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## Aphids (Homoptera, Aphidoidea) collected in Thailand (1974-1977)

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Fifty-nine aphid species found in Thailand (1974-1977) are listed with host associations, distribution records and month of collection. At least 33 species, including 2 undescribed new species, are newly recorded from Thailand. To complete the list of aphids from Thailand, the names of 34 species recorded by others but not found during this study are included.

Despite the great agro-economic importance aphids have as the most efficient vectors of viruses causing some 200 different plant diseases, relatively few faunistic studies have been carried out on aphids in Thailand. TAKAHASHI (1941) mentions 27 fully identified species from Thailand. PHOLBOON (1965) lists 10 species, 6 of which new to Thailand, while LERKVIREE (1967) adds a further 4 species new to the country among 11 found to be of economic importance. ROBINSON (1972a, b) and DANIELSON & ROBINSON (1978) give some 37 species names, some 20 of which are new to Thailand, including 4 new species and 1 new genus. A reassessment taking into account new nomenclature and reidentifications, would put the total of fully identified aphids known in Thailand before the present study at 57.

During an FAO appointment (from 1974 to 1977) the author had the opportunity to study, among other duties, the aphid fauna of Thailand. Two identification keys for some of the most common species of agro-economic importance were set up (BÄNZIGER, 1976, 1977), and an aphid population study was carried out (CHAROENRIDHI *et al.*, 1979).

In the keys only the economically most important species were treated; in the present paper the less common species found on cultivated, as well as on wild plants, are also listed. While the status of many entities is not yet fully elucidated, not less than 33 species are new to Thailand and at least 2 appear to be new to science. As the studies are being continued, it is hoped that the exact identity of the questionable species will be soon established, and the list enlarged.

The identification of the more difficult species was carried out at the British Museum (Nat. Hist.), London, England. The generic and species names are updated in accordance with the nomenclature used by EASTOP & HILLE RIS LAMBERS (1976).

The material collected and mounted on slides have been or will be deposited at the Department of Agriculture's Insect Collection, Bangkok, and at the Department of Entomology, Faculty of Agriculture, Chiangmai University.

<sup>1</sup>On a Thai-Swiss research and teaching program

## Aphididae

### Aphidinae

#### Macrosiphini

1. *Aulacorthum circumflexum* (BUCKTON)  
On Convolvulaceae: *Aniseia martinicensis*, N 1100 m, I. New Thai record.
2. *Aulacorthum* sp. near *esakii* (TAKAHASHI)  
On Menispermaceae: *Stephania japonica*, N 1050 m, XII. New Thai record.
3. *Aulacorthum nipponicum* (ESSIG & KUWANA)  
On Rubiaceae: *Paederia tomentosa*, N 600 m, IX, X. New Thai record.
4. *Brachycaudus helichrysi* (KALTENBACH)  
On Compositae: *Ageratum conyzoides*, N, XII. YPT, N, VII-XII. Quite common at the Horticultural Experiment Station, Fang. See also CHAROENRIDHI *et al.* (1979).
5. *Capitophorus hippophaes* (WALKER)  
YPT, N, VIII-X, XII-IV. So far not encountered on host plants, only in YPT. New Thai record.
6. *Juncomyzus* sp. near *obscurus* HILLE RIS LAMBERS  
On Cyperaceae: *Scleria scrobiculata*, N 600 m, II. New Thai record.
7. *Lipaphis erysimi* (KALTENBACH)  
(=*Aphis pseudobrassicae* DAVIS)  
On Cruciferae: *Brassica chinensis*, C, IX; *B. oleracea*, C, II-III; *B. sp.*, N 1200 m, XII; *Raphanus sativus*, C, V. YPT, C, III; N, IV, XI. Very common on cole crops; see also CHAROENRIDHI *et al.* (1979).
8. *Macrosiphoniella sanborni* (GILLETTE)  
On Compositae: *Chrysanthemum* sp., C, X.
9. *Macrosiphum pachysiphon* HILLE RIS LAMBERS  
On Rosaceae: *Rosa* sp., N 1100 m, IX. New Thai record.
10. *Micromyzus judenkoi* CARVER  
YPT, N, II-IV, VII, VIII, XII. One alata from *Rubus* sp. (Rosaceae), N 1300 m, VIII, may be a stray. New Thai record.
11. *Myzus persicae* (SULZER)  
On Cruciferae: *Brassica oleracea*, C, II; N, X; unidentified cruciferous plant, C, II; Solanaceae: *Solanum tuberosum*, N, III; *Nicotiana tabacum*, N, I. YPT, C, III; N, XI-III. Very common on potatoes, on some cole crops, and in some areas on tobacco, during the cool season in the North, but present also elsewhere in Thailand. See also CHAROENRIDHI *et al.* (1979).
12. *Pentalonia nigronervosa* Coquerel  
On Zingiberaceae: *Hedychium* sp., N, VIII, XII. YPT, N, VI-VIII, XII.
13. *Rhodobium porosum* (SANDERSON)  
On Rosaceae: *Rosa* sp., N, VIII-X, XII-I. Not yet captured in YPT despite the fact that such were set at some 50 m distance from the main collecting spot for 3 years. Common in some areas of the North during the cool season. New Thai record.

