

TAXONOMIC NOTES ON SOME NORTH AMERICAN APHIDS

V. F. EASTOP AND D. J. VOEGTLIN

(VFE) British Museum (Natural History), Cromwell Road, London SW7 5BD, United Kingdom; (DJV) Center for Biodiversity, Illinois Natural History Survey, 607 E. Peabody, Champaign, Illinois 61820.

Abstract.—Typic material of four poorly known aphid species from North America, *Amphorophora singularis* Hottes & Frison, *Capitophorus corambus* Hottes & Frison, *Phorodon scrophulariae* Thomas and *Kakimia mimulicola* Drews & Sampson, has been examined. Appropriate synonymy or generic placement is suggested for each species.

Key Words: Homoptera, Aphididae, taxonomy, North America

There are nominal aphid species in the fauna of every region that have been described from one or a few specimens and have rarely, if ever, been identified after the initial collection. The reasons for this vary, but possibly the most common reason is that the original generic placement, based on earlier generic concepts and often erroneous host records, is wrong. The four species discussed below fall into this category, and the synonymy or appropriate generic placement for each is given. For each of the cases below, careful comparisons were made between the typic material and specimens of the species to which we believe they belong. Measurements and photographs taken from the typic material are provided to support the placement. The quality of these photographs varies with the condition of the specimen on the slide. No attempt was made to remount the type specimens.

Amphorophora singularis Hottes and Frison (1931) was described from a single aptera, taken on an unknown species of grass in Golconda, Illinois. We cannot distinguish it from *Microparsus* (*Megouroparsus*) *kislankoi* Smith & Heie 1963, for which we believe it is an earlier name. Characters of

A. singularis fit those of the subgenus *Megouroparsus* and match those in the original description of *kislankoi*. Most obvious are the distinct sclerotization pattern, shape of siphunculi, diverging antennal tubercles, short setae on body, head, antennae and legs, and spinules on frontal tubercles and femora. Measurements taken from the type specimen (Table 1) closely match those from the type series of *M. kislankoi* as does the photograph of the holotype of *A. singularis* (Fig. 1) when compared to the photograph of *M. kislankoi* in the original description (Smith & Heie 1963). We therefore consider *Microparsus* (*Megouroparsus*) *kislankoi* Smith & Heie a synonym of *Microparsus* (*Megouroparsus*) *singularis* (Hottes & Frison). *M. kislankoi* is reported to have as its hosts several species of *Lespedeza* (Leguminosae). It is possible that the single aptera of *singularis* was only accidentally on the grass.

Capitophorus corambus Hottes and Frison, 1931 was described from an alata (the holotype), one aptera (labelled morphotype) and one alata (paratype) collected from *Rosa* sp. in Galena, Illinois. The very slightly swollen siphunculi, sensoria only on antennal segment III in both aptera and alatae,

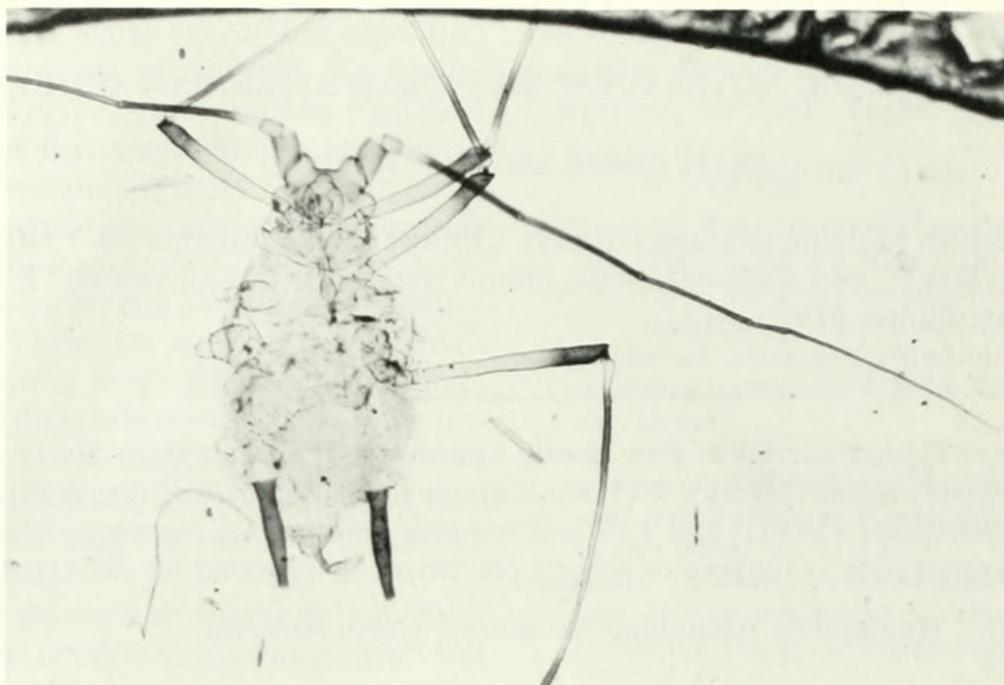


Fig. 1. Holotype of *Amphorophora singularis* on slide #10381, INHS (7.8 \times).

