

AN UPDATE ON SYNOPTIC CATALOGUE OF LAC INSECTS (HOMOPTERA : TACHARDIIDAE)¹

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Members of the family Tachardiidae (= Kerriidae) produce lac and certain species are exploited for their economically important products viz., resin, dye and wax. An updated checklist of world species is provided. It includes two subfamilies, nine genera and eighty-seven species. The systematic list provides name of species, author, year of description, synonym(s) if any, and country (state/region) of occurrence. Taxa and species are listed in alphabetical order. The bibliography includes citations of each taxa for reference and taxonomic purposes.

INTRODUCTION

Lac insects are degenerate scale insects, belonging to the family Tachardiidae and are well known for their commercially important products viz. resin, dye and wax. Kerr (1782) was the first to study a species of lac insect in detail and named it *Coccus lacca* which is now known as *Kerria lacca* (Kerr). A separate identity to lac insects was given by Oken (1815) who placed them under genus *Laccifer*. The taxonomic aspects of lac insects, however, remained obscure, till Chamberlin (1923) gave the first description of lac insects of the world which he later supplemented (Chamberlin, 1925). Kapur (1958) prepared a catalogue of lac insects and Varshney (1977) described all the oriental species in detail. Varshney (1990) also published a brief catalogue of lac insects, reporting eight genera and 77 species as well as a world list of lac insects (Varshney, 1993) in which some of the taxa have been mentioned as *nomen nudum*. Later, Zhang (1993) described some more species. The list recently updated by Varshney (1997) contains no bibliographic references to the newly discovered taxa and the species which were earlier described as *nomen nudum*. Moreover, the list is incomplete. Thus, at present, lac insects are represented by two subfamilies, nine genera and

eighty-seven species. The updated systematic list given here provides: name of species, author, year of description, synonym(s) if any and country (state/region) of their occurrence in that order. A consolidated list of bibliographic references to all the taxa reported in the checklist has been provided.

CHECKLIST

Family: **Tachardiidae** Green 1896 [Syn. **Lacciferidae** Cockerell, 1924; **Kerriidae** Lindinger 1937]

Subfamily: **Tachardiinae** (Nominate) [Syn. **Lacciferinae** Chamberlin 1925].

Tribe: **Austrotachardiini** Chamberlin 1925 [Syn. **Austrotachardinina** Balachowsky 1950].

I. **Austrotachardia** Chamberlin 1923.
[Type species: *Tachardia angulata* Froggatt].

1. *A. acaciae* (Maskell 1891). Australia (Central Australia and New South Wales).
2. *A. angulata* (Froggatt 1911). Australia (New South Wales).
3. *A. australis* (Froggatt 1899). Australia (Queensland).
4. *A. convexa* (Fuller 1899). Australia (Western Australia).
5. *A. melaleuca* (Maskell 1891). Australia (New South Wales, Victoria and Western Australia).

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Tribe **Tachardiini** (Nominate) [Syn. **Lacciferinina** Balachowsky 1950]

Subtribe **Tachardielli** Chamberlin 1925 [Syn. **Tachardiellina** Williams 1969].

II. **Austrotachardiella** Chamberlin 1923.
[Type species: *Tachardia rotundata* Cockerell].

6. *A. bodkini* (Newstead 1917). Guyana.
7. *A. cydoniae* (Hempel 1900). [Syn. *Tachardia rosae* Hempel 1900; *Tachardia caerulea* Hempel 1904]. Brazil.
8. *A. gemmiferra* (Cockerell 1893). Jamaica.
9. *A. nigra* (Townsend & Cockerell 1898). Mexico (Vera Cruz and Jalisco).
10. *A. rotundata* (Cockerell 1903). Mexico.
11. *A. rubra* (Hempel 1900). Brazil.
12. *A. trilobata* (Mendes 1936). Brazil.

