

A revision of the taxonomic status of two genera, *Sportaphis* Zhang and *Polygonaphis* Zhang (Homoptera: Aphididae, Macrosiphinae)

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Abstract: This paper revises the taxonomic status of *Sportaphis sporta* Zhang, 1999 and *Polygonaphis aciculansucta* Zhang, 1999 based on re-examination of the type materials specimens and additional materials. Four new junior synonyms are proposed: *Sportaphis sporta* Zhang, 1999 = *Tenuilongiaphis stata* Zhang and Zhong, 1993; and *Polygonaphis aciculansucta* Zhang, 1999 = *Aspidaphis adjuwas* (Walker, 1848); *Sportaphis* Zhang, 1999 = *Tenuilongiaphis* Zhang, 1993; *Polygonaphis* Zhang, 1999 = *Aspidaphis* Gillette, 1997. Specimens studied are deposited separately in the Zoological Museum, Institute of Zoology, Chinese Academy of Sciences, the Illinois Natural History Survey, University of Illinois and the France Natural History Museum, France.

Key words: Homoptera; Aphididae; Macrosiphinae; *Sportaphis*; *Polygonaphis*; synonym

Zhang (1999) described two species, i.e., *Sportaphis sporta* Zhang and *Polygonaphis aciculansucta* Zhang (Macrosiphinae, Aphididae) from Northwest China. While checking specimens of the subfamily Macrosiphinae in the USA and France, the junior author found that *Polygonaphis aciculansucta* Zhang was almost identical in many morphological features to *Aspidaphis adjuwas* (Walker) (not found in China). So, the current status of the genus *Polygonaphis aciculansucta* Zhang is very doubtful. On the other hand, when systematically checking specimens of Macrosiphinae from China, we found that the genus *Sportaphis sporta* Zhang was not distinctly different from *Tenuilongiaphis stata* Zhang (only distributed in endemic to China). By checking the type specimens of these two species, we found that the taxonomic status of *Sportaphis sporta* Zhang was also doubtful. Consequently, we systematically reexamined the morphology of these species and related two genera by checking type specimens or entitled specimens of related species. The results are reported as below. Specimens studied are deposited in the Zoological Museum, Institute of Zoology, Chinese Academy of Sciences, Beijing, except indicated otherwise. Abbreviations: INHS, the Illinois Natural His-

tory Survey, University of Illinois; NHMF, the Natural History Museum, France.

Tenuilongiaphis Zhang, 1993

Tenuilongiaphis Zhang, 1993: 140. Type species: *Tenuilongiaphis stata* Zhang and Zhong, 1993; by monotypy.

Sportaphis Zhang, 1999: 486. Type species: *Sportaphis sporta* Zhang, 1999; by monotypy. **Syn. nov.**

Tenuilongiaphis stata Zhang, 1993

Tenuilongiaphis stata Zhang, 1993: 140-142. Holotype: 1 apterous viviparous females, 1986-VII-11, CHINA: Gansu Province (Ming County), No. 8460, host plant: *Artemisia argyi*, by ZHONG Tie-Sen and ZHANG Guang-Xue [examined].

Sportaphis stata Zhang, 1999: 486. Holotype: 1 apterous viviparous female, 1986-VIII-11, CHINA: Qinghai Province (Datong County), No. 8649-1-1-2, host plant: a bush, by ZHANG Guang-Xue [examined]. **Syn. nov.**

Additional material examined 3 apterous viviparous females (paratypes of *Tenuilongiaphis stata* Zhang and Zhong), 1986-VII-11, CHINA: Gansu Province (Ming County), No. 8460, host plant: *Artemisia argyi*, by ZHONG Tie-Sen and ZHANG Guang-Xue.

Distribution China: Gansu (Ming County), Qinghai (Datong County).

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Host plant *Artemisia argyi*.

Remarks *Tenuilongiaphis stata* was described by Zhang and Zhong (1993) as the type species of the genus *Tenuilongiaphis*, and is only distributed in Gansu and Qinghai Provinces, China. *Sportaphis sporta* was described by Zhang (1999) as the type species of the genus *Sportaphis*, and is only distributed in Qinghai Province, China. Type specimens of these two species are deposited in the Zoological Museum, Institute of Zoology, Chinese Academy of Sciences. After carefully checking, describing and measuring these types, we found some differences from the original descriptions and figures as follows.

The apex of the ultimate rostral segment has 2 pairs of primary setae and 2 pairs of secondary setae; but these were not stated in the original description and original figure. Siphunculus is covered with weakly transverse stripes, but was described as smooth in the original description. The cauda has 22 setae, but only 6 or 7 setae in the original description and figure. Because most of the cauda and anal plate were covered with elongated abdominal tergite VIII, the anal plate was not visible and, only the distal part of the cauda could be seen, the siphunculus is clearly visible in a dorsal view of abdomen. Both the cauda and the anal plate can be seen together in the ventral view of abdomen, but the siphunculus is not visible, which was wrongly indicated in the original figure.

When the type specimens of *Tenuilongiaphis stata* Zhang and Zhong were checked, one lateral antennae was 4-segmented while the other lateral was 5-segmented in some specimens, antennal segments III and IV in a few specimens were indistinctly segmented. Actually, antennae of the genus *Tenuilongiaphis* should be described as 4- or 5-segmented, but were described as 5-segmented in the original description.

Based on the above reasons, *Sportaphis sporta* Zhang should be a junior synonym of *Tenuilongiaphis stata* Zhang and Zhong.