\* YPT = yellow pan trap capture; N, C, S, SE, NE = North, Central, South, Southeast, Northeast Thailand; I-XII = months of the year.

14. *Semiaphis heraclei* (TAKAHASHI)  
YPT, C, II; N, III. Only a very few specimens. Not yet found on any host plant.  
New Thai record.
15. *Sinomegoura citricola* (VAN DER GOOT)  
On Rutaceae: *Murraya paniculata*, N, III; Menispermaceae: *Stephania japonica*, N, IX.
16. *Sitobion* possibly *avenae* (FABRICIUS)  
On Graminae: *Triticum* sp., N, II. New Thai record.  
LERKVIREE (1967) mentioned this species under *Macrosiphum granarium* KIRBY, probably meaning the old name *Aphis granaria* KIRBY, but from the description it is clear that he had *Hysteroneura setariae* (THOMAS) at hand.
17. *Sitobion* probably *miscanthi* (TAKAHASHI)  
On Graminae: *Eulalia speciosa*, N 660 m, I; *Microstegium vagans*, N, XII; *Saccharum spontaneum*, N, XII; *Triticum* sp., N, II. New Thai record.  
According to EASTOP (pers. communication) the taxonomic situation with this and the preceding entity is not yet completely clear and more studies are needed to know how many species are actually involved in this complex.
18. *Trichosiphonaphis polygoniformosanus* (TAKAHASHI)  
YPT, N, II, XII. Not yet found on any host plant. New Thai record.
19. *Uroleucon* sp.  
On Compositae: *Inula cappa*, N 630 m, XII. New Thai record and a new species which will be described soon.

#### Aphidini

20. *Aphis citricola* VAN DER GOOT  
(= *Aphis spiraecola* Patch)  
On Araliaceae: *Polyscias fruticosa*, N, IX; Compositae: *Emilia sonchifolia*, C, IX; *Eupatorium odoratum*, SE, IV; C, III, VI, VIII; N, XII; *Gerbera jamesonii*, N, VII; Rosaceae: *Malus pumila*, N, V, X; Rubiaceae: *Gardenia augusta*, C, II, III; Rutaceae: *Citrus reticulata*, N, VIII; Solanaceae: *Solanum melongena*, N, VIII; *S. tuberosum*, N, VII. YPT, C, II; N, III, XI. Common throughout the country and the year; for further details see CHAROENRIDHI *et al.* (1979).
21. *Aphis craccivora* KOCH  
(= *Aphis laburni* of extra-european authors *nec* Kaltenbach, *A. leguminosae* Theobald, *A. medicaginis* KOCH)  
On Araliaceae: *Scheffera* sp., C, VII; Leguminosae: *Sesbania grandiflora*, C, III; *Arachis hypogaea*, S, III, XI, XII; N, III, XI; *Centrosema pubescens*, N, XII; *Phaseolus aureus*, C, I; S, XII; YPT, frequently. Most common species on legumes; for further details see CHAROENRIDHI *et al.* (1979).
22. *Aphis eugeniae* VAN DER GOOT  
(= *Aphis hardyi* EASTOP)  
On Compositae: *Gynura* sp., C, III; Rosaceae: *Malus pumila*, N, X. Only a few specimens found. New Thai record.
23. *Aphis glycines* MATSUMURA  
On Leguminosae: *Glycines max*, C, VIII–XII; N, VII, XI. YPT, N, II, III, VII, VIII. Sometimes common on soy bean in certain areas.