slightly capitate setae on head and body and shape of head and cauda indicate that they are the *Ribes* feeding species *Hyperomyzus* (*Neonasonovia*) *ribiella* (Davis 1919). Other specimens on the slides are one aptera without antennae which is *Rhodobium porosum*

(Sanderson) and one nymph of *Chaetosiphon* (*Pentatrichopus*) sp.? supporting the recorded host as rose. Photographs of the holotype and morphotype of *C. corambus* are shown in Figs. 2 and 3 and measurements are given in Table 1. We therefore

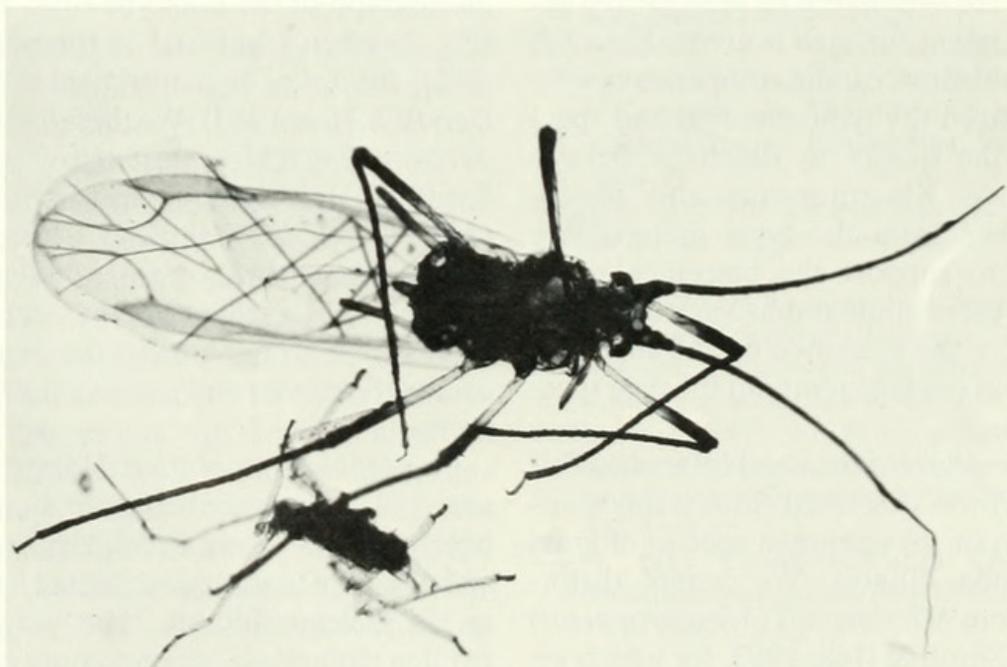


Fig. 2. Holotype of *Capitophorus corambus* on slide #10657, INHS (7.8 \times).

