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目 次 [Contents]

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A List of the Aphidiuae of China with Descriptions of Four New Species.

中國蚜蟲名錄附記四新種

國立四川大學農學院 曾 省 陶家駒

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The plant lice or aphids include many small and interesting but often very destructive insects which may annually do an immense damage to the various crops. In China not much attention has been given to the biology, classification and economy of this important family. Doctors R. Takahashi, A. Mordvilko, P. van der Goot and many others have occasionally received specimens from different parts of the country for identification but none of them has had the opportunity for an extensive collection, thus about 80 species are so far recorded. The attempt of the writers is to furnish as complete as possible a list of all the species heretofore known to occur in China including their food plants, distribution and references for original description and for Chinese records. Totally 108 species are listed, of which 4 are new species and 24 are new to the fauna of China. *Aphis cardui* L., *Aphis maidi-radicis* Forbes, *Yamataphis oryzae* Mats., *Capitophorus fragae-folii* Cockll., *Geoica* sp. and a few others are recorded from China by certain writers but their identification are rather doubtful, as they are apparently exotic species so are not included in this paper.

The writers wish to express their hearty thanks to Dr. R. Takahashi of the Department of Agriculture, Government Research Institute, Formosa, Japan for his kindness in allowing the junior writer to use his valuable collection of Chinese aphids and for his wise advice and help in various ways during the

course of this study. Thanks are also due to Dr. K. Shibuya and Prof. T. Shiraki of the same Institute for their hospitality and courtesy given to the junior writer, and also to Messrs. Kia-ziang Chen (陳家祥), Fong-ge Chen (陳方潔), Tsing-chao Ma (馬駿超), Yuen-tsing Chang (張允晉), N. Hwang (黃 能), Tin-tao Yao (姚聽濤), Chuen Ho (何 均), Chao Kuan (管 超), Chen-tong Yuan (袁振堂), and Tai-ping Li (李太平), for their valuable specimens. The writers are also deeply indebted to Prof. S. S. Chien (錢崇澍), for the determination of the food plants collected in Tsinan by the junior writer and to Prof. H. T. Feng (馮毓棠) for the supply of many literatures.

Family **APHIDIDAE.**

Subfamily **LACHNINAE.**

Tribe **Lachnini.**

Genus **Tuberolachnus** Mordvilko.

Tuberolachnus saligna Gmelin.

Aphis saligna Gmelin, Syst. Nat., 62, p. 2209 (1788).

Tuberolachnus viminalis Takahashi, Trans. Nat. Hist. Soc. Formosa, XV, p. 104 (1925), (List).

Pterochlorus viminalis Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List).

Tuberolachnus saligna Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 21 (1931), (List).

Host—*Salix* sp.

Distr.—China: Fukien (Foochow), Kiangsu (Soochow), Shantung (Tsingtao).

India, Central Asia, Europe, Africa, Korea, Formosa, Japan, Java, America, etc.

Genus **Lachnus** Burmeister.

Lachnus tropicalis van der Goot.

Pterochlorus tropicalis van der Goot, Rec. Ind. Mus., XII, 1, p. 3 (1916);

Takahashi, Trans. Nat. Hist. Soc. Formosa, XIV, p. 56 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 61 (1931), (List(; Cheo, Pek. Nat. Hist. Bull., X, p. 35 (1935), (List).

Host—*Quercus* sp.

Distr —China: Chekiang (Hangchow, Kiangshan), Kiangsu (Nanking).

India, Japan.

Tribe **Stomaphidini.**

Genus **Stomaphis** Walker.

Stomaphis yanonis Takahashi.

Dobutsugaku Zasshi (動物學雜誌), XXX, p. 369 (1918); Lingnan Sc. Jl., IX, 1 & 2, p. 11 (1930), (List).

Host—*Celtis sinensis*.

Distr.—China: Kiangsu (Kiangying).

Japan.

Tribe **Cinarini.**

Genus **Schizolachnus** Mordvilko.

Schizolachnus tomentosus DeGeer.

Aphis tomentosus DeGeer, Mem. p. Serv. a l'hist., Ins., III, p. 39 (1780).

Lachnus tomentosus van der Goot, Tijds. Ent., LXI, p. 114 (1918), (List).

Schizolachnus tomentosus Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List).

Host—*Pinus* sp.

Distr.—China: Kwantung (Hongkong)(vide van der Goot).

Europe.

The writers have not seen any specimen of this species from China.

Genus **Eulachnus** Del Guercio.

Eulachnus agilis Kaltenbach.

Lachnus agilis Kaltenbach, Die Pflanz., I, p. 161 (1843); van der Goot,

Tijds. Ent., LXI, p. 114 (1918), (List).

Eulachnus agilis Takahashi, Proc Nat Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List).

Host—*Pinus* sp.

Distr.—China: Kwantung (Hongkong) (vide van der Goot).

The writers have not yet collected the specimens of this species in China.

Genus **Unilachnus** Wilson.

Unilachnus orientalis Takahashi.

Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 10, p. 74 (1924); Boll. Lab. Zool. Portici, XX, p 147 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 24 (1931), (List).

Host—*Pinus* sp.

Distr.—China: Fukien (Kushang).

Formosa, Loochoo, Japan.

Genus **Cinara** Curtis.

Cinara formosana Takahashi.

Dilachnus formosana Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 10, p. 73 (1924).

Panimerus piniformosanus Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List).

Cinara formosana Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 23 (1931), (List).

Host—*Pinus massoniana.*

Distr.—China: Chekiang (Wenchow), Kiangsu (Nanking), Fukien (Foochow).

Formosa, Loochoo.

Cinara pineti Koch.

Lachnus pineti Koch, Die Pflanz., p. 239 (1857).

Host—*Pinus* sp.

Distr.—China: Shantung (Tsingtao).

Korea, Formosa, Loochoo, Japan, Europe, South America.

This species is new to China. Some wingless viviparous females were collected by the junior writer on May 20, 1934, and Mr. Chuen Ho on April 23, 1935.

Cinara pinidensiflorae Essig et Kuwana.

Lachnus pinidensiflorae Essig and Kuwana, Proc. Calif. Acad. Sc., 4 ser., VIII, 3, p. 99 (1918).

Hosts—*Pinus tabulaeformis, P. thunbergii.*

Distr.—China: Shantung (Tsinan).

Korea, Formosa, Japan.

Previously this species is known to occur in the Japanese Islands but not in China. Many winged and wingless viviparous females were collected by the junior writer in Tsinan, April 1935.

Cinara thujafoliae Theobald.

Lachniella thujafoliae Theobald, Bull. Ent. Res., IV, p. 335 (1914).

Neochmosis thujafoliae Cheo, Pek. Nat. Hist. Bull., X, I, p. 35 (1935), (List).

Host—*Thuja orientalis?*

Distr.—China: Chekiang (Shuian), Hopei (Peiping), Kiangsu (Shanghai), Shantung (Tsinan).

Korea, Formosa, Japan, Java, Africa, Australia.

Tribe **Anoecini.**

Genus **Anoecia** Koch.

Anoecia corni Fabricius.

Aphis corni Fabricius, Ent. Syst., IV, p. 214 (1774).

Host—*Cornus walteri.*

Distr.—China: Shantung (Tsinan).

Cosmopolitan.

This species is hitherto unrecorded from China. Some

winged viviparous females were collected by the junior writer in May, 1935.

Subfamily **GREENIDEINAE.**

Tribe **Greenideini.**

Genus **Greenidea** Schouteden.

Greenidea artocarpi Westwood.

Siphonophora artocarpi **Westwood, Trans. Ent. Soc. London, p. 649 (1890).**

Greenidea artocarpi **van der Goot, Tijds. Ent., LXI, p. 114 (1918), (List); Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List).**

Host—*Ficus* sp.

Distr.— China: Kwantung (Hongkong) (vide van der Goot).
India, Ceylon, Java.

The writers have not seen any specimens of this species from China.

Genus **Eutrichosiphum** Essig et Kuwana.

Eutrichosiphum pasaniae Okajima.

Trichosiphum pasaniae **Okajima, Bull. Coll. Agr. Tokyo Imp. Univ., VIII, 1, p. 5 (1908).**

Eutrichosiphum pasaniae **Essig and Kuwana, Proc. Calif. Acad. Sc., 4th ser., VIII, 3, p. 97 (1918), (Apterous form described).**

Host—*Quercus* sp.

Distr.—China: Chekiang (Kiangshan).

This species is previously only known from Japan, Formosa and Loochoo. Some winged females, many nymphs and one wingless female were collected by Mr. Tsing-chao Ma, on June 24, 1935.

Tribe **Cervaphidini.**

Genus **Setaphis** van der Goot.

Setaphis viridis van der Goot.

Contr. Faun. Ind. Neerl., I, 3, p. 158 (1917); Takahashi, Trans. Nat.

Hist. Soc. Formosa, XVII, p. 239 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List).

Host—*Phyllanthus* sp.

Distr.— China: Fukien (Kuliang).

Java.

Subfamily **APHIDINAE.**

Tribe **Aphidini.**

Genus **Cryptosiphum** Buckton.

Cryptosiphum gallarum Kaltenbach.

Aphis gallarum Kaltenbach, Verb. Nat. V. Preuss. Rhein. West, p. 206 (1856).

Cryptosiphum artemisiae Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List).

Cryptosiphum gallarum Takahashi. Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 37 (1931), (List).

Host—*Artemisia vulgaris.*

Distr.—China: Fukien (Foochow), Shantung (Tsinan).

Korea, Formosa, Japan, Europe.

Genus **Brachycolus** Buckton.

Brachycolus heraclei Takahashi.

Agr. Expt. Sta. Formosa, Spec. Rept. 20, p. 60 (1921); Trans. Nat. Hist. Soc. Formosa, XVII, p. 239 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 37 (1931), (List).

Hosts—*Apium petroselinum, Coriandrum sativum, Illicium anisatum, Lonicera japonica.*

Distr.—China: Chekiang (Hwangyen), Fukien (Foochow), Hopei (Peiping), Shantung (Tsinan).

Korea, Formosa, Loochoo, Botel Tobago, Japan, Sumatra.

Genus **Brevicoryne** van der Goot.

Brevicoryne brassicae Linnaeus.

Aphis brassicae Linnaeus, Syst. Nat., II, 734, 12 (1758).

Brevicoryne brassicae Cheo, Pek. Nat. Hist. Bull., X, 1, p. 33 (1935), (List).

Hosts—Cruciferous vegetables.

Distr.—China: Chekiang (Haugchow), Fukien (Amoy).

India, Formosa, Japan, Africa, Europe, Hawaii, Australia, America.

This species is listed by Prof. Cheo, but no data is given. A winged and many wingless viviparous females, collected by Mr. T. Nakajima at Amoy, on June 26, 1923, have been received through the kindness of Dr. R. Takahashi.

Genus **Hyalopterus** Koch.

Hyalopterus arundinis Fabricius.

Aphis arundinis Fabricius, Ent Syst., IV, p. 212 (1794).

Hyalopterus pruni Takahashi, Trans. Nat. Hist. Soc. Formosa, XIV, p. 56 (1924), (List).

Hyalopterus arundinis Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 38 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 67 (1931), (List); Bur. Ent. Chekiang, Ent. and Phyt., III, p. 119 (1935), (List); Cheo, Pek. Nat Hist. Bull., X, 1, p. 34 (1935). (List).

Hosts—*Phragmites communis, Prunis armeniaca, P. mume, P. persica, P salicina.*

Distr.—China: Chekiang (Haugchow. Hwangyen, Kashing, Shuian), Fukien (Foochow), Hopei (Peiping, Tientsin), Kiangsu (Nanking, Shanghai, Soochow), Shantung (Tsinan, Tsingtao),

Cosmopolitan.

Genus **Pergandeidea** Schouteden.

Pergandeidea trirhodus Walker.

Aphis trirhodus Walker, Ann. Mag. Nat. Hist., ser. 2, IV, p. 45, 69 (1849).

Pergandeidea trirhodus Takahashi, Trans. Nat. Hist. Soc. Formosa, XX, p. 274 (1930), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 67 (1931), (List); Cheo, Pek. Nat. Hist. Bull, X, 1, p. 35 (1935), (List).

Host—*Rosa* sp.

Distr.—China: Kiangsu (Nanking), Shantung (Tsingtao).

Genus **Anuraphis** Del Guercio.

Anuraphis helichrysi Kaltenbach.

Aphis helichrysi Kaltenbach, Mon. Pflanz., p. 102 (1843).

Anuraphis helichrysi Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 40 (1931), (List).

Host—*Prunus salicina*.

Distr.—China: Hopei (Peiping).

Cosmopolitan.

Anuraphis piricola Okamoto et Takahashi.

Ins. Mats., I, p. 139 (1927); Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List).

Anuraphis piri Takahashi, Trans. Nat. Hist. Soc. Formosa, XIV, p. 56 (1924), (List).

Host—*Pirus serotina*.

Distr.—China: Kiangsu (Chuchow).

Korea, Japan.

Genus **Aphis** Linnaeus.

Aphis bambusae Fullaway.

Ann. Rept. Hawaii Agr. Expt. St., 1909, p. 35 (1910); Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 42 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 63 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 33 (1935), (List).

Melanaphis bambusae van der Goot, Tijds. Ent., LXI, p. 114 (1918), (List).

Host—*Bambusa* sp.

