Families of the Palaearctic Region*. Plant Protection Institute, Centre for Agricultural Research, Hungarian Academy of Sciences, Budapest, Hungary, 679 pp.
- Latreille, P.A. (1807) *Crusaceorum et Insectorum Secundum Ordinem Naturalem Familias Disposita Iconibus Exemplisque Plumiris Explicata*. Vol. 3. Parisi & Argentorati, 258 pp.
- Lindinger, L. (1937) Verzeichnis der Schildlaus-Gattungen. (Homoptera-Coccoidea Handlirsch (1903)). *Entomologisches Jahrbuch*, 46, 178–198.
- Linnaeus, C. (1758) *Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species cum Characteribus, Differentiis, Synonymis, Locis*. Editio Decima. Holmiae, Impensis Direct. Laurentii Salvii, 823 pp.
- MacGillivray, D. (1921) *The Coccidae. Tables for the Identification of the Subfamilies and the more important genera and species together with discussions of their anatomy and Life History*. Scarab Company, Urbana, Illinois, viii, 502 pp.
- Miller, D.R. & Gimpel, M.E. (2000) *A Systematic Catalogue of the Eriococcidae (Felt Scales) (Hemiptera: Coccoidea) of the World*. Intercept, Andover, U.K., 589 pp.
- Miller, D.R. & Gimpel, M.E. (2009) A systematic catalogue of the armoured scale subfamilies Diaspidinae, Leucaspidae and Ulococcinae (Hemiptera: Coccoidea: Diaspididae) of the world. *Memoirs of the American Entomological Institute*, 81, 1–1308.
- Miller, D.R., Gimpel, M.E. & Rung, A. (2005) *A Systematic Catalogue of the Cerococcidae, Halimococcidae, Kermesidae, Micrococcidae, Ortheziidae, Phenacoleachiidae and Stictococcidae (Hemiptera: Coccoidea) of the World*. Intercept Limited, Wimborne, U.K., 554 pp.
- Morrison, H. (1928) A classification of the coccid family Margarodidae. *Technical Bulletin United States Department of Agriculture*, 52, 1–239.
- Morrison, H. & Morrison, E.M. (1966) An annotated list of generic names of the scale insects (Homoptera: Coccoidea). *Miscellaneous Publications United States Department of Agriculture*, 1015, 1–vi, 1–206.
- Russell, L.M. (1970) Additions and Corrections to Annotated list of generic names of the scale insects. Supplement. *Miscellaneous Publications United States Department of Agriculture*, 1050, i–iv, 1–13.

- Shcherbakov, D.E. (2007) Extinct four-winged prococcids and the ancestry of scale insects and aphids (Hemiptera). *Russian Entomological Journal*, 16, 47–62.
- Signoret, V. (1869) Essai sur les cochenilles. Catalogue des coccides ou cochenilles connus jusque'à ce jour. *Annales de la Société entomologique de France*, 841–876.
- Varshney, R.K. (1990) A synoptic updated catalogue of lac insects (Homoptera: Coccoidea: Tachardiidae). *Proceedings of the International Symposium of Scale Insect Studies, Cracow, August 6–12 1990 (Part II)*, pp. 75–77.