

## Separation of *Myzus (Nectarosiphon) antirrhinii* (Macchiati) from *Myzus (N.) persicae* (Sulzer) and related species in Europe (Homoptera: Aphididae)

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**ABSTRACT.** Multivariate morphometric analysis (canonical variates) was used to discriminate between closely related taxa within the *Myzus persicae* group. It is demonstrated that dark green, anholocyclic populations with a  $2n=13$  or  $2n=14$  karyotype in Europe, hitherto treated as a form or biotype of *M. persicae*, all conform to a discrete morphometric grouping and should therefore be treated as a separate taxonomic entity, permanently isolated from the *M. persicae* gene pool. It is suggested that this taxon was first described as *Siphonophora antirrhinii* by Macchiati in 1883. A discriminant function is provided to separate most individual apterae of *antirrhinii* from those of *persicae*. *Myzus icelandicus* Blackman sp.n., on Caryophyllaceae and other plants in Iceland, is distinguished from *M. polaris* H.R.L. and *M. certus* (Walker), and a key is given to apterous virginoparae of the species of the *M. persicae* group in Europe.

### Introduction

Polyphagous aphids such as *Myzus persicae* (Sulzer) have in the past erroneously been described as new from many different plants, and numerous names have consequently been sunk as synonyms. Although many of these synonymies are undoubtedly correct, some failed to take account of features lost in museum preparations but recognized as different by the original describer, such as the appearance of the individual aphids or the colony as a whole, or aspects of behaviour or biology.

For many years one particular form, hitherto usually regarded as a race or biotype of *M. persicae*, has been recognized in Europe. This form is characterized by its consistently dark green colour, its obligate anholocycle, its relatively

long antennal terminal process, its low level of alata production, and its abnormal karyotype (Waldhauer, 1953; Blackman, 1971). However, slide-mounted individuals of the dark green form could not be reliably separated from *M. persicae sensu stricto* on morphological characters alone, and in life it seemed to be just as polyphagous as the main species. Therefore uncertainty has remained about whether this form could be regarded as a single, discrete taxonomic entity. The name *dianthi* Schrank, allocated to this form by Börner (1952), also seemed incorrect, as the aphid described by Schrank (1801) was pale green in colour.

Multivariate morphometric techniques have therefore been used to clarify the taxonomic status of this aphid, and a name is applied to it. The separation of other species within the closely related *M. persicae* group is also difficult and the available keys do not take sufficient account of the variation now known to occur.

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