Distr.—China: Chekiang (Kiangshan), Kiangsu (Nanking, Soochow), Kwantung (Hongkong).

Formosa, Loochoo, Japan, Singapore, Java, Hawaii.

Aphis citricidus Kirkaldy.

Myzus citricidus Kirkaldy, Proc. Ent. Soc. Hawaii, I, p. 109 (1907).

Aphis tavaresi Takahashi, Trans. Nat. Hist. Soc. Formosa, XVII, p. 239 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List).

Aphis citricidus Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 47 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 65 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, I, p. 33 (1935), (List).

Hosts—*Citrus* sp., *Poncirus trifoliata*.

Distr.—China: Chekiang (Hangchow, Hwangyen, Kaizan), Fukien (Foochow), Kiangsu (Nanking, Soochow).

India, Formosa, Loochoo, Japan, Ceylon, Sumatra, Java, Africa, Hawaii, South America.

Aphis gossypii Glover.

Rept. Comm. Agr U. S. A., 1876, p. 36 (1877); Takahashi, Philippine Jl. Sc., XXIV, p. 712 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List); Trans. Nat. Hist. Soc. Formosa, XX, p. 274 (1930), (List); Dept Agr, Gov't. Res. Inst. Formosa, Rept. 53, p. 44 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 64 (1931), (List); Tseng and Tao, Coll. Agr., Nat. Univ. Shantung, Bull. 6, 7, 8 (1935); Cheo, Pek. Nat. Hist., Bull, X, I, p. 33 (1935), (List).

Hosts—*Capsella bursapastoris, Chaenomeles lagenaria, Chrysanthemum sinense, Cirsium segtum, Colocasia antiquorum, Cucumis sativus, Cucurbita pepo, Euphorbia* sp., *Glycine hispida, Gossypium* spp., *Hibiscus syriacus, Lycoperscion esculentum, Magnolia denndata, Marubium supinum* (primary host), *Medicago sativa, Rubia cordifolia, Solanum tuberosum, Speranskia* spp. aff. *pekinensis, Valeriana valerianifolia, Vitex cannabiformis, Wisteria* sp., *Xanthoxylum simulans, Zanthoxylem bungei*

Distr.—China: Chekiang (Hangchow, Kaizan, Kiangshan, Sincheng), Fukien (Amoy, Foochow), Hopei (Peiping, Tientsin), Kiangsu (Nanking, Nantung, Shanghai, Soochow), Shantung (Kaomi, Tsinan, Tsingtao).

Cosmopolitan.

Aphis laburni Kaltenbach.

Mon. Pflanz., p. 85 (1843); Yen, Pek. Nat. Hist. Bull., VI, 2, p 64 (1931), (List); Bur. Ent. Chekiang, Ent. and Phyt., III, p. 119 (1935), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 33 (1935), (List).

Aphis medicaginis Takahashi, Trans. Nat. Hist. Soc. Formosa, XIV, p. 55 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List).

Hosts—*Dolichos lablab, Maackia amurensis buergeri, Phaseolus mungo, P. vulgaris, Robinia pseudoacacia, Sophora japonica, Soja max, Vicia faba, Vigna sinensis.*

Distr.—China: Chekiang (Hangchow, Kaizan, Kashing), Hopei (Peiping, Tientsin), Kiangsu (Nanking), Shantung (Kaomi, Tsinan, Tsingtao).

Cosmopolitan.

Aphis maidis Fitch.

Insects N. Y., I, p. 318 (1855); Takahashi, Trans. Nat. Hist. Soc. Formosa, XV, p. 103 (1925), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 48 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 65 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 33 (1935), (List).

Hosts—*Andropogon sorghum, Hordeum vulgare, Setaria italica, Zea mays.*

Distr.—China: Hopei (Peiping, Tientsin), Kiangsu (Soochow), Shantung (Kaomi, Tsinan, Tsingtao).

India, Korea, Formosa, Japan, Sumatra, Java, Palau Island, Hawaii, Africa, etc.

Aphis malvoides van der Goot.

Contr. Faun. Ind. Neerl., I, 3, p. 98 (1917); Takahashi, Philippine Jl. Sc., XXIV, p. 713 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 44 (1931), (List).

Host—*Bidens pilosa.*

Distr.—China: Fukien (Amoy, Foochow).
Formosa, Singapore, Sumatra, Java.

Aphis nerii Boyer.

Ann. Soc. Ent. Fr., X, p. 179 (1841).

Host—*Cynanchum* sp.

Distr.—China: Shantung (Tsinan).
India, Korea, Formosa, Loochoo, Sumatra, Java, Europe, Africa, America, etc.

Hitherto unrecorded from China. Many winged and wingless viviparous females were collected by the junior writer at Tsinan in July, 1935.

Aphis odinae van der Goot.

Longiunguis odinae van der Goot, Contr. Faun. Ind. Neerl., I, 3, p. 133 (1917).

Aphis odinae Takahashi, Philippine Jl. Sc., XXIV, p. 712 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 48 (1931), (List).

Host—*Sapium sebiferum*.

Distr.—China: Chekiang (Kiangshan), Fukien (Amoy), Kiangsu (Shanghai).
India, Korea, Formosa, Loochoo, Japan, Sumatra, Java.

Aphis pomi DeGeer.

Mem. des. Ins., III, p. 53 (1773).

Hosts—*Chaenomeles lagenaria, Malus baccata, Pyrus bretschneideri.*

Distr.—China: Chekiang (Kiangshan), Shantung (Tsinan).
Cosmopolitan.

This species is new to China. Many specimens were collected by the junior writer at Tsinan on April, and Mr. Tsing-chao Ma at Kiangshan on June 12, 1935.

Aphis rumicis Linnaeus.

Syst. Nat. Ed. 10, 1, p. 451 (1758).

Hosts—*Rhamnus crenatus, R japonicus, Spiraea cantoniensis.*

Distr.—China: Chekiang (Hangchow), Kiangsu (Nanking).
Cosmopolitan.

This species in hitherto unrecorded from China. Many winged viviparous females and 2 winged males were collected by Prof. Pang-hwa Tsai on October and November, 1929, and sent to Dr. R. Takahashi for identification. The junior writer has examined the specimens, which differ from the European ones by the number of sensoria on the 3rd antennal joint (7-13 only) and usually lacking of them on the 4th, resembling *A. laburni* Kaltenbach.

Aphis sacchari Zehntner.

Arch. Java Suiker-Industrie, IX, p. 674 (1901).

Hosts—*Andropogon sorghum*, an unknown species of the *Gramineae.*

Distr.—China: Chekiang (Tsingtien), Shantung (Kaomi, Tsinan).

India, Formosa, Loochoo, Botel Tobago, Japan, Philippine, Sumatra, Java, Hawaii, Africa, South America.

The species is previously unknown from China. Many wingless and some winged viviparous females were collected by Mr. Chao Kuan on August 11, 1934, and Mr. Tsing-chao Ma on June 5, 1935.

Aphis saliceti Kaltenbach.

Mon. Pflanz., p. 103 (1843).

Host—*Salix* sp.

Distr.—China: Kiangsi (Yueshan), Shantung (Kaomi, Tsingtao).

Formosa, Japan, Sumatra, Europe, North America, etc.

It is new to China. Some winged and many wingless viviparous females were collected by the junior writer on May 22, 1934, Mr. Chuen Ho in May, 1935, Mr. Yun-tsing Chang on April 23, 1935, and Mr. Tsing-chao Ma on June 15, 1935.

Aphis sinensis Del Guercio

Nuov. Rel. R. Staz. Ent. Agr. Fir., II, p. 137 (1900).

Host—*Lilium* sp.

Distr.—"China"

The writers have not seen the specimens of this species from China recorded by Dr. Del Guercio only.

Aphis smilacifoliae Takahashi

Agr. Expt. St. Formosa, Spec. Rept. 20, p. 49 (1921); Trans. Nat. Hist. Soc. Formosa, XVII, p. 390 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 47 (1931), (List).

Host—Unknown in China (*Smilax* in Formosa and Japan).

Distr.—China: Fukien (Foochow).

Formosa, Japan.

Genus **Toxoptera** Koch.

Toxoptera aurantii Boyer.

Aphis aurantii Boyer, Ann. Soc. Ent. Fr., X, p. 178 (1841).

Toxoptera aurantii Takahashi, Trans. Nat. Hist. Soc. Formosa, XVII, p. 238 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 66 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 36 (1935), (List).

Hosts—*Citrus* sp., *Thea sinensis*.

Distr.—China: Chekiang (Hangchow, Kaizan, Yentongshan), Fukien (Foochow).

Tropical and subtropical countries of the world.

Toxoptera graminum Rondani.

Aphis graminum Rondani, Nouvi. Ann. Nat. Bologna, Ser. 2, VIII, ix(1847).

Toxoptera graminum Takahashi, Trans. Nat. Hist. Soc. Formosa, XVII, p. 238 (1927), (List); Proc Nat. Hist. Soc. Fukien Christ. Univ., I, p. 27 (1928), (List).

Host—Wheat.

Distr.—China: Fukien (Foochow).

Europe, America.

Toxoptera piricola Matsumura.

Jl. Coll. Agr. Sapporo, VII, 6, p. 414 (1917).

Host—*Pyrus bretschneideri.*

Distr.—China: Shantung (Tsinan, Tsingtao).

Korea, Formosa, Japan.

This species is previously known to occur in Japan but not in China. Many wingless and some winged viviparous females were collected by the junior writer in April 1934, and by the senior writer in April 1935. The specimens differ from the Japanese ones by the short flagella of viviparous females, which is nearly as long as or shorter than the 3rd antennal segment.

Genus **Rhopalosiphum** Koch.

Rhopalosiphum nymphaeae Linnaeus.

Aphis nymphaeae Linnaeus, Syst. Nat., II, p. 714 (1767).

Rhopalosiphum nymphaeae Takahashi, Trans. Nat. Hist. Soc. Formosa, XIV, p. 55 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 51 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 68 (1931) (List); Bur. Ent. Chekiang, Ent. and Phyt., III, p. 118 (1935), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 35 (1935), (List).

Hosts—*Nelumbium speciosum, Nelumbo nucifera, Nuphar pumilum, Nymphaea tetragona, Prunus mume, P. persica, Pirus serotiva, Rehmannia glutionosa, Sagittaria sagittifolia* f. *sinensis, Salix* sp.

Distr.—China: Chekiang (Hangchow, Kashing), Fukien (Foochow), Hopei (Peiping), Kiangsu (Nanking, Soochow),

Kwantung (Canton), Shantung (Tsinan).

India, Korea, Formosa, Japan, Java, Europe, Africa, New Zealand, America, etc.

Rhopalosiphum prunifoliae Fitch.

Aphis prunifoliae Fitch, 1st Rept. Nox. and Ben. Ins. N. Y., p. 122 (1855).

Rhopalosiphum avenae Takahashi, Trans. Nat. Hist. Soc. Formosa, XV, p. 103 (1925), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 35 (1935), (List).

Rhopalosiphum prunifoliae Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 51 (1931), (List).

Aphis avenae Bur. Ent. Chekiang, Ent. and Phyt., III, p. 118 (1935), (List).

Hosts—*Prunus persica*, an unknown species of the *Gramineae*.

Distr.—China: Chekiang (Hangchow, Kashing), Fukien (Foochow), Kiangsu (Soochow), Shantung (Tsingtao).

India, Korea, Formosa, Japan, Java, New Zealand, Europe, Africa, America.

Rhopalosiphum pseudobrassicae Davis.

Aphis pseudobrassicae Davis, Can. Ent., XLVI, p. 231 (1914); Chen, China Jl. Sc. Arts, VII, p. 91 (1927), (Body measurements).

Rhopalosiphum pseudobrassicae Takahashi, Philippine Jl. Sc., XXIV, p. 712 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 52 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 67 (1931), (List); Bur. Ent. Chekiang, Ent. and Phyt., III, p. 118 (1935), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 35 (1935), (List).

Hosts—*Brassica campestris, B. chinensis, B. napo brassica, B. napus, B. oleracea capitata, Capsella bursapastoris, Raphanus sativus.*

Distr.—China: Chekiang (Hangchow, Kashing), Hopei (Peiping, Tientsin), Kiangsu (Nanking, Shanghai), Shantung (Tsinan).

India, Korea, Formosa, Japan, Loochoo, Sumatra, Java, Africa, America.

Genus **Cavariella** Del Guercio.

Cavariella araliae Takahashi.

Agr. Expt. St. Formosa, Spec. Rept. 20, p. 37 (1921); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 4, p. 35 (1923), (Winged form described); Proc. Nat. Hist. Soc. Fukien Christ. Univ., III, p. 58 (1930), (List); Dept. Agr., Gov't, Res. Inst. Formosa, Rept. 53, p. 54 (1931), (List).

Host—*Aralia spinosa.*

Distr.—China: Chekiang (Hangchow).

Korea, Formosa, Japan.

Cavariella bicaudata Essig et Kuwana.

Siphocoryne bicaudata Essig and Kuwana, Proc. Calif. Acad. Sc., 4 ser., VIII 3, p. 64 (1918).

Cavariella bicaudata Yen, Pek. Nat. Hist. Bull., VI, 2, p. 66 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 33 (1935), (List).

Hosts—*Salix babylonia, S. matsudana, Rosa* sp.