24. *Aphis gossypii* GLOVER

On Anacardiaceae: *Mangifera indica*, N, IX; Araceae: *Colocasia esculenta*, C, VI; *Pistia stratiotes*, C, II; Bignoniaceae: *Spathodea campanulata*, C, II; Bombacaceae: *Ceiba pentandra*, C, XII; Commelinaceae: *Commelina diffusa*, N, XII; Compositae: *Eupatorium odoratum*, N, XII; *Gynura* sp., C, III; Euphorbiaceae: *Acalypha* sp., C, X; Graminae: *Triticum* sp., N, II; Labiatae: *Ocimum basilicum*, C, II; *O. sanctum*, C, X; Malvaceae: *Gossypium* sp., C, I; *Hibiscus rosa-chinensis*, C, II, III; Menispermaceae: *Cyclea barbata*, C, III, X, XII; SE, VI; Myrtaceae: *Psidium guajava*, N, X, XII; Rubiaceae: *Gardenia augusta*, C, II; Solanaceae: *Capsicum* sp., N, VIII; C, VIII; *Lycopersicon esculentum*, C, II; *Solanum melongena* and *S. tuberosum*, N, VII. YPT, C, II, III, X, XII; N, IV, VII. Very common throughout the country and the seasons; further details in CHAROENRIDHI *et al.* (1979).

25. *Aphis longisetosa* A. N. BASU

On Rosaceae: *Rubus* sp., N 1200 m, VIII, X. Common at certain spots on Doi Suthep. New Thai record.

26. *Aphis nerii* B. D. F.

On Apocynaceae: *Nerium oleander*, C, I, III, X; unidentified plant, N, VIII. YPT, N, IV, XII.

27. *Toxoptera aurantii* (B. D. F.)

On Anacardiaceae: *Mangifera indica*, C, I; Araliaceae: *Polyscias fruticosa*, N, XII; Compositae: *Microglossa* sp., N, IX; Piperaceae: *Piper nigrum*, SE, XI; N, I; Rubiaceae: *Coffea arabica*, N, X; *Ixora* sp., C, II; Rutaceae: *Citrus reticulata*, N, XII. YPT, N, VII-IV.

28. *Toxoptera citricidus* (KIRKALDY)

On Rutaceae: *Citrus reticulata*, SE, IV, VI, X; N, VII, VIII, XII; *Citrus* sp., S, II; unidentified wild plant, N 700 m, XII. YPT, III, XII.

29. *Toxoptera odinae* (VAN DER GOOT)

On Anacardiaceae: *Mangifera indica*, C, I, III; Araliaceae: *Polyscias filicifolia*, NE, XII; Menispermaceae: *Stephania japonica*, N, VIII; Rubiaceae: *Coffea arabica*, N, X; *Mussaenda* sp., C, X; unidentified wild flower, N, II, IX. YPT, N, I, II-IV, XII.

30. *Hyalopterus pruni* (GEOFFROY)

On Graminae: *Thysanolaena maxima*, N, I; bamboo sp., N, XII; wild grass, N, I. YPT, N, I, III, X-XII. Also at light trap, NE, XII.

31. *Hysteroneura setariae* (THOMAS)

On Graminae: *Chloris barbata*, C, II; *Saccharum officinarum*, C, XI; S, II; *Zea mays*, C, II; wild grass, C, IX. YPT, C, II; N, II. At periods very common.

32. *Melanaphis* sp. probably *bambusae* (FULLAWAY)

On Graminae: bamboo, N, XII. New Thai record.

33. *Melanaphis* sp. near *formosana* (TAKAHASHI)

On Graminae: wild grass, N 750 m, IX. New Thai record.

34. *Melanaphis sacchari* (ZEHNTNER)

(= *Longiunguis sacchari* [ZEHNTNER])

On Graminae: *Saccharum officinarum*, C, XII; N, VIII; *Sorghum* sp., C, IX-XI. YPT, N, XI, XII. At times very common.