III. **Tachardiella** (Cockerell 1901).
[Type species: *Tachardia cornuta* Cockerell].

13. *T. argentina* (Dominguez 1906). Argentina.
14. *T. artocarpi* (Hempel 1921). Brazil.
15. *T. condaliae* (Leonardi 1911). [Syn. *Tachardia cordaliae* Leonardi 1911]. Argentina.
16. *T. cornuta* (Cockerell 1894). U.S.A. (New Mexico and Texas) and Mexico.
17. *T. ferrisi* Chamberlin 1923. Mexico.
18. *T. fulgens* (Cockerell 1895). U.S.A. (Arizona) and Mexico.
19. *T. glomerella* (Cockerell 1905). [Syn. *T. glomerella* var. *baccharidis* Chamberlin 1923]. U.S.A. (California, New Mexico and Texas).
20. *T. ingae* (Hempel 1900). Brazil.
21. *T. larreae* (Comstock 1882). [Syn. *T. larreae* var. *californica* Chamberlin 1923]. U.S.A. (Arizona, California and Nevada) and Mexico.
22. *T. lycii* (Leonardi 1911). Argentina.
23. *T. mexicana* (Comstock 1882). [Syn. *Tachardia fulvoradiata* Cockerell 1898; *Tachardiella texana* Chamberlin 1923]. U.S.A. (Texas) and Mexico.

24. *T. nigra* Fonseca 1975. Brazil (Sao Paulo).
25. *T. ourinhensis* Hempel 1937. Brazil.
26. *T. parva* (Hempel 1900). Brazil.
27. *T. pustulata* (Cockerell 1895). U.S.A. (Arizona and California).

Subtribe **Tachardii** (Nominate) [Syn. **Lacciferi** Chamberlin 1925].

IV. **Kerria** Targioni-Tozzetti 1884.
[Syn. **Laccifer** Oken 1815; **Carteria** Signoret 1874; **Tachardia** Blanchard 1886; **Lakshadia** Mahdihassan 1923].

[Type species: *Coccus lacca* Kerr].

i. Subgenus **Kerria** (Nominate).

28. *K. (K.) albizziae* (Green 1911). India (Bihar, Uttar Pradesh and West Bengal) and Sri Lanka.
29. *K. (K.) brancheata* Varshney 1966. India (Bihar).
30. *K. (K.) chamberlini* Varshney 1966. India (Rajasthan).
- 31a. *K. (K.) chinensis chinensis* (Mahdihassan 1923). [Syn. *Laccifer longispina* Misra 1930; *Laccifer siamensis* Takahashi 1941]. Bhutan, China (South China), Cambodia, India (N.E. India), Myanmar (=Burma), Nepal, Thailand and Vietnam.
- 31b. *K. (K.) chinensis kydia* (Misra 1930). India (Assam).
32. *K. (K.) communis* (Mahdihassan 1923). India (Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra and Tamil Nadu).
33. *K. (K.) ebracheata* (Chamberlin 1923). India (Bihar and Karnataka), and Pakistan.
- 34a. *K. (K.) fici fici* (Green 1903). China, India (Bihar, Delhi, Jammu & Kashmir, Rajasthan, Uttar Pradesh and West Bengal), Pakistan and Thailand.
- 34b. *K. (K.) fici jhansiensis* (Misra 1930). India (Uttar Pradesh).
35. *K. (K.) indicola* (Kapur 1958). [Syn. *Laccifer indica* Misra 1930]. India (Bihar).

