



## Type species of genera in Aphididae (Hemiptera Sternorrhyncha) with two new generic synonymies

JUAN M. NIETO NAFRÍA<sup>1</sup>, COLIN FAVRET<sup>2</sup>, M. PILAR MIER DURANTE<sup>1</sup>, MASAKAZU SANO<sup>3</sup>,  
SHIN-ICHI AKIMOTO<sup>3</sup>, SEBASTIANO BARBAGALLO<sup>4</sup>, SAMIRAN CHAKRABARTI<sup>5</sup>,  
GARY L. MILLER<sup>6</sup>, NICOLÁS PÉREZ HIDALGO<sup>1</sup>, GE-XIA QIAO<sup>7</sup>,  
ANDREY V. STEKOLSHCHIKOV<sup>8</sup>, & PIOTR WEGIEREK<sup>9</sup>

<sup>1</sup>Departamento de Biodiversidad y Gestión Ambiental, Universidad de León, 24071 León (Spain). E-mail: jmnien@unileon.es

<sup>2</sup>AphidNet, LLC, 18901 Tributary Ln, Gaithersburg MD 20879 (USA)

<sup>3</sup>Laboratory of Systematic Entomology, Department of Ecology and Systematics, Graduate School of Agriculture, Hokkaido University, Kita-ku, Sapporo 060-8589 (Japan)

<sup>4</sup>Dipartimento di Scienze e Tecnologie Fitosanitarie, Università di Catania, Via S. Sofia 100, 95123 Catania (Italy)

<sup>5</sup>Biosystematics Research Unit, Department of Zoology, University of Kalyani, Kalyani 741235 (India)

<sup>6</sup>United States Department of Agriculture, Agriculture Research Service, Systematic Entomology Laboratory, Beltsville, MD 20705 (USA)

<sup>7</sup>Key Laboratory of Zoological Systematics and Evolution, Institute of Zoology, Chinese Academy of Sciences, Beijing 100101 (China)

<sup>8</sup>Laboratory of Insect Taxonomy, Zoological Institute Russian Academy of Science, Universitetskaya nab. 1, 199034 Saint Petersburg (Russia)

<sup>9</sup>Katedra Zoologii, Uniwersytet Śląski, Bankowa 9, 40-007 Katowice (Poland).

The aphidologist community attending the Seventh International Symposium on Aphids in Fremantle (Western Australia, 2005) entrusted to us the preparation of a *Part of the List of Available Names in Zoology* devoted to the aphid genus-group taxa names, and this to be presented at the subsequent aphid symposium. During the course of our work (Nieto Nafría *et al.* 2009), we checked each genus to make sure its type species designation conformed to the *International Code of Zoological Nomenclature* (International Commission on Zoological Nomenclature 1999)—henceforth *The Code* and *The Commission*—, and that these designations were correctly represented in the literature, especially the two most recent taxonomic catalogues (Eastop & Hille Ris Lambers 1976; Remaudière & Remaudière 1997).

Previous authors have used most of the procedures of type fixation enumerated in *The Code*, *The Commission* itself has used its Plenary Powers to fix six type species, and 11 genus-group names remain without types (Table 1).

In the recent aphid taxonomic catalogues (Eastop & Hille Ris Lambers *op. cit.*; Remaudière & Remaudière *op. cit.*), we found three errors caused by mistakes propagated in the literature and two errors caused by incorrect application of Article 11 of *The Code*. We have also found that in the case of 11 names, the criteria of Article 70.3 of *The Code* were not met, and regardless, earlier editions of *The Code* did not allow type designations of that kind (see the last paragraph of the example in Article 70.3).

This article corrects the five errors and conforms the 11 aphid type species designations to the nomenclatural standards of *The Code*.

### Errors propagated in the Literature

The correct type species of *Dichaitophorus* Shinji, 1927 is *Chaitophorus saliniger* (Shinji, 1924), by monotypy (Shinji 1927: 48), although Eastop and Hille Ris Lambers (1976: 173) wrote that *Chaitophoraphis acerifloris* Shinji, 1923 was the type species. Consequently, *Dichaitophorus* Shinji is not a subjective synonym of *Yamatocallis* Matsumura, 1917 (which includes *Yamatocallis hirayamae* Matsumura, the senior synonym of *Chaitophoraphis acerifloris*) but a junior subjective synonym of *Chaitophorus* Koch, 1854, **syn. nov.** (which includes *C. saliniger* (Shinji) as a valid species).

The correct type species of *Hydaphias* Börner, 1930 is *Aphis bicolor* Koch, 1855, by original designation (Börner 1930: 136). This species is a junior homonym of *Aphis bicolor* Haldeman, 1844 and was replaced by *Hydaphias hofmanni* Börner (Börner 1950). Eastop and Hille Ris Lambers (1976: 220) wrote that *Hydaphias hofmanni* and *Aphis bicolor* Koch were different species, impossible since one is a replacement name for the other, and that the valid name of