

**C.V. RILEY'S LOST APHIDS: *SIPHONOPHORA FRAGARIAE* VAR. *IMMACULATA* AND *APHIS RAPAE* VAR. *LAEVIGATA* (HEMIPTERA: APHIDIDAE)<sup>1</sup>**

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**ABSTRACT:** The syntypes of *Siphonophora fragariae* var. *immaculata* Riley were rediscovered in the aphid collection of the United States of America National Museum of Natural History. The name (*S. fragariae immaculata*) previously being largely lost and forgotten, we here establish it as the senior synonym of *Macrosiphum euphorbiae* (Thomas). Reversal of precedence can be validated, however, and we establish *S. fragariae immaculata* as a *nomen oblitum* and *M. euphorbiae* a *nomen protectum* with respect to each other. In uncovering the original description of the Riley species, we also found a description of *Aphis rapae* var. *laevigata* Riley. We have not found *A. rapae laevigata* anywhere else in the literature nor have we found any type specimens. Based on Riley's succinct description and host plant identity, we consider it a *nomen dubium* synonym of *Myzus persicae* (Sulzer). Because the short articles publishing the two aphid names have been missing from taxonomists' libraries, they are transcribed in their entirety.

**KEY WORDS:** *nomen oblitum*, *nomen protectum*, *Macrosiphum euphorbiae*, *Myzus persicae*, potato aphid, green peach aphid, new synonymy

***SIPHONOPHORA FRAGARIAE* VAR. *IMMACULATA***

During a recent audit of the primary type specimens in the U.S. National Museum of Natural History's aphid collection (Beltsville, MD), we found a single slide containing five oviparae syntypes of *Siphonophora fragariae* var. *immaculata* Riley 1875a. In the most recent aphid taxonomic catalogs, the name is listed variably as invalid (Eastop and Hille Ris Lambers 1976: 511) or as a *nomen dubium* (Smith and Parron 1978: 182, Remaudière and Remaudière 1997: 264).

Using our personal knowledge of aphids and the appropriate keys published by Blackman and Eastop (2000, 2006), we determined the material as conspecific to *Macrosiphum euphorbiae* (Thomas 1878) (*Siphonophora*). Although the Riley name has priority over Thomas', the latter has been used extensively in reference to an important cosmopolitan pest species, whereas the former has been largely lost and forgotten. In the interest of nomenclatural stability, precedence can be reversed in favor of the Thomas name in accordance with article 23.9.1 of the fourth edition of the International Code of Zoological Nomenclature (ICZN 1999).

*S. fragariae immaculata* was first described by Riley (1875a: 395, see below), briefly reconsidered (Riley 1879: 22), and listed in Williams' (1891: 24) host

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plant list. Hunter (1901: 114) simply listed it as an aphid in North America, Pergande (1904: 22) mentioned it in passing only to establish another species as distinct, and Patch (1938: 370) listed it in the index only and not in her food plant catalog proper. The most thorough nomenclatural treatment of *S. fragariae immaculata* was by Davis (1911: 327-328) who was unable to establish anything conclusive; Smith and Parron (1978: 182) cite Davis (1911) as listing the name a *nomen dubium*. Finally, Hottes and Frison (1931: 284) in considering the validity of a different species, and later Leonard (1963: 74) citing Hottes and Frison (1931), state "it is doubtful if the species can ever be placed," thereby not addressing the validity of the Riley name and in fact highlighting its problematic nature. We consider these citations, in not providing anything informative as to the identity or nature of the species, to meet the condition of ICZN article 23.9.1.1 ("the senior synonym or homonym has not been used as a valid name after 1899").

To address ICZN article 23.9.1.2 ("the junior synonym or homonym has been used for a particular taxon, as its presumed valid name, in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years"), we here cite the following articles, listed in chronological order: Hille Ris Lambers and MacGillivray 1959, Russell 1960, Stroyan 1961, Shaposhnikov 1964, Robinson and Bradley 1965, Quednau 1966, Medler and Ghosh 1969, Miyazaki 1971, Smith et al., 1971, Tambs-Lyche 1971, Leonard 1972, Ilharco 1973, Holman 1974, Johnson and Lyon 1976, Kono and Papp 1977, Quist 1978, Knowlton 1983, Blackman and Eastop 1984, 1994, Gualtieri and McLeod 1994, Heie 1994, Miller and Stoetzel 1997, Shah et al., 2000, Goggin et al., 2001, Hummel et al., 2004.