- 36a. *K. (K.) lacca lacca* (Kerr 1782). [Syns. *Coccus ficus* Fabricius 1787; *Lakshadia indica* Mahdihassan 1923]. Bangladesh, China, Georgia, India, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Taiwan and Thailand.
- 36b. *K. (K.) lacca ambigua* (Misra 1930). India (Uttar Pradesh).
- 36c. *K. (K.) lacca mysorensis* (Mahdihassan 1923). India (Karnataka).
- 36d. *K. (K.) lacca takahashii* Varshney 1977. Thailand.
37. *K. (K.) mengdingensis* Zhang 1993. China (Yunnan).
38. *K. (K.) nagoliensis* (Mahdihassan 1923). India (Madhya Pradesh).
39. *K. (K.) nepalensis* Varshney 1977. India (Bihar) and Nepal.
40. *K. (K.) pusana* (Misra 1930). India (Bihar).
41. *K. (K.) ruralis* (Wang, Yao, Teui & Liang 1892). China (Yunnan).
42. *K. (K.) sharda* sp. nov. Mishra and Sushil 2000.
43. *K. (K.) sindica* (Mahdihassan 1923). Pakistan (Sind).
44. *K. (K.) yunnanensis* Ou & Hong 1990. China (Yunnan).
- ii. Subgenus *Chamberliniella* Varshney 1987. [Syn. *Chamberlinia* Varshney 1984]. [Type species: *Tachardia greeni* Chamberlin].
45. *K. (C.) greeni* (Chamberlin 1923). Philippines, Taiwan and Thailand.
46. *K. (C.) javana* (Chamberlin 1925). Indonesia (Java) and Malaysia.
47. *K. (C.) meridionalis* (Chamberlin 1923). Australia (New South Wales and Victoria).
48. *K. (C.) rangoonensis* (Chamberlin 1925). India (Assam) and Myanmar.
- V. *Metatachardia* Chamberlin 1923. [Type species: *Tachardia conchiferata* Green].
49. *M. conchiferata* (Green 1922). Sri Lanka.
50. *M. fukienensis* Zhang 1993. China (Fukien).
51. *M. hunanensis* Zhang 1993. China (Hunan).
52. *M. myrica* Tang 1974. China (Chekiang).
53. *M. sinensis* Zhang 1993. China (Changyan-Yunnan).
54. *M. yunnanensis* Zhang 1992. China (Changyan-Yunnan).
- Subfamily **Tachardininae** Chamberlin 1925. [Syn. **Tachardini** and **Tachardinina** of Balachowsky 1950; Type genus: *Tachardia* Cockerell 1901].
- VI. *Afrotachardia* Chamberlin 1923. [Type species: *Tachardia longisetosa* Newstead].
55. *A. brachysetosa* Chamberlin 1923. Uganda.
56. *A. longisetosa* (Newstead 1911). Uganda.
- VII. *Albotachardia* Zhang 1992a. [Type species: *Albotachardia yunnanensis* Zhang].
57. *A. sinensis* Zhang 1992a. China (Yunnan).
58. *A. yunnanensis* Zhang 1992a. China (Yunnan).
- VIII. *Paratachardia* Balachowsky 1950. [Type species: *Carteria decorella* Maskell].
59. *P. capsella* Wang 1986. China (Yunnan).
60. *P. decorella* (Maskell 1892). Australia (New South Wales and Victoria).
- 61a. *P. lobata* (Green 1922). [Syn. *Tachardia minuta* Green 1922 (nec Morrison)]. India. (Andhra Pradesh, Karnataka and Tamil Nadu) and Sri Lanka.
- 61b. *P. lobata* var. *schmidti* (Mahdihassan 1946). India (Karnataka).
- 61c. *P. lobata* var. *walczuchae* (Mahdihassan 1946). India (Karnataka).
62. *P. minuta* (Morrison 1920). Philippines.
63. *P. mithilae* Varshney 1968. India (Meghalaya).

64. *P. morobensis* sp. nov. New Papua Guinea.
65. *P. silvestrii* (Mahdihassan 1923). India (Karnataka).
66. *P. ternata* (Chamberlin 1923). India (Kerala).
67. *P. theae* (Green & Mann 1907). India (Sikkim and West Bengal) and Taiwan.

IX. *Tachardina* (Cockerell 1901).

[Type species: *Tachardia albida* Cockerell].

68. *T. actinella* (Cockerell & King 1901). [Syn. *Tachardia digitata* Munting 1965]. Mozambique (?), South Africa and Zimbabwe.
- 69a. *T. affluens* (Brain 1920). Saudi Arabia and South Africa.
- 69b. *T. affluens* var. *coagulata* Hall 1935. South Africa (Transvaal).
- 69c. *T. affluens* var. *natalensis* Hall 1935. South Africa (Natal).
70. *T. africana* Hall 1935. Mozambique (?), South Africa and Zimbabwe.
71. *T. albida* (Cockerell 1901) South Africa and Zimbabwe.
72. *T. aurantiaca* (Cockerell 1903). Indonesia (Java), Singapore and Thailand. Varshney

(1990 and 1993) has cast doubt over its taxonomical placing.

73. *T. bernardi* Balachowsky 1950. 'Central Sahara' [Algeria].
74. *T. brachystegiae* Hall 1935. Zimbabwe.
75. *T. diclipterae* Hall 1935. Zimbabwe.
76. *T. gripha* Munting 1966. South Africa.
77. *T. karroo* (Brain 1920). South Africa (Cape).
78. *T. leredei* Balachowsky 1950. 'Central Sahara' [Algeria].
79. *T. minor* (Brain 1920). South Africa (Cape).
80. *T. oligopora* Munting 1966. South Africa.
81. *T. perplexa* Munting 1973. South Africa.
82. *T. protrudens* Munting 1965. South Africa.
83. *T. psiadiae* Mamet 1953. Madagascar.
84. *T. recurva* Munting 1973. South Africa (Cape).
85. *T. sclerosa* Munting 1965. South Africa.
86. *T. spinosa* Munting 1966. South Africa.
87. *T. tismbazae* Mamet 1953. Madagascar.

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