Distr.—China: Hopei (Peiping, Tientsin), Kiangsu (Nanking), Shantung (Kaomi, Tsinan).

Korea, Formosa, Japan.

Genus **Micraphis** Takahashi.

Micraphis takahashii n. sp.

(**Wingless viviparous females**) When alive, body green, eyes red. After mounted in balsam (without treated in potash), body yellowish white, eyes reddish black, distal part of the 4th antennal joint, whole length of the last joint, distal joint of the rostrum, and tarsi blackish brown; distal parts of the tibiae darker than the body, but not quite brown; cornicles very slightly darker at the apex; body setae white.

Body oval, eminently corrugated over the whole dorsum. Antennal tubercles scarcely developed; front broadly rounded.

with a pair of short flattened capitate setae. Antennae short, slender, five-jointed, imbricated, without setae; 1st and 2nd joints subequal in length, but the basal one much wider; 3rd nearly as long as the last joint; 4th nearly as long as the base of the 5th, with a normal primary sensorium near the distal end; 5th with some small sensoria surrounding the primary one; flagellum short, about 1.5 times as long as the base; relative length of the joints as follows: 3rd—41, 4th—21, 5th—43 (17+26). Eyes protruding, but ocular tubercles very short and indistinct. Rostrum extending beyond the middle coxae.

Pro- and mesothoracic segments defined, metathoracic segment fused with the abdomen. Thorax and abdomen with a few short flattened setae on the dorsum and lateral sides; those on the posterior abdominal segments a little larger; the setae widened toward the apex, little curved. Legs moderately long; tibiae stouter than the antennae, with many short setae, some of which are somewhat capitate; fore and middle tibiae as long as the 3rd and 4th antennal joints together; hind ones longer; tarsi imbricated.

Abdomen broadest at the middle part. Cornicles long, slender, twice as long as the cauda, or as long as the 3rd antennal joint, subcylindrical, imbricated, especially on the lateral sides, somewhat expanded on the distal small part, with a flange at the tip. Cauda conical, distinctly longer than wide, spinose, broadened at the base, nearly pointed at the tip, a little constricted about the middle, with two moderately long lateral bristles. Anal plate broadly rounded, with about 4 bristles at the hind margin.

Length of body (from front to the tip of cauda)—1.000mm., head—0.152 mm., antenna—0.563 mm., hind tibia—0.346 mm., hind tarsus (claws not included)—0.078mm., cornicle—0.208

mm., cauda—0.097mm., body seta (longest one)—0.014mm.; width of head (including eyes)—0.291mm., body—0.485mm., base of cauda—0.069mm.; diameter of cornicle at middle part—0.028mm., at swollen part—0.032mm.

(**Winged viviparous female**) . When alive, body green, eyes red. After mounted (without treated in potash) in balsam, head, antennae excepting the basal 2 joints and the base of the 3rd, thorax, apices of the tibiae, tarsi, and apices of the cornicles blackish brown, remaining parts of the legs yellowish brown; cornicles and abdomen yellowish white; eyes reddish black; wings hyaline, somewhat infuscated along the veins and stigma pale greyish brown.

Antennal tubercles scarcely developed; front with a pair of very small flattened setae; head with about 12 similar setae on the dorsum. Proportion of antennal joints and primary sen-

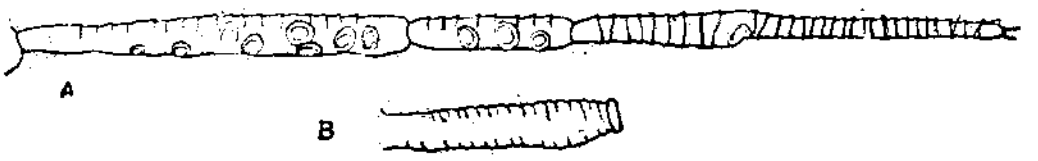

Fig. 1. **Micraphis takahashii n. sp.**: winged viviparous female; A. 3rd, 4th and 5th antennal joints; B. cornicle.

soria nearly as in the apterous form; 3rd joint with 8-15 rather large or moderate circular sensoria scattered on the distal two-thirds; 4th with 2-4; approximate relative length of the joints as follows: 3rd—60, 4th—25, 5th—56 (23+33). Ocular tubercles small; frontal ocellus visible from above. Rostrum not reaching the middle coxae. Wings imbricated, venation normal, veins stout; fore wings with 3-6 small sensoria on the subcosta; hooklets usually 2. Legs, cornicles, cauda and anal plate nearly the same as in the apterous form.

Length of body (from front to the tip of cauda)—0.970 mm., head (including the frontal ocellus)—0.134mm., antenna —0.738mm., hind tibia—0.462mm., hind tarsus (claws not included)—0.088 mm., cornicle—0.157 mm., cauda—0.097 mm.; width of body—0.406 mm., head (including eyes)—0.310 mm., base of cauda—0.070 mm.; diameter of cornicle at middle and swollen parts nearly as long as that of the apterous form.

Host—*Artemisia anuna*.

Hab.—Shantung (Tsinan), China. Many wingless and winged viviparous females were collected by the junior writer on June 6, 1935, on the lower sides of the leaves in association with *Macrosiphoniella pseudoartemisiae* Shinji.

Differs from *M. artemisiae* Takahashi in narrower cauda, the shape of the cornicles, the presence of flattened dorsal setae, the shorter antennae of alate form, with fewer sensoria, the pale cornicles of alate form, the absence of dusky markings on the dorsum of abdomen in the alate form, etc. Easily distinguished from *Rhopalosiphum lahorensis* Das by the corrugated dorsum in the apterous form. This species is dedicated to Dr. R. Takahashi. The cotype slides are preserved in the collections of the junior writer and those of Dr. R. Takahashi.

Tribe **Macrosiphini.**

Genus **Macrosiphum** Passerini.

Macrosiphum formosanum Takahashi.

Agr. Expt. St. Formosa, Spec. Rept. 20, p. 6 (1921); Trans. Nat. Hist. Soc. Formosa, XVII, p. 238 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 25 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 57 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 69 (1931), (List).

Hosts—*Lactuca squarosa, Sonchus lactocoides, Senecio* sp.

Distr.—China: Fukien (Foochow), Hopei (Peiping, Tien-

tsin), Kiangsu (Nanking, Soochow), Shantung (Tsinan)

Korea, Formosa, Botel Tobago, Loochoo, Japan.

Macrosiphum gobonis Matsumura.

Jl. Coll. Agr. Sapporo, VII, 6, p. 395 (1917); Takahashi, Trans. Nat. Hist. Soc. Formosa, XV, p. 103 (1925), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 25 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 57 (1931), (List); Mushi (蟲), VI, 2, p. 51 (1933), (List).

Hosts—*Artium lappa, Cirsium* sp., *Gaillardia aristata, Saussurea affinis, Valeriana valerianifolia.*

Distr.—China: Chekiang (Wenchow), Fukien (Foochow), Hopei (Peiping), Kiangsu (Soochow), Shantung (Tsinan, Tsingtao).

Korea, Formosa, Botel Tobago, Loochoo, Japan.

Macrosiphum granarium Kirby.

Aphis granaria Kirby, Trans. Linn. Soc., IV, p. 238 (1798).

Macrosiphum granarium Takahashi, Trans. Nat. Hist. Soc. Formosa, XV, p. 103 (1925), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 25 (1928), (List); Bur. Ent. Chekiang, Ent. and Phyt., III, p. 118 (1935), (List).

Host—*Triticum vulgare.*

Distr.—China: Chekiang (Hangchow, Kashing), Hopei (Peiping, Tientsin), Kiangsu (Nanking, Soochow), Shantung (Kaomi, Tsinan, Tsingtao).

Cosmopolitan

Macrosiphum rosae ibarae Matsumura.

Macrosiphum ibarae Matsumura, Jl. Coll. Agr. Sapporo, VII, 6, p. 397 (1917).

Macrosiphum rosae Takahashi, Philippine Jl. Sc., XXIV, p. 712 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 25 (1928), (List).

Host—*Rosa* sp.

Distr.—China: Fukien (Amoy, Foochow), Kiangsu (Soochow), Shantung (Tsingtao).

Korea, Formosa, Loochoo, Japan, Sumatra.

Macrosiphum rosae vasiljevi Mordvilko.

Faune de la Russie, Insectes Hemipteres, I, 2, p. 453 (1919); Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 25 (1928), (List).

Host—*Rosa* sp.

Distr.—China: Hopei (Tientsin) (vide A. Mordvilko).

The writer have not seen the specimens of this species from China.

Macrosiphum rosaeiformis Das.

Mem. Ind. Mus., VI, p. 158 (1918); Takahashi, Trans. Nat. Hist. Soc. Formosa, XX, p. 273 (1930), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 68 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 34 (1935), (List).

Host—*Rosa* sp.

Distr.—China: Kiangsu (Nanking, Soochow).

India.

Macrosiphum solidaginis Fabricius.

Aphis solidaginis Fabricius, Ent. Syst., IV, 211, 5 (1794).

Macrosiphum solidaginis Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 25 (1928), (List).

Host—Unknown in China (*Blumea* and other Compositae in other countries).

Distr.—China: Fukien (Foochow).

India, Formosa, Sumatra, Java, New Mexico, Europe.

Genus **Macrosiphoniella** Del Guercio.

Macrosiphoniella artemisiae Boyer.

Aphis artemisiae Boyer, Ann. Soc. Ent. Fr., X, p. 162 (1841).

Host—An unknown species of the Compositae.

Distr.—China: Shantung (Tsinan).

The species is previously unknown in China. A winged and many wingless viviparous females were collected by the junior writer on April 18, 1935. The Chinese specimens differ from Theobald's redescription in that the 3rd antennal segment is not

pale basally. Very closely allied to *M. tanacetaria* Kaltenbach, var. *bonariensis* Blanchard described from Argentine, but differs in the tibiae of the apterous form not entirely black.

Macrosiphoniella cayratiae sp. n.

(Wingless viviparous female) Yellowish brown; apices of the antennal joints slightly dusky; apices of the femora dusky, apices of the tibiae, tarsi, and cornicles blackish brown; bristles light yellow; eyes reddish black; cauda dusky (colour notes based upon specimens not treated with potash, and mounted in balsam).

Bristles of body capitate, each arising from a very small tubercle. Head not granular, with 4 pairs of dorsal setae, which are stiff and shorter than the 2nd antennal joint, and with 2 similar ones on the front. Antennal tubercles prominent, diverging, not convex mesally, with 2 similar bristles on the mesal side. Antennae about as long as the body, with short capitate setae, which are straight or slightly curved and shorter than those on the head; 1st joint slightly convex mesally, large, about twice as long as the 2nd; 3rd slightly imbricated, with 5-6 small circular or oval sensoria arranged nearly in a single row on the basal half except on the basal part, with about 15 setae; 4th without sensoria, a little longer than the 5th, with about 10 setae; 5th with about 8 setae; base of the 6th about one-third the length of the 5th; flagellum a little shorter than the 3rd, about 4 times as long as the basal part; the relative length of the joints about as follows: 3rd—138, 4th—102, 5th—88, 6th—153 (33+120). Eyes normal. Rostrum extending beyond the middle coxae.

Legs long; tibial bristles stout, slightly curved or stiff, mostly capitate; tarsi imbricated, the basal joint slightly shorter than the claws, with 3 setae.

Abdomen broadest at middle. Cornicles cylindrical, rather stout, gradually narrowed towards the apex, a little shorter than the 3rd antennal joint, a little longer than the cauda, reticulated on the distal half, imbricated on the basal half. Cauda long, with a distinct constriction, and about 4 long bristles on each side and 2 median short ones. Anal plate rounded, with some long bristles.

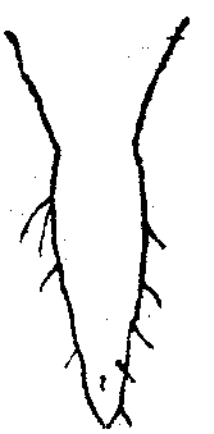

Fig. 2. Macrosiphoniella cayratiae n. sp.; wingless viviparous female; cauda.

Length of body (from front to the tip of cauda)—about 2.400 mm., head—0.272 mm., antenna—2.386 mm., cornicle—0.501 mm., cauda—0.431 mm., hind tibia—1.477 mm., hind tarsus (claws not included)—0.208 mm., dorsal seta—0.028 mm., antennal seta—0.023 mm.; width of head (including eyes)—0.440 mm., abdomen—1.150 mm., base of cornicle—0.106 mm., apex of cornicle—0.051 mm., base of cauda—0.185 mm., constricted part of cauda—0.051 mm.

(**Winged viviparous female**) Yellowish brown; eyes reddish black; antennae black except on the base of the 3rd joint; femora black except on the basal part, both ends of tibiae, tarsi, claws and cornicles black, thorax dark brown; cauda and anal plate dusky yellow; wings hyaline, very slightly infuscated along the veins, veins and stigma pale brown (colour notes based upon specimens not treated with potash and mounted in balsam).

Antennal bristles nearly as in the apterous form, 3rd antennal joint with about 16 small or moderate circular sensoria arranged in a single row along the whole length except on th

basal small part; 4th a little imbricated, without sensoria; the relative length of the joints about as follows: 3rd—132, 4th—127, 5th—108, 6th (Base)—44.