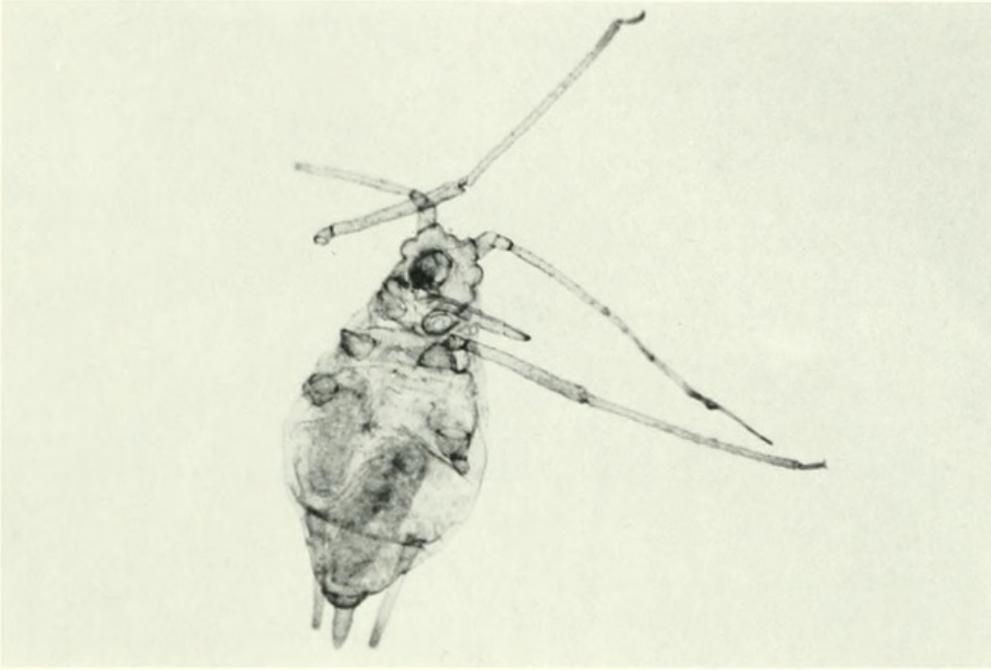


Fig. 3. Morphotype of *Capitophorus corambus* on slide #10658, INHS (6.25 \times).

consider *Capitophorus corambus* Hottes & Frison a synonym of *Hyperomyzus* (*Neonasonovia*) *ribiella* (Davis).

A slide labelled *Myzus scrophulariae* bears the single specimen taken on *Scrophularia nodosa* at Carbondale, Illinois, and described as *Phorodon scrophulariae* Thomas

1879. Characters such as converging, rugose frontal tubercles, swollen and imbricated siphunculi and strongly wrinkled abdominal dorsum place this specimen in the genus *Hyalomyzus*. We believe it is the species described as *Rhopalosiphum monardae* Davis 1911, now known as *Hyalomyzus monar-*



Fig. 4. Lectotype of *Phorodon scrophulariae* on slide #2798, INHS (6.25 \times).



Fig. 5. Cotype of *Kakimia mimulicola*, slide from Essig Collection at U.C. Berkeley (6.25×).

dae (Davis) and for which it would be an older name. We think it is undesirable to replace a well known and appropriate name with a previously unrecognised and inappropriate name and will request the International Commission on Zoological Nomenclature to suppress the name *scrophulariae*.

A photograph of the lectotype of *Phorodon scrophulariae* is shown in Fig. 4, measurements are given in Table 1.

Kakimia mimulicola Drews and Sampson 1937 was described from *Mimulus* sp. (Scrophulariaceae). The short, distinctly shaped cauda, W-shaped front and rhinarial

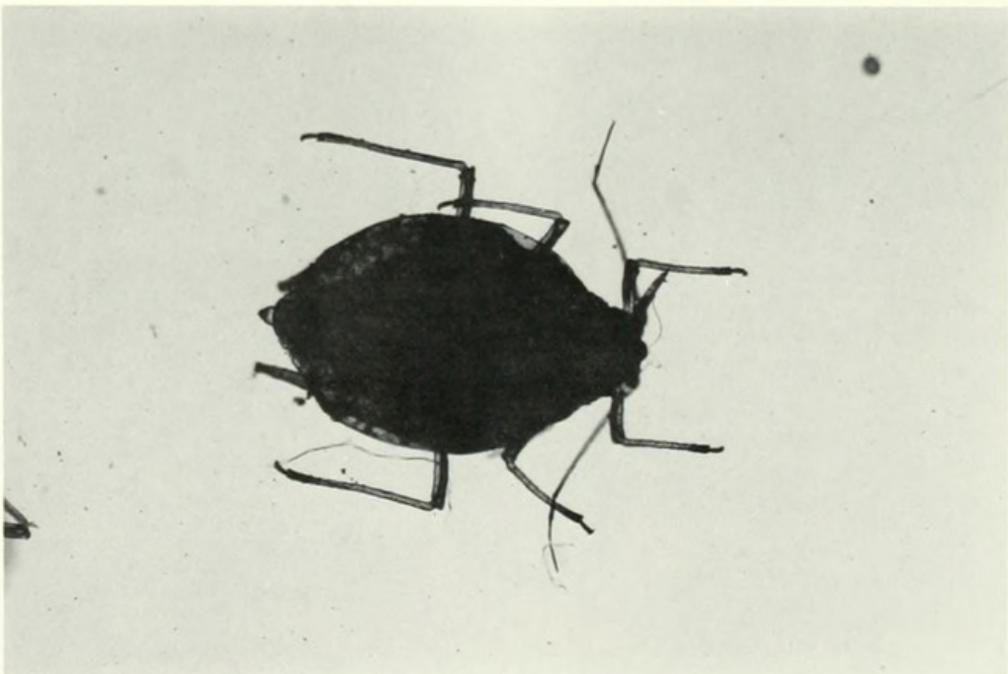


Fig. 6. Cotype of *Kakimia mimulicola*, slide from Essig Collection at U.C. Berkeley (6.25×).