35. *Rhopalosiphum maidis* (FITCH)  
On Graminae: *Hordeum vulgare*, N, II; *Saccharum officinarum*, S, II; *Sorghum* sp., C, XI; *Zea mays*, C, VI, X; Musaceae: *Musa* sp., C, VIII. YPT, N, VII, X, XI. At times very common.
36. *Rhopalosiphum nymphaeae* (L.)  
On Araceae: *Pistia stratiotes*, C, I, II, IX; Lentibulariaceae: *Utricularia aurea*, NE, I; Nymphaeaceae: *Nymphaea* sp., C, IV.
37. *Rhopalosiphum padi* (L.)  
On Cannaceae: *Canna indica*, N, V, VIII, XII; Graminae: *Avena sativa*, N, II; *Hordeum vulgare*, N, II; *Triticum* sp., N, II. New Thai record.
38. *Rhopalosiphum rufiabdominalis* (SASAKI)  
YPT, N, III–XII, sometimes common. Only a few stray alatae were found on wild grasses. A subterranean species living on roots of up-land rice, as well as other plants (DONCASTER, 1956).
39. *Schizaphis hypersiphonata* A. N. BASU  
On Graminae: *Avena sativa*, N, II; *Digitaria ascendens*, C, VIII, XII; N, II; *Triticum* sp., N, II. YPT, N, VIII–IV. New Thai record.  
The specimens listed by ROBINSON (1972 a) as *S. graminum* (RONDANI) may belong to this species. HILLE RIS LAMBERS (pers. communication) commented that all S. E. Asian *Schizaphis* from grasses he saw were not *S. graminum*, but a species with much longer siphunculi. This character agrees well with *S. hypersiphonata*. On the other hand, A. N. BASU himself (pers. communication) expressed the view that his *S. hypersiphonata* may possibly represent only a form of a highly variable, widely distributed *S. graminum*.
40. *Schizaphis rotundiventris* (SIGNORET)  
(= *S. cyperi* VAN DER GOOT)  
YPT, N, VIII. Only one specimen caught.

### Greenideinae

#### Setaphidini (Cervaphidini)

41. *Cervaphis echinata* HILLE RIS LAMBERS  
YPT, N, VII. Only a few specimens caught. New Thai record.
42. *Schoutedenia lutea* (VAN DER GOOT)  
On Euphorbiaceae: *Breynia* sp., N, VIII. YPT, N, III, IV, VI. New Thai record.  
ROBINSON (1972) found the closely related *S. emblica* (PATEL & KULKARNI) to be common on *Phyllanthus emblica*.
43. *Sumatraphis celti* TAKAHASHI  
YPT, N, I, III, XII. New Thai record.

#### Greenideini

44. *Greenidea* sp. near *formosana* (MAKI)  
On Myrtaceae: *Tristania rufescens*, N 800 m, XII; Guttiferae: *Mesua ferrea*, N 660 m, II, X, XI. New Thai record.
45. *Greenidea* sp. near *sinensis* RAYCHAUDHURI  
On Sapindaceae: *Litchi chinensis*, N 1000 m, IX, 1200 m, X. New Thai record.  
Several additional *Greenidea* sp. have not yet been identified.

46. *Greenideoida ceyloniae* VAN DER GOOT  
 (= *G. mesuae* TAKAHASHI)  
 On Guttiferae: *Mesua ferrea*, N 660 m, XI.
47. *Mollitrichosiphum tenuicarpus* OKAJIMA  
 On unidentified plant, N 1300 m, IX. New Thai record.
48. *Eutrichosiphum* sp. near *elongatum* TAKAHASHI  
 On unidentified plant, N 1300 m, IX. New Thai record.  
 Two additional *Eutrichosiphum* sp. have not yet been identified.

#### *Drepanosiphinae*

49. *Tinocallis himalayensis* A. K. GHOSH, M. R. GHOSH & RAYCHAUDHURI  
 On Lythraceae: *Lagerstroemia* sp., C, XII. New Thai record.
50. *Shivaphis celti* DAS  
 YPT, N, III, IV. New Thai record.
51. *Shivaphis* sp.  
 YPT, N, I-III, VII, X-XII. New Thai record. According to EASTOP (pers. communication) this is possibly a new species; so far, however, apterae and host plants are unknown.