Wings slightly imbricated, venation normal; hooklets 4. Cornicles shorter than the cauda, about 4.5 times as long as wide, constricted at the base and shallowly so on the distal part, reticulated on the distal two-thirds, imbricated on the base. Cauda stout, with 9 long bristles. Anal plate as in the apterous form.

Length of body (from front to the tip of cauda)—2.000 mm., head—0.180 mm., antenna (flagellum not included)—2.077 mm., fore wing about 2.700 mm., hind tibia—1.661 mm., hind tarsus (claws not included)—0.142 mm., cornicle—0.263 mm., cauda—0. 328 mm.; width of head about 0.418 mm., fore wing—0.900 mm., abdomen—0.888 mm., expanded part of cornicle—0.055 mm., constricted part of cornicle—0.040 mm., base of cauda—0.125 mm., constricted part of cauda—0.059 mm.

Host—*Cayratia japonica.*

Hab.—Shantung (Tsinan), China.

Described from a winged and 2 wingless viviparous females, which were collected by Mr. Tai-pin Li on May 10, 1935 on the above mentioned host. The antennae of the winged form are broken, thus the distal part of the last joint can be by no means described.

This species is very closely allied to *M. asteris* Walker, but differs in the absence of abdominal markings, and in the longer cornicles, as well as in the shape of Cauda. Cotype are preserved in the junior writer's collection.

Macrosiphoniella formosartemisiae Takahashi.

Agr. Expt. St. Formosa, Spec. Rept. 20, p. 15 (1921); Trans. Nat. Hist.

Soc. Formosa, XVII, p. p. 238 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List); Dept. Agr., Gov't Res. Inst. Formosa, Rept. 53, p. 62 (1931), (List).

Host—*Artemisia* sp.

Distr.—China: Fukien (Kuliang).

Korea, Formosa, Japan.

Macrosiphoniella pseudoartemisiae Shinji.

Kontyû (昆蟲), VII, 5-6, p. 216 (1933).

Host—*Artemisia anuna*.

Distr.—China: Shantung (Tsinan).

It is previously known to occur in Japan only. Many winged and wingless viviparous females were collected by the junior writer on June 6, 1935.

Macrosiphoniella sanborni Gillette.

Macrosiphum sanborni Gillette, Can. Ent., XL, p. 65 (1908).

Macrosiphum nishigaharae Takahashi, Trans. Nat. Hist. Soc. Formosa, XIV, p. 55 (1924), (List).

Macrosiphoniella sanborni Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 61 (1931), (List); Bur. Ent. Chekiang. Ent. and Phyt., III, p. 119 (1935), (List).

Macrosiphoniella chrysanthemi Cheo, Pek. Nat. Hist. Bull., X, 1, p. 34 (1935), (List).

Host—*Chrysanthemum sinense*.

Distr.—China: Chekiang (Hangchow, Kashing. Yentongshan), Hopei (Tientsin), Kiangsu (Nanking, Soochow), Kwantung (Canton), Shantung (Tsinan, Tsingtao)

Cosmopolitan.

Macrosiphoniella yomogifoliae Shinji.

Macrosiphum yomogifoliae Shinji, Dobuts. Zasshi (動物學雜誌), XXXIV, p. 788 (1920).

Macrosiphum tanacetarium Takahashi (nec Kalt.), Trans. Nat. Hist. Soc. Formosa, XV, p. 103 (1925), (List).

Macrosiphoniella tanacetarium Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List).

Macrosiphoniella gomogifoliae Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept 53, p. 61 (1931), (Redescription).

Host—***Artemisia vulgaris.***

Distr.—China: Fukien (Foochow), Kiangsu (Nanking, Soochow).

Formosa, Japan.

Genus **Acyrthosiphon** Mordvilko.

Acyrthosiphon paederiae Takahashi.

Macrosiphum paederiae Takahashi, Agr. Expt. St. Formosa, Spec. Rept. 20, p. 11 (1921); Trans. Nat. Hist. Soc. Formosa, XVII, p. 238 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 25 (1928), (List).

Acyrthosiphon paederiae Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 64 (List).

Host—Unknown in China(*Paederia* in Formosa and Japan).

Distr.—China: Fukien (Foochow).

Formosa, Loochoo, Japan.

Acyrthosiphon pisi Kaltenbach.

Aphis pisi Kaltenbach, Mon. Pflanz., p 23 (1843).

Macrosiphum pisi Yu, Coll. Agr., Nat. Centr. Univ. Nanking, Bull. 11, p. 8, (1929), (List).

Hosts—***Pisum sativum, Vicia fava.***

Distr.—China: Shantung (Tsinan).

Cosmopolitan.

Acyrthosiphon rosaefolii Theobald.

Macrosiphum rosaefolium Theobald, Bull. Ent. Res., VI, p. 109 (1915).

Host—***Rosa chinensis.***

Distr.—China: Hopei (Peiping).

India, Formosa, Java, Africa.

The species is new to China. 3 wingless viviparous females were collected by Dr. C. L. Liu on July 24, 1935 and sent by Mr.

Y. T. Mao to Dr. R. Takahashi for identification. Sensoria of the 3rd antennal joint of the wingless form 9-13, fewer in number than those in the original description; cauda without the third pair of hairs.

Genus **Myzus** Passerini.

Myzus malisuctus Matsumura.

Trans. Sapporo Nat. Hist. Soc., VII, 1, p. 16 (1918); Takahashi, Trans. Nat. Hist. Soc. Formosa, XVII, p. 390 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p 26 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 68 (1931), (List).

Host—Not determined in China (*Malus* in Japan and Formosa).

Distr.—China: Kiangsu (Soochow).

Formosa, Japan.

Myzus momonis Matsumura.

Jl. Coll. Agr. Sapporo, VII, 6, p. 402 (1917); Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1929), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 67 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 70 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 34 (1935), (List).

Hosts—*Prunus cerasus, P. mume, P. persica, P. pseudocerasus.*

Distr.—China: Chekiang (Kiangshan), Fukien (Foochow), Kiangsu (Nanking), Shantung (Tsinan, Tsingtao).

Formosa, Japan.

Myzus persicae Sulzer.

Aphis persicae Sulzer, Abgek. Gesch. Ins., p. 105 (1776).

Myzus persicae Takahashi, Trans. Nat. Hist. Soc. Formosa, XVII, p. 238. (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 68 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 69 (1931), (List); Bur. Ent. Chekiang, Ent. and Phyt., III, p. 118 (1935), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p 34 (1935), (List).

Hosts—*Bothriospermum chinense, Brassica campestris, B. chinensis, B. napus, Lactuca sativa, Nicotiana tabacum, Prunus persica, Raphanus sativus, Senecio cineraria, Solanum tuberosum, Tricidum* sp.

Distr.—China: Chekiang (Hangchcw, Kashing, Shuian), Fukien (Foochow), Hopei (Peiping, Tientsin), Kiangsu (Nanking), Shantung (Tsinan, Tsingtao).

Cosmopolitan.

Myzus varians Davidson.

Jl. Econ. Ent., V, p. 409 (1912).

Host—*Prunus persica.*

Distr.—China: Chekiang (Lishui).

Formosa, Botel Tobago, Loochoo, Japan, North America.

It is new to China. 4 wingless viviparous females were collected by Mr. Tsing-chao Ma at Lishui on June 6, 1935.

Genus **Phorodon** Passerini.

Phorodon humuli Schrank.

Aphis humuli Schrank, Fn. Boica, II, 110, 1199 (1801).

Host—*Prunus persica.*

Distr.—China: Hopei (Peiping).

India, Korea, Formosa, Japan, Europe, North America.

The species is hitherto unknown in China. Some wingless viviparous females and nymphs were collected by Dr. C. L. Liu at Peiping on May 20, 1935, and sent by Mr. Y. T. Mao to Dr. R. Takahashi for identification.

Genus **Trichosiphonaphis** Takahashi.

Trichosiphonaphis polygoni van der Goot.

Phorodon polygoni van der Goot, Contr. Faun. Ind. Neerl., I, 3, p. 44 (1917).

Trichoriphonaphis polygoni Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., III, p. 38 (1930), (List).

Host—*Polygonum perfoliatum.*

Distr.—China: Chekiang (Hangchow).

India, Java.

Genus **Amphorophora** Buckton.

Amphorophora cosmopolitana Mason.

Proc. U. S. Nat. Mus., 67, p. 16 (1925).

Host—*Crepis* sp.

Distr.—China: Shantung (Tsinan).

Cosmopolitan.

It is previously unknown in China. Some winged viviparous females were collected by the junior writer in December, 1934.

Amphorophora formosana Takahashi.

Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 4, p. 30 (1923); Trans. Nat. Hist. Soc. Formosa, XIX, p. 525 (1929), (Description of the winged form)

Host—Unknown in China (*Millettia* in Formosa).

Distr.—China: Chekiang (Hwangyen).

Formosa.

This species is previously recorded from Formosa only. 5 wingless viviparous females were collected by Mr. Tsing-chao Ma at Hwangyen on May 20, 1935. It has many spinules on the head, and Dr. R. Takahashi placed it in the genus **Acyrthosiphon** (Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 65), but the cornicles are much expanded, and thus it is retained in the genus **Amphorophora.**

Amphorophora lespedezae Essig et Kuwana.

Rhopalosiphum lespedezae Essig and Kuwana, Proc. Calif. Acad. Sc., 4 ser., VIII, 3, p. 57 (1918).

Amphorophora lespedezae Takahashi, Trans. Nat. Hist. Soc. Formosa,

XVII, p. 389 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 26 (1928), (List).

Host—Not known in China (*Lespedeza* in Japan).

Distr.—China: Fukien (Foochow).

Korea, Japan.

Amphorophora lonicericola Takahashi.

Japanese Aphididae, I, p 29 (1921); Trans. Nat. Hist. Soc. Formosa, XX, p. 274 (1930), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 69 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 33 (1935), (List).

Host—*Lonicera maackii.*

Distr.—China: Kiangsu (Nanking).

Japan.

Genus **Megoura** Buckton.

Megoura citricola van der Goot.

Macrosiphoniella citricola van der Goot, Contr. Faun. Ind. Neerl., I, 3, p. 34 (1917); Takahashi, Trans. Nat. Hist. Soc. Formosa, XVII, p. 238 (1927), (List); Proc. Nat. Hist. Soc, Fukien Christ. Univ., I, p. 25 (1928), (List).

Megoura citricola Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 74 (1931), (List).

Host—*Trachycarpus excelsus.*

Distr.—China: Fukien (Kuliang).

Formosa, Loochoo, Japan, Singapore, Sumatra, Java.

Genus **Capitophorus** van der Goot.

Capitophorus braggii Gillette.

Myzus braggii Gillette, Can. Ent., XL, p. 17 (1908).

Capitophorus braggii Tseng and Tao, Coll. Agr., Nat. Univ. Shantung, Bull. VII, p. 21 (1935), (List).

Host—*Cirsium segetum.*

Distr.—China: Shantung (Tsinan).

Formosa, Japan, Egypt, Europe, North America.

Capitophorus hippophaes Walker.

Aphis hippophaes Walker, List Homop. Brit. Mus., IV, 302, 1036 (1852).

Capitophorus hippophaes Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., III, p. 38 (1930), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 76 (1931); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 70 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 33 (1935), (List).

Hosts—*Elaeagnus pungens, E. umbellata.*

Distr.—China: Chekiang (Hangchow), Kiangsu (Nanking).

Formosa, Japan, Sumatra, Java, Europe.

Capitophorus glandulosus Kaltenbach.

Aphis glandulosa Kaltenbach, Stett. Ent. Zeit., VII, p. 170 (1846).

Host—*Artemisia vulgaris.*

Distr.—China: Shantung (Tsinan).

Europe.

The species is new to China. Some wingless viviparous females were collected by Mr. Tai-ping Li, on May 11, 1935, and identified by Dr. R. Takahashi.

Capitophorus ribis Linnaeus.

Aphis ribis Linnaeus, Syst. Nat., Ed. 10, 451 (1758).

Host—*Marubium supinum.*

Distr.—China: Shantung (Tsinan).

Europe, America.

It is new to China. Many wingless viviparous females were collected by Messrs. Chen-tong Yüan and Tai-ping Li during the early spring of 1935, and some winged viviparous females were obtained by rearing. This species is sometimes found in association with *Aphis gossypii* Glov.

Genus **Myzaphis** van der Goot.

Myzaphis rosarum Kaltenbach.

Aphis rosarum Kaltenbach, Mon. Pflanz., 101 (1843).

Host—*Rosa xanthian.*

Distr.—China: Hopei (Peiping).

Europe.

It is previously unknown in China. Many Wingless viviparous females were collected by Dr. C. L. Liu and sent by Mr. Y. T. Mao to Dr. R. Takahashi for identification. The 4th and 5th antennal joints are sometimes fused together.

Genus **Microtarsus** Shinji.

Microtarsus pteridifoliae Shinji.

Japanese Assoc. for Adv. Sc., Rept. V, p. 188 (1930).

Host—A fern.

Distr.—China: Chekiang (Kaizan).

Japan.

This aphid is very peculiar in shape, its tarsi being rudimentary, and is hitherto known from Japan only. Many winged and wingless viviparous females were collected by Mr. Yun-tsing Chang on August 17, 1935. The specimens differ from the Japanese ones in lacking or possessing rudimentary cubitus on the hind wings, and in the number of sensoria, which isfewer.