Table 1. Measurements taken from holotype, lectotype or cotype specimens of species mentioned above, all measurements are in millimeters. Abbreviations are as follows: Ant. = antennal segment, Ant. Vlb = base of sixth antennal segment, Ant. VIpt = process terminalis of sixth antennal segment, URS = ultimate rostral segment, Hi II = second segment of hind tarsus, Set. URS = accessory setae on ultimate rostral segment, Set. Cauda = setae on cauda, n.m. = not measurable.

Species Name	Body	Siphunculi	Cauda	Antennal Segment					Ultimate Rostral Segment		Caudal Setae	
				III	IV	V	Vlb	VIpt	Length	# of Setae		
<i>Amphorophora singularis</i> Hottes & Frison												
Holotype, aptera	1.71	0.43	n.m.	0.54	0.53	0.45	0.15	0.92	n.m.	0.1	2	2
<i>Capitophorus corambus</i> Hottes & Frison												
Holotype, alata	1.26	0.47	0.2	0.59	0.38	0.33	0.095	0.77	0.1	0.14	5	8
Morphotype, aptera	1.47	0.57	0.27	0.57	0.31	0.3	0.097	n.m.	0.1	0.15	8	7
<i>Phorodon scrophulariae</i> Thomas												
Lectotype, aptera	1.56	0.35	n.m.	0.42	0.3	0.26	0.12	0.41	0.1	0.12	1	4
<i>Kakimia mimulicola</i> Drews & Sampson												
Cotype, alata	1.6	0.27	0.1	0.39	0.25	0.20	0.12	0.32	0.09	0.13	2	6
Cotype, aptera	1.98	0.35	0.12	0.29	0.19	0.14	0.12	0.28	0.08	0.14	2	4

distribution in alatae suggest it belongs in the genus *Myzodium*. No clear differences can be found between it and either *Myzodium modestum* (Hottes) 1926 or *Myzodium knowltoni* Smith and Robinson 1975 both of which have as their hosts a moss (Bryophyta). It is regarded here as *Myzodium mimulicola* (Drews & Sampson), but its separate identity requires experimental confirmation. Photographs of an alata and aptera taken from cotype slides are shown in Figs. 5 and 6 and measurements are given in Table 1.

ACKNOWLEDGMENTS

This paper was supported in part by NSF Grant #BSR84-11418 which funded a month-long visit by the senior author to the Illinois Natural History Survey. We would also like to thank George Godfrey and John Bouseman of the Illinois Natural History Survey for reviewing this manuscript and Jerry Powell, University of California, Berkeley for the loan of the cotypes of *Kakimia mimulicola*.

LITERATURE CITED

Davis, J. J. 1911. Williams' "The Aphididae of Nebraska"; a critical review. University Studies of the University of Nebraska 11: 253-291; also paged as 1-39.

———. 1919. Miscellaneous aphid notes 1. Can. Entomol. 51: 228-234.

Drews, E. A. and W. W. Sampson. 1937. A new species of aphid from California. Pomona Coll. J. Entomol. Zool. 29: 29-30.

Hottes, F. C. 1926. Two new genera and a new species of Aphididae. Proc. Biol. Soc. Wash. 39: 115-119.

Hottes, F. C. and T. H. Frison. 1931. The plant lice, or Aphididae, of Illinois. Bulletin of the Illinois State Natural History Survey 19: 121-447.

Smith, C. F. and O. E. Heie. 1963. *Megouroparsus*, new genus, related to *Microparsus* Patch and *Megoura* Buckton (Homoptera: Aphididae). Ann. Entomol. Soc. Amer. 56: 401-406.

Smith, C. F. and A. G. Robinson. 1975. The genus *Myzodium* with the description of *M. knowltoni*, new species (Homoptera: Aphididae). Proc. Entomol. Soc. Wash. 77: 481-486.

Thomas, C. 1879. Noxious and beneficial insects of the state of Illinois. Rep. State Entomol. (Illinois) 8: 1-212.



Eastop, V. F. and Voegtlin, David J. 1990. "Taxonomic notes on some North American aphids." *Proceedings of the Entomological Society of Washington* 92, 115–119.

View This Item Online: <https://www.biodiversitylibrary.org/item/84617>

Permalink: <https://www.biodiversitylibrary.org/partpdf/63916>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Smithsonian

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Entomological Society of Washington

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.