With both ICZN conditions met (ICZN articles 23.9.1.1 and 23.9.1.2), we establish the senior synonym *Siphonophora fragariae immaculata* Riley as *nomen oblitum* and *Siphonophora euphorbiae* Thomas as *nomen protectum* with respect to each other (ICZN article 23.9.2). To our knowledge, these are the first aphid names to hold these statuses.

### ***Macrosiphum euphorbiae* (Thomas)**

*Siphonophora euphorbiae* Thomas 1878: 6; ***nomen protectum***. Lectotype: Illinois Natural History Survey Insect Collection specimen number 457,907.

*Siphonophora fragariae* var. *immaculata* Riley 1875a: 395; **new synonymy, *nomen oblitum***. Syntypes: U.S. National Museum Department of Entomology specimen slide number 398,482.

### ***APHIS RAPAE* VAR. *LAEVIGATA***

Upon acquiring and examining a copy of the original description of *S. fragariae immaculata* (Riley 1875a), we found another short article describing an aphid on turnip (Riley 1875b, see below): *Aphis rapae* var. *laevigata* Riley

1875b. To our knowledge, the name has not been published since 1875 and we were unable to recover type specimens in the U.S. National Museum of Natural History's aphid collection. Using aphid identification keys (Blackman and Eastop 2000, 2006) to various brassicaceous plants (e.g., cabbage, turnip), we consider it most likely that Riley was working with *Myzus persicae* (Sulzer). Our decision is supported through his brief comparison to *Aphis rapae* Curtis [= *Myzus persicae*] and we here propose Riley's species as a junior synonym.

***Myzus persicae* (Sulzer)**

*Aphis persicae* Sulzer 1776: 105.

*Aphis rapae* var. *laevigata* Riley 1875b: 395; **new synonymy, nomen dubium.**

**TEXT OF RILEY'S (1875a, b) ORIGINAL DESCRIPTIONS**

Entomological Notes.

NEW STRAWBERRY INSECT.

SIR: I send you some strawberry leaves, with a green fly or louse on them. They have injured my bed badly. Is there a remedy? Will it be safe [sic] to set plants from this bed? May I expect them to continue in the spring? They work on the under side of the leaf all the time. Please give me such information as you possess and oblige.

W. W. HOPKINS.

*Kansas City, Mo., Nov. 15th, '75.*

The insects accompanying the above letter were a species of plant-louse (*Aphis* family) belonging to the genus *Siphonophora*, and very closely allied to *S. fragariae*, Koch, which similarly infests the strawberry in Europe. It differs chiefly in lacking a row of minute black spots each side of the back, and in the head of the wingless female not being black, but yellowish. It may be considered as a variety (*immaculata*) of that species, and I shall treat of it in my next Report in conjunction with another which infests the roots of the strawberry. Since no such insect has been reported as infesting this plant in America before, it would be interesting to ascertain, if possible, whether those now found around Kansas City came from the old country. Perhaps the history of Mr. Hopkins' plants (whence they came, etc.) would throw light on the subject, and I shall be glad to receive any further facts.

Whether the lice will be troublesome again next spring, or not, is impossible to tell, though the probabilities are that they will recur next year, and increase as the season advances. It is well to look out for them early and destroy the first that appear by a good sprinkling with strong soap-suds, mixed with a decoction of tobacco.

C. V. RILEY.

NEW TURNIP INSECT.

DEAR SIR: Inclosed [sic] I send you a leaf of turnip, covered as you see with vampires – and such vampires, too! They have nearly ruined the

finest turnip-crop I ever had. What are they, and how can I kill them, so as to keep my crop? We have dusted ashes on, but as yet with no effect.

C. P. B. MARTIN.

*Willis, Texas, Nov. 10th. '75.*

Just as in the preceeding [sic] case of the strawberry aphid, so in this case we have an aphid infesting the turnip, for the first time reported in this country, and also very similar to, but apparently not identical with, an European [sic] species (*Aphis* [sic] *rapæ*, Curtis) that similarly infests the turnip in Europe. Our insect differs from the descriptions of *rapæ* in not being shagreened or roughened, and may be called variety *laevigata*. I would recommend the same remedy for this as for the strawberry species. In both instances the operator must take the trouble to turn up the leaves, as the insects mostly cluster on the under side. I should be pleased to hear from Mr. Martin as to whether there are any grounds for the suspicion that this turnip aphid may have been introduced into Texas from Europe.

C. V. RILEY.

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