Subfamily **CALLIPTERINAE.**

Tribe **Neophyllaphidini.**

Genus **Neophyllaphis** Takahashi.

Neophyllaphis podocarpi Takahashi.

Can. Ent., LII, p. 20 (1920); Trans. Nat. Hist. Soc. Formosa, XVII, p. 239 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 79 (1931), (List).

Host—*Podocarpus* sp.

Distr.—China: Chekiang (Shuian, Yentongshan), Fukien (Foochow).

Formosa, Botel Tobago, Loochoo, Japan, Australia, New Zealand.

Tribe **Phyllaphidini**

Genus **Phyllaphoides** Takahashi.

Phyllaphoides bambusicola Takahashi.

Agr. Expt. St. Formosa, Spec. Rept. 20, p. 75 (1921); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 80 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 62 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 35 (1935), (List).

Host—*Bambusa* sp.

Distr.—China: Kiangsu (Nanking).

Formosa.

Genus **Shivaphis** Das.

Shivaphis celti Das.

Mem. Ind. Mus., VI, p. 246 (1918); Takahashi, Philippine Jl. Sc., XXIV, p. 714 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List); Dept. Agr., Gov't. R s. Inst. Formosa, Rept. 53, p. 80 (1931), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 62 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1 p. 35 (1935), (List).

Host—*Celtis sinensis*.

Distr.—China: Chekiang (Kiangshan, Lishui, Shuian), Fukien (Amoy, Foochow), Kiangsu (Nanking, Shanghai).

India, Formosa, Loochoo, Japan, Ceylon.

Tribe **Chaitophorini.**

Genus **Chaitophorus** Koch.

Chaitophorus chinensis Takahashi.

Lingnan Sc. Jl., IX, 1 & 2, p. 9 (1930); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 62 (1931), (List); Takahashi, Mushi (虫), VI, 2, p. 52 (1933), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 34 (1935), (List).

Chaitophorus tremulae (nec Koch) Bur. Ent. Chekiang, Ent. and Phyt., III, p. 118 (1935), (List).

Host—*Salix babylonia.*

Distr.—China: Chekiang (Kashing), Fukien (Foochow), Kiangsu (Nanking, Shanghai), Shantung (Tsinan).

Japan.

Chaitophorus clarus sp. n.

(**Wingless viviparous females**) When alive, nearly transparent, with green markings on the dorsum of abdomen. After mounted (without treated with potash) in balsam, yellowish white; eyes reddish black; the 6th antennal joint, tip of the 5th, and claws blackish brown; bristles transparent; cornicles pale.

Antennal tubercles absent; front very broadly rounded, with about 3 simple bristles near the base of each antenna, which are as long as the basal 2 antennal joints combined, and somewhat curved. Head with some 4 or 5 pairs of stiff dorsal bristles, which are shorter than the 1st antennal joint, a little widened and bifid at the tip. Eyes with normal ocular tubercles. Antennae shorter than the body, imbricated, with a few short stiff bristles, which are shorter than the 2nd joint, and slightly divided at the tip; 1st larger than the 2nd, but not longer; 3rd a little shorter than the 4th and 5th together, with 0—5 circular sensoria arranged in a single row on the middle part; 4th longer than the 5th, with 0—1 sensorium; 5th with a primary sensorium on the distal darker part; base of the 6th slightly shorter than the 5th, with some small sensoria around the primary one; flagellum slightly longer than the 3rd; the relative length of the joints about as follows: 3rd—55, 4th—37, 5th—33, 6th—87 (22+65). Rostrum stout, reaching the middle coxae.

Thorax and abdomen with some very short flattened setae on the dorsum and some long pointed curved stout bristles on the side. Thoracic and basal and distal abdominal segments well defined. Bristles on the tibiae fine, shorter than those on the side of body; fore and middle tibiae nearly as long as the 4 th and 5th antennal joints taken together, hind tibiae longer than the 6th antennal joint; distal tarsal joint long, somewhat

longer than the base of 6th antennal joint, slightly imbricated.

Abdomen broadest in front of the cornicles, narrowed behind them, the last abdominal segment with 6 long bristles. Cornicles truncate, not defined from the abdomen, reticulated, especially on the distal half. Cauda knobbed, the knobbed part as long as wide, with some long bristles. Anal plate very short, very slightly indented at the middle of the hind margin, with some long bristles.

Length of body (from front to the tip of anal plate)—1.666 mm, head—0.217 mm., antenna—0 614 mm., hind tibia—0.462 mm., hind tarsus (claws not included)—0.138 mm, frontal seta—0.092 mm., dorsal seta—0.028 mm., antennal seta—0.018 mm.; width of head (including eyes)—0 413 mm., abdomen—1.015 mm.

(Winged viviparous female) Head and thorax blackish brown, basal 2 antennal joints, apices of the 5th, whole length of the 6th, and tarsi dusky, cornicles pale dusky; eyes reddish black; remaining parts of the antennae, legs and abdomen yellowish white; wings hyaline, veins and stigma dusky; bristles transparent (colour notes from specimens not treated with potash, and mounted in balsam).

Head without granules and spinules, with 18 dorsal setae, which are rather fine, pointed, and those on the front are longer than the 1st antennal joint. Ocelli surrounded with a wide

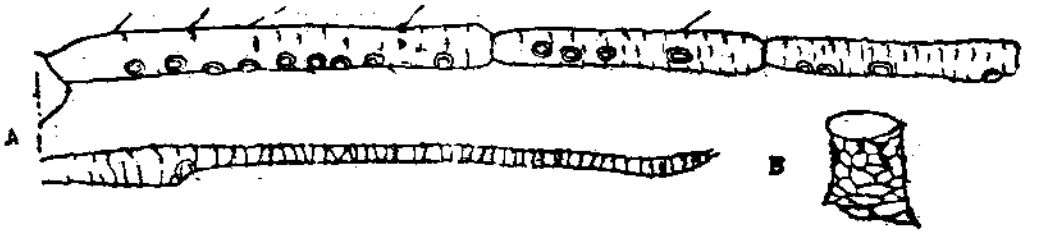

Fig. 3. Chaitophorus clarus sp., n. winged viviparous female: A, 3rd, 4th, 5th and 6th antennal joints, B, cornicle.

dark purplish part, front ocellus vivisible from above. Antennae: 3rd joint with 5—10 circular moderate or small sensoria arranged nearly in a single row; 4th with 2—4 and 5th with 1—3 similar ones; the relative length of the joints about as follows: 3rd—49, 4th—36, 5th—27, 6th—83 (21+62). Rostrum short, shorter than the apterous form, not reaching the middle coxae.

Wings slightly imbricated; venation normal; veins stout; hooklets 3. Abdomen, cauda and anal plate as in the apterous form. Cornicles nearly as long as or slightly longer than wide, a little expanded on the basal part, distinctly reticulated on the distal half, striated basally,not much constricted, shorter than the lateral setae on the abdomen.

Length of body (from frontal ocellus to the tip of cauda)—1.744 mm., head (including frontal ocellus)—0.171 mm., antenna—0.978 mm., hind tibia—0.489 mm., hind tarsus—0.111 mm., cornicle—0.086 mm., cauda—0.074 mm.; width of head (including eyes)—0.399 mm., abdomen—0.596 mm., base of cauda—0.078mm.; diameter of cornicle at apex—0.016 mm., knobbed part of cauda—0.042 mm.

Host—*Populus simonii.*

Hab.—Shantung (Tsinan), China. Some winged and wingless viviparous females were collected by the junior writer at Tsinan on May 12, 1935.

This species is closely related to *C. inconspicuus* Theobald described from Egypt, but differs from it in the fewer sensoria on the 3rd antennal joint, the presence of sensoria on the 5th, the absence of a dark patch; and the longer cornicles, in the alate form; and in the presence of secondary sensoria on the antennae in the apterous form.

The type specimens are preserved in the junior writer's and Takahashi's collections.

Chaitophorus coreanus Okamoto et Takahashi.

Ins. Mats., I, p. 142 (1927); Takahashi, Trans. Nat. Hist. Soc. Formosa, XX, p. 275 (1930), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 62 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 34 (1935), (List).

Host—*Populus tomentosa, P. tremula, P.* sp.

Distr.—China: Kiangsu (Nanking), Shantung (Kaomi, Tsinan, Tsingtao).

Korea.

Chaitophorus shantungensis sp. n.

(**Wingless viviparous female**) Dark brown, eyes reddish black, basal 2 antennal joints concolorous with the body, 3rd antennal joint and basal half of the 4th and bristles yellowish white, cauda pale brownish, cornicles dark brown, middle and hind femora except the basal parts, basal halves of hind tibiae, tarsi and claws blackish brown, remaining parts of legs yellowish brown (colour notes from specimens not treated with potash, and mounted in balsam).

Body granulate over the dorsum, with many simple setae. Antennal tubercles absent; front very broad. Head and antennae with many long and short simple bristles. Ocular tubercles normal. Antennae imbricated, shorter than the body, the basal 2 joints subequal in length, but the basal one stouter, 3rd nearly as long as the 4th and 5th taken together, with 4—7 long and 2—4 short birstles; 4th and 5th subequal in length, with 4—5 bristles; base of the 6th slightly shorter than the 4th or 5th, with 3 long and short bristles; flagellum nearly as long as the 3rd; secondary sensoria absent, primary sensoria normal; the relative length of the joints about as follows: 3rd—57, 4th—30, 5th—26, 6th—76 (22+54). Rostrum just reaching the middle coxae.

Thoracic segments defined, mesonotum a little longer than pronotum, metanotum short. Legs with many long simple

setae; tarsi imbricated, the distal segment nearly as long as the base of 6th antennal joint.

Abdomen broadest at the middle, with many long setae; the basal 6 segments fused together, but the last 2 defined; the setae on the side longer, especially those on the posterior part. Cornicles short, truncate, imbricated at the base, reticulated on the distal half, wider than long, expanded at the base, not defined from the abdomen. Cauda knobbed, with some long bristles. Anal plate slightly indented on the hind margin, with some long bristles.

Length of body (from front to the tip of cauda)—1.537 mm., head—0.208 mm., antenna—0.965 mm., hind tibia—0.458 mm, hind tarsus (claws not included)—0.134 mm., cauda—0.074 mm., longest seta on head—0.171 mm., on antenna—0.078 mm, on body—0.178 mm.; width of head (including eyes)—0.415 mm., abdomen—0.902 mm., base of cauda—0.086 mm.; diameter of cornicle at tip—0.046 mm., knobbed part of cauda—0.060 mm.

(Winged viviparous female). Head, antennae, thorax, tarsi, middle femora, whole parts of hind legs excepting the apices of tibiae, and cornicles blackish brown; eyes reddish black; front legs, middle tibiae, and bristles almost yellowish brown; wings hyaline; veins and stigma dusky, very slightly infuscated along the veins; cauda and anal plate pale; abdomen widely blackish brown on the median area of the dorsum, with 6 large blackish spots on the side and some small blackish spots; ocelli reddish black on the mesal side (colour notes from specimens not treated with potash, and mounted in balsam).

Bristles on the head, antennae, legs and abdomen same as the apterous form. Ocular tubercles normal; frontal ocellus visible from above. Antennae: 3rd joint slightly imbricated, with 7—9

moderate or rather small sensoria arranged nearly in a single row, 4th with 0-3 similar ones, the relative length of the joints about as follows: 3rd—62, 4th—34, 5th—28, 6th—72 (21+51). Rostrum short, not reaching the middle coxae.

Wings imbricated, venation normal, veins stout, subcosta with 6 small circular sensoria in a group near the base and 6—7 similar ones arranged in a single row at the middle; hooklets 3 or 4.

Abdomen broadest at middle, cornicles, cauda and anal plate some as the apterous form.

Length of body (from frontal ocellus to the tip of cauda)—1.510mm., head (including frontal ocellus)—0.180mm., antenna —0.988 mm., hind tibia—0.462 mm., hind tarsus (claws not included)—0.120 mm., fore wing—1.900 mm., cornicle—0.069 mm., cauda—0.074 mm ; width of head (including eyes)—0.439 mm., abdomen—0.738 mm., fore wing—0.581 mm., base of cauda—0.092 mm.; diameter of cornicle at tip—0.046 mm., knobbed part of cauda—0.0 .6 mm.

Host—*Populus simonii.*

Hab.—Shantung (Tsinan), China. Collected by the junior writer on May 9, 1935.

Closely allied to *C. chinensis* Takahashi (on *Salix*), but may be distinguished by the simple bristles of the apterous form, the longer head, and the hind tibiae without sensoria near the base both in the apterous and alate forms. It may be also separated from *C. tremulae* Koch (On *Populus tremula*) by the shorter rostrum, the fewer sensoria on the 3rd antennal joint, and the presence of sensoria on the 4th in some specimens of alate form, and by the pale cauda and anal plate of both the alate and apterous forms.

The type speeimens are preserved in the junior writer's

and Takahashi's collections.

Genus **Periphyllus** van der Hoeven.

Periphyllus acerifoliae Takahashi.

Chaitophorinella acerifoliae Takahashi, Dobutsugaku Za shi (動物學雜誌), XXXI, p. 273 (1919).