#### *Chaitophorinae*

52. *Chaitophorus horii* TAKAHASHI  
 YPT, N, XII-IV. New Thai record.

#### *Lachninae*

53. *Lachnus* sp.  
 On unidentified tree, probably a vagrant alata, N, IX. New Thai record.

### Pemphigidae

#### *Hormaphidinae*

54. *Astegopteryx* sp.  
 On Graminae: N, I, II, IX. Probably several species are involved.

#### *Pemphiginae*

55. *Ceratovacuna lanigera* ZEHNTNER  
 On Graminae: *Saccharum officinarum*, C, II; NE, XII.
56. *Ceratovacuna nekoashi* (Sasaki)  
 On Graminae: bamboo, N, IX. New Thai record.
57. *Pemphigus* sp.  
 On Zingiberaceae: wild plant, N, X. New Thai record.
58. *Pseudoregma* sp.  
 On Graminae: bamboo, N, IX.

59. *Tetraneura* sp.

YPT, N, I-IV.

Among the Pemphiginae collected there are probably many more species and genera than those mentioned above.

LIST OF ALL APHID SPECIES PREVIOUSLY RECORDED BY OTHER AUTHORS IN THAILAND, BUT NOT FOUND DURING THE PRESENT SURVEY

1. *Aiceona siamensis* TAKAHASHI
2. *Aphis fabae* SCOPOLI (as *A. solanella* THEOBALD)
3. *Aphis farinosa* GMELIN (as *A. saliceti* KALTENBACH)
4. *Asiphonella dactylonii* THEOBALD
5. *Astegopteryx salatigensis* (VAN DER GOOT) (as *Trichoregma*)
6. *Astegopteryx striata* (VAN DER GOOT) (as *Trichoregma*)
7. *Brachysiphoniella montana* (VAN DER GOOT)
8. *Cervaphis quercus* TAKAHASHI
9. *Cervaphis shouteniae* VAN DER GOOT
10. *Chaitophorus himalayensis* (DAS)
11. *Cinara atrotibialis* DAVID & RAJASINGH (as *C. khasyae* ROBINSON)
12. *Eutrichosiphum flavum* (TAKAHASHI) (as *Paratrichosiphum*)
13. *Geoica lucifuga* (ZEHNTNER)
14. *Greenidea chiengmaiensis* ROBINSON
15. *Greenidea siamensis* TAKAHASHI (as *G. anonae* (PERGANDE), var. *siamensis* TAKAHASHI)
16. *Greenidea sutepensis* (TAKAHASHI)
17. *Macromyzus polypodicola* (TAKAHASHI)
18. *Neothoracaphis sutepensis* (TAKAHASHI) (as *Thoracaphis*)
19. *Nipponaphis siamensis* (TAKAHASHI) (as *Thoracaphis*)
20. *Parathoracaphis elongata* (TAKAHASHI) (as *Thoracaphis*)
21. *Phyllaphis machili* TAKAHASHI
22. *Pseudoregma bambusicola* (TAKAHASHI)
23. *Pseudoregma dendrocalami* (TAKAHASHI) (as *Oregma*)
24. *Reticulaphis mirabilis* (TAKAHASHI) (as *Thoracaphis fici*, var. *mirabilis* TAKAHASHI)
25. *Tinocallis khonkaenensis* (DANIELSSON & ROBINSON) (as *T. kahawaluokalani* (KIRKALDY))
26. *Schizaphis graminum* RONDANI
27. *Schoutedenia emblica* (PATEL & KULKARNI)
28. *Sinonipponaphis formosana* (TAKAHASHI) (as *Astegopteryx* and *Thoracaphis*)
29. *Sitobion luteum* (BUCKTON)
30. *Sitobion takahashi* (EASTOP) (as *Macrosiphum*)
31. *Sitobion yongyooti* (ROBINSON) (as *Macrosiphum*)
32. *Tetraneura nigriabdominalis* (SASAKI)
33. *Thoracaphis crematogastri* TAKAHASHI
34. *Tritrichosiphum thailandicum* ROBINSON

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