

**FITCH'S *APHIS MALI* VARIETIES ARE
RHOPALOSIPHUM OXYACANTHAE
(HEMIPTERA: APHIDIDAE)¹**

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ABSTRACT: The types of *Aphis mali* var. *fulviventris*, var. *nigricollis*, var. *nigriventris*, var. *obsoleta*, var. *pallidicornis*, var. *tergata*, var. *thoracica*, and var. *triseriata* (all Fitch 1855) were rediscovered in the aphid collection of the United States of America National Museum of Natural History. Previously considered *nomina dubia*, we here establish them, along with Fitch's other two *A. mali* varieties, var. *bivincta* and var. *immaculata*, as junior synonyms of *Rhopalosiphum oxyacanthae* (Schrank) [= *R. insertum* (Walker)].

KEY WORDS: Asa Fitch, *Aphis mali*, *Rhopalosiphum oxyacanthae*, *R. insertum*, Hemiptera, Aphididae, new synonymy

Asa Fitch (1809-1879) was one of America's first leading entomologists. Working in New York State, he named 429 insect species and published 222 popular and scientific entomological papers (Barnes 1988). Fitch described 52 species and subspecies of aphids, 33 of which remain valid (as of Barnes 1988). Among his aphid species-groups were 10 varieties of *Aphis mali* Fabricius. *Aphis mali* is today a junior synonym of *Aphis pomi* DeGeer, but Fitch's concept of *A. mali* was recognized as a distinct species and named *Aphis fitchii* Sanderson (1902). *Aphis fitchii*, was in turn made a synonym of a *Rhopalosiphum insertum* (Walker) (Eastop and Hille Ris Lambers 1976), which is today a synonym of *R. oxyacanthae* (Schrank) (García Prieto et al., 2004).

Fitch described his ten varieties of *A. mali* in 1855 (pp. 759-760): *A. mali* var. *bivincta*, var. *fulviventris*, var. *immaculata*, var. *nigricollis*, var. *nigriventris*, var. *obsoleta*, var. *pallidicornis*, var. *tergata*, var. *thoracica*, and var. *triseriata*. Unfortunately, Fitch mounted most of his aphid specimens on pins, points, or glueboards, and many have been destroyed or rendered otherwise unusable over the years. Examination of Fitch's unpublished aphid notes (Miller et al., 2006) did not provide any additional information for further clarification of his *Aphis mali* varieties. Due to inadequate descriptions and missing types, the names of these ten varieties have been considered *nomina dubia* (Smith and Parron 1978, Remaudière and Remaudière 1997).

Theodor Pergande, the first curator of the United States of America National Aphid Collection from 1878 to 1915, slide-mounted some of Fitch's specimens in 1903 (Pergande's notes in the National Aphid Collection, Beltsville, Mary-

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land, USA) but could not locate *A. mali* var. *immaculata*. During a recent audit of the National Museum of Natural History's Aphid Type Collection (Beltsville, Maryland, USA), we rediscovered the type slides of eight of the ten *nomina dubia*. We determined them as *Rhopalosiphum oxyacanthae* (Schrank) and here establish them as synonyms. Although we found only eight of the ten missing types, because Fitch's (1855) descriptions indicate that all ten varieties were very similar and from the same host plant species, we here also regard the other two varieties as synonyms of *R. oxyacanthae*.

Rhopalosiphum oxyacanthae (Schrank 1801: 116) (*Aphis*)

Aphis mali var. *bivincta* Fitch 1855: 760. **New synonymy** (Fitch number 4,992, mounted by Pergande, but not located in the collection).

Aphis mali var. *fulviventris* Fitch 1855: 760. **New synonymy** (Fitch number 5,000, NMNH catalog number 399,000, alate male).

Aphis mali var. *immaculata* Fitch 1855: 760. **New synonymy** (type missing, per Pergande's notes).

Aphis mali var. *nigricollis* Fitch 1855: 760. **New synonymy** (Fitch number 4,993, NMNH catalog number 399,001, alate female).

Aphis mali var. *nigriventris* Fitch 1855: 760. **New synonymy** (Fitch number 4,997, NMNH catalog number 399,002, alate female).

Aphis mali var. *obsoleta* Fitch 1855: 760. **New synonymy** (Fitch number 4,990, NMNH catalog number 399,003, alate female).

Aphis mali var. *pallidicornis* Fitch 1855: 759. **New synonymy** (Fitch number 4,987, NMNH catalog number 399,004, alate female).

Aphis mali var. *tergata* Fitch 1855: 760. **New synonymy** (Fitch number 4,994, NMNH catalog number 399,005, alate male).

Aphis mali var. *thoracica* Fitch 1855: 760. **New synonymy** (Fitch number 4,995, NMNH catalog number 399,006, alate female).

Aphis mali var. *triseriata* Fitch 1855: 760. **New synonymy** (Fitch number 4,988, NMNH catalog number 399,007, alate male).

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