Periphyllus acerifoliae Takahashi, Trans. Nat. Hist. Soc. Formosa, XX, p, 275 (1930), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 62 (1931), (List); Takahashi, Trans. Nat. Hist. Soc. Corea, XV, p. 2 (1933), (List); Trans. Nat. Nat. Hist. Soc. Formosa, XXIII, p. 1 (1933), (List); Cheo, Pek. Nat. Hist. Bull., X, 1 p. 35 (1935), (List).

Hosts—*Acer tricidum*, *A.* sp.

Distr.—China: Hopei (Tientsin), Kiangsu (Nanking), Shantung (Tsingtao).

Korea, Japan.

Periphyllus koelreuteriae Takahashi.

Chaitophorinella koelreuteriae Takahashi, Dobutsugaku Zasshi (動物學雜誌), XXXI, p 277 (1919).

Periphyllus koelreuteriae Takahashi, Trans. Nat. Hist. Soc. Formosa, XIV, p. 56 (1924), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 62 (1931), (List); Takahashi, Trans. Nat. Hist. Soc. Formosa, XXIII, p. 1 (1933), (List).

Host—*Koelreuteria paniculata.*

Distr.—China: Kiangsu (Chuchow), Shantung (Tsinan).

Japan.

Tribe **Callipterini.**

Genus **Myzocallis** Passerini.

Myzocallis arundicolens Clarke.

Callipterus arundicolens Clarke, Can. Ent., XXXV, p. 249 (1903).

Myzocallis arundicolens Takahashi, Lingnan Sc. Jl., IX, 1 & 2. p. 11 (1930), (List).

Host—*Bambusa* sp.

Distr.—China: Kiangsu (Kintan).

England, America.

Myzocallis kuricola Matsumura.

Nippocallis kuricola Matsumura, Jl. Coll. Agr. Sapporo, VII, 6, p. 365 (1917).

Myzocallis kuricola Takahashi, Trans Nat. Hist. Soc. Formosa, XX, p. 274 (1930), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 63 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 34 (1935), (List).

Host—*Quercus* sp.

Distr.—China: Kiangsu (Nanking).

Korea, Japan.

Myzocallis trifolii Monell.

Callipterus trifolii Monell, Can. Ent., XVI, p. 14 (1882).

Hosts—*Caragara leveillei, Medicago sativa.*

Distr.—China: Shantung (Tsinan).

Europe, Asia, Africa, America.

This species is new to China, and is collected by the junior writer and Mr. Tai-ping Li in May 1935.

Genus **Tuberculoides** van der Goot.

Tuberculoides macrotuberculata Essig et Kuwana.

Myzocallis macrotuberculata Essig and Kuwana, Proc. Calif. Acad. Sc., 4th ser., VIII, 3, p. 90 (1918); Takahashi, Trans. Nat. Hist. Soc. Formosa, XX, p. 275 (1930), (List); Yen, Pek Nat. Hist. Bull., VI, 2, p. 63 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 34 (1935), (List).

Host—*Quercus* sp.

Distr.—China: Kiangsu (Nanking).

Japan.

Tuberculoides nigra Okamoto et Takahashi.

Myzocallis nigra Okamoto and Takahashi, Ins. Mats., I, p. 143 (1927).

Recticallis nigra Takahashi, Trans. Nat. Hist. Soc. Formosa, XX, p. 275 (1930), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 63 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 35 (1935), (List).

Host—*Quercus* sp.

Distr.—China: Chekiang (Hangchow), Kiangsu (Nanking).

Korea, Japan.

Subfamily **THELAXINAE.**

Tribe **Thelaxini.**

Genus **Glyphina** Koch.

Glyphina juglandicola Takahashi.

Kurisakia juglandicola Takahashi, Philippine Jl. Sc., XXIV, p. 715 (1924); Trans. Nat. Hist. Soc. Formosa, XX, p. 276 (1939), (List); Yen, Pek. Nat. Hist. Bull., VI, 2, p. 61 (1931), (List); Cheo, Pek. Nat. Hist. Bull., X, 1, p. 34 (1935), (List).

Host- *Quercus acutissima*, *Q.* sp.

Distr.—China: Kiangsu (Nanking), Shantung (Tainan, Tsingtao).

Japan.

As the apterous form of this species has not been described yet, a brief note is thus supplemented here.

(Wingless viviparous female) Light yellowish white, eyes reddish black, dusky on the apices of antennae and legs (colour notes based upon specimens mounted in balsam without treated with potash).

Oblong, body and the appendages provided with many long fine setae, which are curved, nearly as long as the 1st antennal joint, each arising from a very small tubercle. Head fused with prothorax, with a thin median dorsal line, which is not so distinct as in the alate form, and with 12 dorsal setae. Antennal tubercles absent. Front broadly rounded, wide. Eyes small, with three facets. Antennae short, shorter than half the length of body, five-jointed, not imbricated, with fine minute spinules and bristles; basal 2 joints about equal in length, 3rd longest, narrower than the tibiae, much longer than the following two joints combined; 4th and 5th equal in length, each with a circular sensorium; 5th a little narrower towards the base, the

distal part short; the relative length of the joints about as follows; 3rd—75, 4th—31, 5th—33. Rostrum extending to the middle coxae. Legs with spinules and bristles similar to those on the antennae. Trochanters entirely fused with the femora Cornicles on distinct cones, which are not striate, expanded towards the base, with about 7 long bristles. Cauda and anal plate rounded with some bristles.

Length of body (from front to the tip of cauda)—1.601mm, antenna—0.581 mm., hind tibia—0.628 mm., hind tarsus (claws not included)—0.120 mm.; width of head across the eyes—0.351 mm., abdomen—0.895 mm; diameter of the cornicle at apex—0.040 mm.

Described from specimens taken on *Quercus acutissima* by the junior writer at Shantung (Tsinan), May 10, 1935

Tribe **Hormaphidini.**

Genus **Thoracaphis** van der Goot.

Thoracaphis fici Takahashi.

Astegopteryx fici Takahashi, Dept. Agr., Gov't. Res. Inst Formosa, Rept. 4, p. 55 (1923); Boll. Lab. Zool. Portici, XX, p. 148 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 29(1928), (List).

Thoracaphis fici Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 92 (1931), (List); Lingnan Sc. Jl., XIV, 1, p. 137 (1935), (List).

Hosts—*Ficus benjamina*, *F.* sp.

Distr.—China: Kwantung (Hongkong, Macao).

Formosa, Botel Tobago, Loochoo.

Thoracaphis hongkongensis van der Goot.

Tijds. Ent., LXI, pp. 114 and 124 (1918); Takahashi, Lingnan Sc. Jl., XIV, 1, p. 137 (1935), (List).

Astegopteryx hongkongensis Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ, I, p. 29 (1928), (List).

Host—*Quercus* sp.?

Distr.—China: Kwantung (Hongkong).

Thoracaphis silvestrii Takahashi.

Lingnan Sc. Jl., XIV, 1, p. 137 (1935).

Astegopteryx cuspidata Takahashi (nec Essig and Kuwana), Boll. Zool. Portici, XX, p. 148 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 29 (1928), (List).

Host—?

Distr.—China: Hunan (Changsha).

Thoracaphis takahashii Strand.

Acta Univ. Latv., XX, p. 22 (1929) (Name only); Takahashi, Lingnan Sc. Jl., XIV, p. 139 (1935), (List).

Astegopteryx sp. Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 16 p. 51 (1925), (Original description).

Hosts—*Lithocarpus* sp., *Quercus* sp.

Distr.—China: Fukien (Foochow).

Formosa, Japan.

Tribe **Cerataphidini.**

Genus **Ceratovacuna** Zehntner.

Ceratovacuna lanigera Zehntner.

Arch. Java Suikerindustrie, p. 553 (1897).

Oregma lanigera Takahashi, Trans. Nat. Hist. Soc. Formosa, XVII, p. 239 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 28 (1928), (List).

Hosts—*Miscanthus sinensis.*

Distr.—China: Fukien (Foochow).

Formosa, Botel Tobago, Hokoto, Loochoo, Japan, Philippine., Java, Ceylon, etc.

Genus **Oregma** Buckton.

Oregma bambusicola Takahashi.

Agr. Expt. St. Formosa, Spec. Rept. 20, p. 89 (1921); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 4, p. 50 (1923), (Alate form described); Trans. Nat. Hist. Soc. Formosa, XVII, p. 239 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 29 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 97 (1931), (List).

Host—*Bambusa* sp.

Distr.—China: Fukien (Foochow).

Formosa, Japan.

Oregma silvestrii Takahashi.

Boll. Lab. Zool. Portici, XX, p. 148 (1927); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 29 (1928), (List).

Host—?

Distr.—China: Yunan (Yunanfu).

Genus **Trichoregma** Takahashi.

Trichoregma minuta van der Goot.

Oregma minuta van der Goot, Contr. Faun. Ind. Neerl., I, 3, p. 201 (1917); Tijds. Ent., LXI, p. 114 (1918), (List); Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 29 (1928), (List).

Host—*Bambusa* sp.

Distr.—China: Chekiang (Tsinyuan), Kwantung (Hongkong).

Sumatra, Java.

Genus **Cerataphis** Lichtenstein.

Cerataphis bambusifoliae Takahashi.

Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 16, p. 50 (1925); Lingnan Sc. Jl., IX, 1, p. 11 (1930), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 100 (1931), (List).

Host—*Bambusa* sp.

Distr.—China: Fukien (Foochow).

Formosa.

Genus **Ceratoglyphina** van der Goot.

Ceratoglyphina bambusa van der Goot.

Contr. Faun. Ind Neerl., I, 3, p. 237 (1917).

Host—*Bambusa* sp.

Distr.—China: Chekiang (Yentongshan).

Formosa, Java.

This species is previously unknown to China. Some wingless viviparous females were collected by Mr. Tsing-chao Ma on May 21, 1935.

Subfamily **ERIOSOMATINAE.**

Tribe **Eriosomatini.**

Genus **Tetraneura** Hartig.

Tetraneura hirsuta Baker.

Dryopeia hirsuta Baker, Dept. Agr. Calif. Mth. Bull., X, p. 159 (1921)

Tetraneura fusiformis Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 29 (1928), (List).

Tetraneura chinensis Mordvilko, Compt. Rend. Acad. Sc. Russ., p. 199 (1929).

Tetraneura hirsuta Takahashi, Dept. Agr, Gov't. Res. Inst. Formosa, Rept. 53, p. 101 (1931), (List).

Host—*Ulmus* sp.

Distr.—China: Liaoning (Kungchuling.

India, Formosa, Japan, Philippine, Sumatra, Africa.

Tetraneura radicicola Strand.

Acta Univ. Latv., XX, p. 22 (1929), (Name only); Takahashi, Trans. Nat. Hist. Soc. Formosa, XIX, p. 529 (1929), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 101 (1931), (List).

Tetraneura sp. ? Takahashi, Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 16, p. 54 (1925), (Original description).

Host—Unknown in China (*Miscanthus* sp. and *Saccharum officinarum* in Formosa).

Distr.—China: Fukien (Foochow).

Formosa.

Tetraneura ulmi Hartig.

Germar Ent. Zeit., III, p. 366 (1841).

Tetraneura ulmifoliae Yen, Pek. Nat. Hist. Bull., VI, 2, p. 70 (1931), (List); Cheo, Pek. Nat. Hist Bull., X, 1, p. 36 (1935), (List).

Host—*Ulmus pumicola*, *U.* sp.

Distr.—China: Hopei (Peiping, Tientsin), Kiangsu (Nanking), Shantung (Tsinan).

Tribe **Fordini.**

Genus **Melaphis** Walsh.

Melaphis chinensis Bell.

Aphis chinensis Bell, Pharm, Jl., VII, p. 310 (1848).

Pemphigus? sinensis Walker, List Hom. Ins. Brit. Mus., IV, p. 1058(1852).

Schlechtendalia chinensis L'chtenstein, Stett. Ent. Zeit., XLIV, p. 240 (1883).

Melaphis chinensis Baker, Ent. News, XXVIII, p. 385 (1917); Takahashi, Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 29 (1928), (List); Dept. Agr., Gov't. Res. Inst. Formosa, Rept. 53, p. 103 (1931), (List).

Host—*Rhus semialata.*

Distr —"China."

Korea, Formosa, Japan.

The galls of this species, known as "Wu-p'ei-tzee" (五倍子). or Chinense galls, contain much tannin and are used in manufacturing of gallic acid.

Genus **Geoica** Hartig.

Geoica lucifuga Zehntner.

Tetraneura lucifuga Zehntner, Arch. Java Suiker-Industr., V, p. 555 (1897).

Geoica lucifuga Takahashi, Boll. Lab. Zool. Portici, XX, p. 147 (1927), (List); Proc. Nat. Hist. Soc. Fukien Christ. Univ., I, p. 29 (1928), (List); Dept. Agr., Gov't. Res. Inst Formosa, Rept. 53, p. 104(1931), (List).

Host—Unknown in China (*Cyperus* sp. and *Saccharum officinarum* in Formosa).

Distr.—China: Kwantung (Kowloon, Taipo).

Formosa, Philippine, Java, Central Asia.

Tribe **Pemphigini.**

Genus **Pemphigus** Hartig.

Pemphigus napaeus Buckton.

Ind. Mus. Not., IV, 2, p. 50 (1896).

Host.—*Populus simonii.*

Distr.—China: Shantung (Tsinan).

India.