Sportaphis sporta Zhang was described as the type species (and also the only species of *Sportaphis*), but is, in fact, a junior synonym of *Tenuilongiaphis stata* Zhang and Zhong, the type species of *Tenuilongiaphis*. In other words, these two genera refer to the same taxon, and *Sportaphis* Zhang, 1999 should be a junior synonym of the genus *Tenuilongiaphis* Zhang, 1993.

Aspidaphis Gillette, 1917

Aspidaphis Gillette, 1917: 196. Type species: *Aphis adjuvans* Walker, 1848; by original designation.

Polygonaphis Zhang, 1999: 471. Type species: *Polygonaphis aciculansucta* Zhang, 1999; by monotypy. **Syn. nov.**

Aspidaphis adjuvans (Walker, 1848)

Aphis adjuvans Walker, 1848: 2220.

Aspidaphis adjuvans (Walker): Gillette, 1917: 196; Heie, 1992: 129; Remaudière and Remaudière, 1997: 73.

Polygonaphis aciculansucta Zhang, 1999: 471. Holotype: 1 alate viviparous female, 1985-VIII-9, CHINA: Gansu Province (Dunhuang City), No. 8005, host plant: *Polygonum aviculatum*, by ZHANG Guang-Xue and ZHONG Tie-Sen [examined]. **Syn. nov.**

Additional material examined 3 alate viviparous females (paratypes of *Polygonaphis aciculansucta* Zhang), 1985-VIII-9, CHINA: Gansu Province (Dunhuang City), No. 8005, host plant: *Polygonum aviculatum*, by ZHANG Guang-Xue and ZHONG Tie-Sen; 8 alate viviparous females (determined by Qiao Ge-Xia), 1950-V-31, CHINA: Beijing City (Nanyuan District), host plant: *Polygonum perpusillum*, by ZHANG Guang-Xue; 6 apterous viviparous females (paratypes of *Aspidaphis adjuvans* (Walker)), 1909-V-10, USA: Collins, Colorado, host plant: *Polygonum* sp., by L C Baker (INHS); 1 oviparous female (determined by G Remaudière), 1986-XI-1, FRANCE: Bois de Vincennes, host plant: *Polygonum aviculare*, by G Remaudière (NHMF).

Distribution China: Beijing (Nanyuan District), Gansu (Dunhuang City); Europe (Denmark, Sweden, Norway, Finland, Britain, Germany, Poland, Finland, France, Turkey), Israel, Central and Northeast Asia, North America (Heie, 1992).

Host plants *Polygonum aviculatum*, *P. perpusillum*, *P. aviculare*, *P. vulgare*.

Remarks The genus *Aspidaphis* Gillette is represented by two known species: the type species *Aspidaphis adjuvans* (Walker) occurs in Denmark, Sweden, Norway, Finland, England, Germany, Poland, Spain, France, Turkey, Israel, Central Asia, North-east Asia, and North America (Heie, 1992); the other species *Aspidaphis porosiphon* Börner is restricted in to Sweden, England, and Germany (Heie, 1992).

After checking paratypes and entitled specimens

(deposited in NHMF) of *Aspidaphis adjuans* (Walker), and type specimens of *Polygonaphis aciculansucta* Zhang, it was found that they were the same in the following features.

Siphunculi thin, short and curved, apical open inwards, without flange. Medial front distinctly developed, slightly higher than developed antennal tubercles. Antennae short, 5-segmented, processus terminalis slightly longer than base of the segment. Ultimate rostral segment short and stout, its length about as long as its basal width, with 3 pairs of primary setae; but in the original description of *Polygonaphis aciculansucta* Zhang, apex of rostrum was described as having 2 or 3 primary setae. Actually, the correct description should be 3 pairs of primary setae with secondary setae absent. Host plant belongs to the genus *Polygonum*.

For these reasons, *Polygonaphis aciculansucta* Zhang and *Aspidaphis adjuans* (Walker) should be considered the same species, and the former should be a junior synonym of the latter.

To elaborate, *Polygonaphis aciculansucta* Zhang, the type species and only representative of the genus *Polygonaphis*, is a junior synonym of *Aspidaphis adjuans* (Walker), which, however, is the type species of *Aspidaphis*. Therefore, the two genera refer to the same taxon, and *Polygonaphis* Zhang, 1999 should be considered

a junior synonym of *Aspidaphis* Gillette, 1917.

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蚜科长管蚜亚科戏蚜属和蓼蚜属的分类地位订正

(同翅目: 蚜科, 长管蚜亚科)

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摘要: 从形态学角度研究了蚜科 Aphididae 长管蚜亚科 Macrosiphidinae 戏蚜 *Sportaphis sporta* Zhang 和扁蓼蚜 *Polygonaphis aciculansucta* Zhang 的分类地位。结果表明: 戏蚜为静细长蚜 *Tenuilongiaphis stata* Zhang and Zhong 的同物异名, 扁蓼蚜为扁蓼童盾蚜 *Aspidaphis adjuans* (Walker) 的同物异名; 戏蚜属 *Sportaphis* Zhang 为细长蚜属 *Tenuilongiaphis* Zhang 的同物异名, 蓼蚜属 *Polygonaphis* Zhang 为盾蚜属 *Aspidaphis* Gillette 的同物异名。研究标本保存在中国科学院动物研究所动物标本馆、美国伊利诺伊大学 Illinois Natural History Survey (INHS) 和法国自然历史博物馆 (NHMF)。

关键词: 同翅目; 蚜科; 长管蚜亚科; 戏蚜属; 蓼蚜属; 同物异名

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