It is hitherto known in India only. Many winged viviparous females, nymphs and some stem-mothers were found in the galls by the junior writer and are identical entirely with the Indian forms in Dr. Takahashi's collection, which were taken by Mr. N. A. Janjua at Quetta, Baluchistan. Since the original description of this species is very imcomplete, a redescription is, thus, given below:

(**Winged viviparous female**) (Found in gall) Abdomen yellowish brown, head and thorax brownish black, eyes black, antennae, legs, and stigma dusky, veins pale brown (colour notes based upon specimens not treated with potash, and mounted in balsam).

Head semi-circular, front rounded, without antennal tubercles. Eyes large, with distinct ocular tubercles; dorsal ocelli in front of the eyes. Antennae six-jointed, shorter than the head and thorax combined, arising from the under side of head, much stouter than the tibiae; 1st joint a little shorter than the 2nd; 3rd with 6–9 transverse sensoria; 4th and 5th about equal in length, narrowed on the basal part; 4th usually with 3 similar sensoria; 5th with a large, very wide, primary sensorium and 0—2 secondary ones, the primary sensorium with about 3 very small circular parts; 6th narrower than 5th, imbricated, widened on the distal part of the base, with the primary sensorium large, but smaller than that on 5th and nearly circular; flagellum

short, with about 3 short apical setae; secondary sensoria rather wide, occupying over half the circumference of joints; the relative length of the joints about as follows: 1st—11, 2nd—14, 3rd—44, 4th—23, 5th—25, 6th—34. Rostrum short, extending beyond the front coxae.

Fore wings near the middle part of subcosta with 3 small circular sensoria; radial sector stouter than the media, as stout as the cubitus, slightly curved; media simple, not branched; anal and cubitus not united; hind wings with media and cubitus present, hooklets 2. Legs slender, with many short setae; trochanters distinct; tarsi imbricated, the basal joint with 2 bristles. Cornicles small, ring-like. Abdomen with small oval wax plates on the dorsum. Cauda and anal plate rounded.

Length of body—1.802 mm., head—0.212 mm., antenna—0.697 mm., fore wing—about 2.400 mm., hind tibia—0.646 mm., hind tarsus (claws not included)—0.162 mm.; width of abdomen—1.034 mm., head (including eyes)—0.413 mm., fore wing—1.015 mm.; diameter of cornicle—0.023 mm.

(**Fundatrix**) (found in gall) When alive, yellowish white; globular. Head small; eyes of 3 facets; antennae very short, arising from the under side of the head, 4-jointed, stout, 3rd widened on the distal part, with a very small circular sensorium; the relative length of joints about as follows: 1st—10, 2nd—15, 3rd—23, 4th—24. Rostrum short, extending beyond the front coxae. Legs short, stout, trochanters fused with femora; tarsi not imbricated, the basal tarsal joint with 2 bristles. Wax plates large, prominent. Cornicles wanting. Cauda and anal plate rounded, with some bristles.

Length of body—2.900 mm., antenna—0.240 mm., hind tibia—0.448 mm., hind tarsus—0.143 mm.; width of head across the eyes—0.471 mm., abdomen—2.400 mm.

INDEX TO CHINESE LOCALITIES CITED IN THIS PAPER WITH THEIR ROMANIZED EQUIVALENTS.

Amoy……廈門
Canton ……廣州
Changsha …長沙
Chekiang……浙江
Chuchow ……徐州
Foochow ……福州
Fukien ……福建
Hangchow …杭州
Hongkong …香港
Hopei……河北
Hunan ……湖南
Hwangyen …黃巖
Kaizan ……嘉善
Kaomi ……高密
Kashing ……嘉興
Kiangshan …江山
Kiangsi……江西
Kiangsu ……江蘇
Kiangying …江陰
Kintan ……金壇
Kowloon ……九龍
Kuliang …… 鼓嶺
Kungchuling 公主嶺
Kushang ……鼓山
Kwantung …廣東
Liaoning ……遼寧
Lishui ……麗水
Macao …… 澳門
Nanking ……南京
Nantung ……南通
Peiping ……北平
Shanghai ……上海
Shantung……山東
Shuian ……瑞安
Sincheng ……新昌
Soochow ……蘇州
Taipo……大埔
Tientsin ……天津
Tsinan ……濟南
Tsingtao ……青島
Tsingtien ……青田
Tsinyuan ……縉雲
Wenchow……溫州
Wenling ……溫嶺
Yentongshan 雁蕩山
Yueshan ……玉山
Yunan ……雲南
Yunanfu ……雲南府(昆明)

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提　　要

本文所述，係及中國產蚜蟲科分類。其標本大部採自沿海之幅員，浙江，江蘇，山東，及河北諸省，凡以加害栽培植物者爲多。內容共108種，內新種4及新記錄24種：

1. *Cinara pineti* Koch.
2. *Cinara piridensiflorae* Essig et Kuwana.
3. *Anoecia corni* Fabricius.
4. *Eutrichosiphum pasaniae* Okajima.
5. *Aphis nerii* Boyer.
6. *Aphis pomi* De Geer.
7. *Aphis rumicis* Linnaeus.
8. *Aphis sackari* Zehntner.
9. *Aphis saliceti* Kaltenbach.
10. *Toxoptera piricola* Matsumura.
11. *Micraphis takahashii* Tseng et Tao, sp. n.
12. *Macrosiphoniella artemisiae* Boyer.
13. *Macrosiphoniella cayratiae* Tseng et Tao, sp. n.

14. *Macrosiphoniella pseudoartemisiae* Shinji.
15. *Acyrthosiphon posaefolii* Theobald.
16. *Myzus varians* Davidson.
17. *Phorodon humuli* Schrank.
18. *Amphorophora cosmopolitana* Mason.
19. *Amphorophora formosana* Takahashi.
20. *Capitophorus glandulosus* Kaltenbach.
21. *Capitophorus ribis* Linnaeus.
22. *Myzaphis rosarum* Kaltenbach.
23. *Microtarsus pteridifoliae* Shinji.
24. *Chaitophorus clarus*. Tseng et Tao, sp. n.
25. *Chaitophorus shantungensis* Tseng et Tao, sp. n.
26. *Myzocallis trifolii* Monell.
27. *Ceratoglyphina bambusa* van der Goot.
28. *Pemphigus napaeus* Buckton.

Ueber die Inspection nach Eiern der Citrusschaedlinge: *Ricania speculum* Walk. (Hom. Fulgor.) in Hwanggen von Chekiang.

黃岩八點光蟬產卵密度之調查

Von LUH, NIEN TSIN 浙江省昆蟲局果蟲研究室 陸年青

Ricania speculum Walk. ist eine der gefaehrlichsten Baumschaedlinge Die Schaeden auf den Baeumen werden durch die Nymphen verursacht, leider ist die Aufdeckung der Ursache schwer erkennbar. Wenn wir den Grund der Baumschaeden aufzudecken wuenschen, muessen wir ueber die Inspection von Eiern gehen.

Im Jahre 1934 wurden die Eier in der Mitte des Monates Mai gefunden. Am ersten Juli waren die Adulten entwickelt. Die groessten Schaeden entstehen im Juli und August. Alle Zweige auf denen *Ricania speculum* Walk. Eier abgelegt haben, werden welk. Die Bekaempfung von *Ricania speculum* Walk. ist ein kostspieliges und schweres Problem fuer die Bauern.

Wir hatten 16 Gaerten im Norden, Sueden, Osten und Westen ausgewaehlt, und jeder Garten hatte zwanzig Citrusbaeume. Wir zaehlten nun die Eierzweige auf diesen Baeumen. Jedoch untersuchten wir nur solche zwischen fuenf und fuenfzehn Jahren alte Baeume, welche nicht alt und hoch waren.

Wir erhielten folgende Ergebnisse: die schwereren Schaeden entstanden in den sued- und west- Gaerten. Dort zaehlten wir insgesamt 11484 Eierzweige. Jeder von 20 Citrusbaeume hatte im Durchschnitt 717.75 Eierzweige. In den Zweigen bei einer Laenge von 11cm. hatten wir 314 Eier gefunden.

Uebersichtstabelle

Gaerten / Eierzweige	Osten				Norden				Sueden				Westen				Insgesamt
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Maximum	341	75	17	26	23	29	17	136		338	38	55	76	53	93	182	——
Minimum	0	0	1	3	1	2	0	1	0	31	1	3	5	11	23	34	——
Insgesamt	746	429	176	280	215	177	131	131		2333	241	434	540	615	1102	1988	11484
Durchschnitt	154.50				185.50				1098 1.75				1031.25				717.75

20. Dezember. 1935.

書報介紹

農報藥劑除蟲專號 -- 三卷一期，1-68頁。 南京，25年1月。該號內細目如次：顧玄一日本農用藥劑現狀之一瞥，1-6頁。吳福楨一重要殺蟲藥劑及國產噴霧器之應用，6-14頁。楊守珍孫雲沛一棉油乳劑製造之研究，15-21頁。姜毓芳一關於棉油乳劑藥害問題之實驗，23-24頁。任明道一關於砒酸鉛之參考資料，25-27頁。孫雲沛一湘南砒礦調查記，29-37頁。于菊生一日本應用藥劑防治介殼蟲情形，39-42頁。蔡克華一首都實驗民衆教育館防治菜蟲的實驗，43-48頁。劉孟昌一除蟲菊淺說，48-53頁。劉孟昌一我國殺蟲藥劑文獻初步名錄，65-66頁。 (馬駿超)

「浙江建設」園藝改良專號 -- 九卷六期，236頁，4圖版。 該號內病蟲害論文如次：王容庚金孟肯一浙江之重要園藝害蟲及其防治方法，1-26頁；羅伯棠一浙江園藝作物重要病害之防治，27-35頁；伊欽恒一果蔬病蟲的趨因和治法，48-69頁；馬志傳—

除蟲菊之栽培及其數種殺蟲劑，112-120頁.本省特產調查，（柑橘，橘柚，水蜜桃，棗，楸李，金塘梨，佛手，黃菊，生薑，蓮藕，各篇內均有病蟲害之述及）.

黃鴻臣 -- 胡瓜白粉病害之初步研究 -- 農學月刊，一卷四期，57-74頁，圖版1，圖13，參考書14. 北平大學農學院，25年1月。北平發現之胡瓜白粉病菌爲 *Sphaerotheca fuliginea* (Schl.)，純寄表面寄生，自胡瓜之生育全期均見之，爲害莖葉葉柄果柄作夢，而不直接爲害果實，但對於果實之間接損害甚大。本病除胡瓜外，其他葫蘆科作物如西瓜南瓜冬瓜香瓜越瓜葫蘆等亦均被害；但絲瓜不受本病之侵染；其他如菊科鳳仙科等植物亦然。株苗之受落逈愈甚者，病之爲害亦愈烈。又相關溫度高時，病菌之發育增速。（馬駿超）

項鴻章 -- 黃瓜白粉病之觀察報告 -- 同上，87-88頁，圖2. 作者就採自北平香山之本菌 *Uncinula Verniciberae* Henn. 觀察之結果，其胞子之大小，與原記佑氏及 P. Henning 氏所記載者略有出入，以爲或由於產地寄主及菌體老幼之不同所致.（馬駿超）

劉君謂 [Lieu, K. O. V.] -- 桑蚌蟲之生活史及防治法之初步報告 [Preliminary Notes on the Biology and Control of the Mulberry-Borer, *Paradoxecia pieli* Lieu (Lepid., Aegeriidae)] (In Chinese with English Abstr.) -- ii+32頁，圖3，表6. 上海(著者自印)，1935年12月. 桑蚌蟲*Paradoxecia pieli* Lieu 屬亮翅蛾科，最近經著者發表爲新種（摘要見本刊，IV: 頁）。下爲著者於1933年9月至次年 6月間所知，一年一化，幼蟲於七，八月間孵化後，由桑之葉柄或大葉痕蛀入桑枝皮層下，頭部殆全向下，漸蛀穿形成層及髓部，作一彎曲而長約 395 820mm.，蛀孔 11-23 枝之孔道，至翌年五六月間成熟時，掉頭向上，作羽化孔及羽化門. 繼即靜止約一星期而化蛹，再約經四星期(即六七月間)羽化。成蟲在飼育籠中經2-5日即死，並不交配產卵. 惟據野外考查，所知產卵處乃爲桑葉下面，貼近中肋或粗脈. 由人工孔道飼育幼蟲之成效達72%以上，如移植於桃柳海扁朴及木槿等枝內，亦能生長化蛹. 幼蟲善分泌黑紫色液體，自食其皺皮，常由孔道內爬出，其孵化時及成熟時且均善吐絲；一晝夜間約可蛀食 5.5mm. 長之孔道.在十月中旬蛀入桑掌者約20%.桑枝被害後，漸呈乾枯，大葉及葉柄亦漸乾枯落下. 枝之外側有一串由小而大，由上而下之蛀孔，又常有褐色斑跡一二條，與天牛所蛀之蛀孔大小一律且無褐斑者不同.幼蟲天敵，已查得蜂蠅目二種.防治法爲八月上旬捏死幼蟲，或九十月間剪枝除之.（馬駿超）

Bequaert, J. -- Presocial Behavior among the Hemiptera.〔半翅目之護子性〕(英文) -- *Bull. Brooklyn Ent. Soc.*, XXX:5, pp. 177-191, 66 refs. Lancaster, Pa. Dec. 1935. 著者就參考文獻所得〔R. F. Hussey (1934) 所述及者除外〕，半翅目之具護子性（即產卵後其父或母守護其旁，俟其孵化生長〔但不給食〕之習性）(Presocial Behavior) 者計屑蝽象4種，椿象8，扁蝽象2，食蟲椿象2，花蝽2，蠟蝽象1，水黽1，田黽(翼子蟲除外)1，石下蝽象(Aepophilidae)1，角蟬2.（馬駿超）

Baquaert, Joseph C. - - Oriental Nemestrinidae〔東亞擬長吻虻科〕(英文) - - *Psyche*, XLII:3, pp. 123-141. Cambridge, Mass. Sept. 1935. 東亞產之擬長吻虻科，共僅二十種，分隸於 Hirmoneurinae (隸 *Hirmoneura* 屬者13種)及 Trichopsideinae (分隸於 *Atriadops*, *Nycterimyia*, *Nycterimorpha* 及 *Ceyloniola* 四屬)二亞科，Nemestrininae 亞科尚未發現，而中國產者僅 *Atriadops javana* (Wied.)(福州) 一種，文內除備屬，亞屬及種之檢索表外，并記載四新種，一產邊羅，餘產安南。(馬駿超)

Li, L. Y.〔李來榮〕- - An Anthracnose of Hwangpee, *Clausena lansium* (Lour.) Skeels, in South China.〔華南黃皮之炭疽病〕(英文附中文摘要) - - *Lingnan Sci. Jour.*, XV:1, pp. 113-117, 1 fig., 1 ref. Canton, Jan. 1936. 嶺南大學果園內之黃皮(1935)患炭疽病而損失者約30%，而廣州市上貯藏果實之損失約15%。病原菌爲 *Gloeosporium* sp.〔近於 *Glomerella cingulata* S. et v. S. 之分生胞子期〕，接種於木瓜，芭蕉，胡椒，碌砂橘，橙，檸檬，番石榴，洋桃，蓮，山茄，龍果，梨及番荔枝，均能發病。(馬駿超)

Hoffmann, Wm. E. - - The Bionomics of the Rose Sawfly, *Arge victorina* Kirby (Hymenoptera: Argidae), with Notes on other injurious Tenthredinoid Larvae in Kwantung.〔廣東薔薇鋸蜂之生態及其他有害之鋸蜂幼蟲紀要〕(英文附中文摘要) - - *ibid.*, pp. 101-112, 1 pl. 薔薇鋸蜂(*Arge victorina* Kirby) 爲廣東一帶薔薇之重要害蟲。初夏之際，約需一個月以完成其生活史。文內除備載其各期形態習性及防治外，并附述爲害沙梨，十字花科，蘿蔔藤，竹，心蓼，山松，相思樹，棒樹及麻葛之諸種鋸蜂幼蟲之觀察(學名均未檢定)。(馬駿超)

Ng, Y. C.〔吳玉洲〕- - Notes on Moths collected in Canton.〔廣州採得之蛾類紀要〕(英文附中文摘要) - - *ibid.*, pp. 121-124, 3 refs. 本文所述及之蛾共四種(各期形態均有簡述)：*Cania bilinea* Wlk. (刺蛾科)，爲害黃心樹，幼蟲於十月七日結繭，二星期後羽化；*Carea subtilis* Wlk. (夜蛾科)爲害*Eugenia*，十月中旬結繭，下旬羽化；*Hypocala violacea* Butl. (夜蛾科)爲害柿葉，五月中旬化蛹，下旬羽化；*Syntomis luteifascia* Hmp. (鹿蛾科)爲害荔枝，木槿，枇杷，橄欖之葉，幼蟲發生於九十月，蛹期約十天。(馬駿超)

Hoffmann, Wm. E. - - *Diaphorina citri* Kuw. (Homoptera; Chermidae), a citrus Pest in Kwantung.〔廣東之柑橘葉蝨〕(英文附中文摘要) - - *ibid.* pp. 127-132, 2 figs., 5 refs. 柑橘葉蝨 *Diaphorina citri* 爲東亞之重要橘蟲，在廣東亦頗嚴重。第一代成蟲於二月下旬發生。初爲害 "Italian citron" 橘，後漸及其他橘類，個數亦漸增多，至九月下旬，仍有各齡幼蟲可見。年終時成蟲幼蟲均不復可得。(馬駿超)

Horn, W. & Kahle, I. - - Ueber entomologische Sammlungen, Teil I.〔歷代

昆蟲標本與被害狀標本。其一。)(德文)。*Ent. Beihefte a. Berlin-Dahlem*, II, pp. 1-16, 16 pl. Berlin. 1935. 本文係述各大洲各國昆蟲標本現藏地點之彙錄，以採集者姓氏爲次序，并記其生卒年份及標本性質(爲何科何目)。(其一)篇自Lullwitz氏之部。未附各專家定名之標本集中主爲害蟲。 (吳福禎)

本局消息

一、調查茶尺蠖 一月九日派技術員下孟仁指導員夏開誠赴九溪茶區一帶，調查茶尺蠖越冬情形，結果得繭甚多，現正繼查其羽化率及寄生率，以作研究之參考。

二、計劃棉種消毒試驗 二月上旬，已函美國拜耳製藥公司寄下各種藥粉，擬分別舉行試驗。

三、發現棉蚜寄主 二月十日曾發現棉蚜越冬寄主，係一種野草，俗名白蒿。越冬蟲態，係無性雌性成蟲。

四、交換蜂類及害蟲標本 美國 Oregon 州立農科大學教授 H.A. Scullen 氏最近函本局標本室請求交換細腰蜂科之 *Cerceris* 及 *Eucerceris* 兩屬標本以及害蟲標本，經該室覆函贊同，不日即可實行交換云。

各縣消息

德清 檢查稻根及宣傳冬耕 第三區農場治蟲專員章鈺於一月四日往導山稻蟲實施區檢查螟蟲死亡率，計檢查稻根百叢，獲大螟十二頭；二化螟二十三頭，死者五頭；三化螟十七頭，死者六頭；大螟無死亡，二化螟死亡20%，三化螟35.3%。該員並強制該區內農民實施冬耕灌水，以收冬季治蟲之效。

武康 一、指示預防稻椿象 一月十八日經三區農場治蟲專員章鈺，在長樂兆豐一帶檢查雜草及田塍草地匿藏稻椿象頗多，特囑由該鄉長督促農民焚燬田畔雜草，清潔桑園，及將稻根稻草提前燒完，以防後患。

二、檢查越冬螟蟲 第三區農場治蟲專員章鈺於一月中旬乘至塘溪貢士等處指導第一期治蟲之便，檢查該處螟蟲越冬情形，得悉以三化螟爲多，大螟次之，二化螟頗少。其死亡率三化螟佔18.6%，大螟佔2.4%，二化螟佔25%。

吳興 強制冬耕 第三區農場治蟲專員鍾壬樑於一月上旬指赴第九區塋英鄉道場鄉一帶，會同該兩鄉鄉長召集保甲長商洽冬耕事宜，經議決在舊曆年底前未冬耕者每畝科以一元罰金，以作雇工代辦之用。該員並至大通鄉冬耕示範區調查冬耕成績，迄調查時止冬耕者已達80%以上。

湯溪 獎收螟卵 第七區農場派治蟲專員胡[illegible]會同該縣治蟲督促員鄭春綱，分赴羅洋埠各鄉鎮，調查桑地面積約三百畝（舊畝），發現桑螟卵塊甚多，經縣員獎收卵塊辦法，並雇農民婦女孩童數百人，努力拾除，現已收到桑螟卵塊千餘兩。其獎收價目，每兩定銅元十枚至廿枚，隨時增減云。

國內消息

贛省去歲稻蟲損失千萬元　贛省去秋稻蟲爲害，據省農業院估計，損失竟達千萬元。預料今年蟲害將有甚於去年現正積極防治。（東南日報2月22日）

蘇崑山嘉獎治螟人員　該邑去年農田，因受螟災爲害，損失甚鉅，乃特舉辦除螟運動。以組織嚴密，督促有方，成績卓著。茲特獎勵努力工作人員，分別記功嘉獎計公安局長張達，農業推廣所管理員黃雲鳳，區長張勳、李達、李學松，蔡善鐘，及蕭炳良，趙師普等記功，殷保良，徐永泉，張炳坤等嘉獎。保甲長及農民方面，以何文明，陳榴等較努力，分別給予獎狀或改良稻種一担。其中最出力者爲八區桌舟鄉長邁子安，由縣府獎題；「除螟有功」扁額一方，以資激勵。（時事新報2月21日）

粵農林局派員調查潮安柑橘害蟲　潮州產柑橘甚多，年來以病蟲爲害，致出產日少，影響農民生計頗巨。茲該局爲明瞭該處柑類蟲害現狀，以謀補救計，特派技士黃啓元前往切實調查。經調查完竣，蔡全邑栽培面積八萬餘畝，而第六區淨淨約千畝以上，近年因樹葉發黃（俗稱黃頭黃）而死者甚多，現存者僅一百畝左右。至天牛所害者亦殊嚴重，第七區西林鄉一帶，天牛爲害達70%。全縣因黃龍病及天牛爲害而減少種植約佔四分之一云。（廣東農業推廣第六期）

番禺新洲蔗田之蟲害及其防治概況　粵省近來復興糖業，各地農民紛紛植蔗。惟去歲各地蔗田，受蟲害侵蝕，致質量均形劣減。實農林局，乃派技士梁國農魏崇慶陳夢上等分別担任廣州第一蔗糖營造廠及番禺新洲，順德鄧陳村等處之防治研究事宜。其中以新洲蔗苗受甘蔗鑽心蟲害最重，被害約在30%以上，害蟲計有五種：(一)甘蔗螟蟲 *Diatraea* sp.，（二）甘蔗大螟蟲 *Sesamia (Nonagria) inferens* Walk.，（三）甘蔗白螟蟲 *Scirpophaga nivella* Fab.，（四）甘蔗蘚蛾 *Olethreutes schistaecana* Su.，（五）甘蔗螟蟲 *Chilo* sp.。其實施工作，一方注重實地施行防除，一方則從事研究。至防除方面組織有治蟲童工一隊，隊員十名，每月各支工銀四元。每日規定上午五時半至九時，下午五時至七時爲蔗田工作時間。其餘則爲上課及檢查枯心苗鑽心蟲時間。自二十四年五月十一日起至六月十四日止，拔得枯心蔗苗三萬九千五百四十一株，獲蟲八千二百四十餘頭。因着手工作稍遲，而鑽心蟲多已羽化，或爲其他天敵所寄生，所獲蟲量故較少。但經此次驅除後，此害輒減。（廣東農業推廣第六期）

粵儋縣中部稻作病蟲一斑　儋邑爲海南島水稻主要產地，病害以稻熱病發生最烈，因去歲八九月間旱魃爲災，此病普及全邑，稻葉萎縮枯死者甚多；蟲害以蝽枝蟲爲最普通，常咬斷稻垂葉，日間蟄伏陰暗處，夜間則活動非常，爲害特厲。此外多化性螟蟲爲害亦極嚴重。農民莫不焦慮憂戚。（摘自瓊農第二十，二一合刊儋縣中部水稻耕作法）

粵從化天牛爲害柑橘　該邑農院鄉宮產柑橘，爲該邑農產收入首位。唯以天牛爲害甚烈，常致枝葉枯萎，樹下蟲屑累累。經該省農林局派員調查，天牛分星，褐二

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種，損失最大者約58%，最小爲11.5%，平均爲29.8%。（昆蟲問題第二期第九頁）

樹德會注意防除荔枝椿象 該會於民國二十三年一月在粵省東莞縣金楠鄉籌備成立後，即與該地荔枝園主訂立五年除蟲工作合同，由該園園主捐助荔枝收成之半數爲該會津貼。自後該會即訂定工作計劃，招收童工五十名編爲治蟲隊。除供膳食外，每月每名酌給工資二元。此等童工在蟲害猖獗時則實施工作，其餘時間由該會發給書籍用具，講授治蟲課程。其防除方法，最初飭童工扒樹赤手捕捉。查此種椿象，粵人土稱爲金背，因臭液頗多，常射入人目，工作頗不方便。後用桐油塗於竹竿上以黏金背，頗得相當功效。後復應用搖落法，震動樹幹，蟲均落地集而殺之。該會又利用網羅法，以大網包圍荔樹，搖震後，此蟲驚慌亂飛，觸網墜地，一無逃逸。該處自經該會運用此法防除後，蟲勢大殺。荔枝乃得豐收。離該會二十里之葉家村仿行此法，並行獎收，所費僅八百元，而增益達一萬三千餘元。故與該會相鄰之百數十方里之各村莊，無不諳熟此種防除方法及對該會表示好感。（昆蟲問題第二期第十頁）

「昆蟲問題」創刊號發行 「昆蟲問題」係爲月刊，由廣州西湖路32號樹德會主編，其創刊號已於本年一月出版，計十六開本十頁，內容爲：黃崑崙之「害蟲之生物防除」，陳夢士之「廣東之種業與甘蔗害蟲問題」，黎國燕之「廣西水稻一點大螟蟲二三國代發生之適應與防治上之利用」，又附錄「兩廣從事昆蟲工作人名錄」。每冊定價五分，該刊并歡迎外界投稿云。