

The nymph of *Zyginella pulchra* Löw, 1885 (Hemiptera, Cicadellidae, Typhlocybinae)

Michael R. Wilson¹, Roland Mühlethaler²

Abstract: The 5th instar nymph of *Zyginella pulchra* Löw (Cicadellidae, Typhlocybinae) is described and compared with other tree-associated typhlocybinae species.

Zusammenfassung: Das fünfte Larvenstadium von *Zyginella pulchra* Löw (Cicadellidae, Typhlocybinae) wird beschrieben und mit anderen Laubgehölze besiedelnden Typhlocybinae verglichen.

Key words: *Zyginella pulchra*, nymph, morphology

1. Introduction

Morphological characters of the nymphal stages of many leafhoppers may be used to distinguish at least genera and sometimes to the species level. Preliminary keys to the nymphs of Cicadelloidea, and also including some tree-associated species were given by Vilbaste (1982). Typhlocybinae leafhoppers may regularly be abundant in the canopy of deciduous woodlands in central and Western parts of Europe. Keys to genera of some genera (and some species) of woodland Typhlocybinae were given by Wilson (1978) for the British species. Apart from woodland species Stewart (1986) provided a key to British *Eupteryx* species.

Several woodland typhlocybinae genera found in continental Europe were omitted by Wilson in his 1978 study, including *Arboridia*, for which no specimens were available at that time. Another genus and species that was not included was *Zyginella pulchra* Löw, 1885. This species was previously known mostly from southern Europe but has moved rapidly northwards over the past 30 years (e.g. Nickel, 2003). The first published record for the UK was in 2007 (Bleicher *et al.* 2007) but it appears to have moved rapidly across Britain since its first being noticed (Stewart *et al.* 2009).

According to Nickel (2003) the host plants of *Zyginella pulchra* are various *Acer* species, especially *A. pseudoplatanus*. Adults may be found on other deciduous trees but probably do not breed on them. It overwinters as an adult on evergreen trees such as *Picea* and *Taxus*. The nymph of the species appears to have not been described yet. The discovery of nymphs and the association with the adult has led to this contribution.

¹ Department of Biodiversity & Systematic Biology, National Museum of Wales, Cardiff, CF10 3NP, UK. E-Mail: mike.wilson@museumwales.ac.uk

² AG Biosystematik, Hemiptera Research Group, Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung an der Humboldt-Universität zu Berlin, Invalidenstr. 43, D-10115 Berlin, Germany. E-Mail: roland.muehlethaler@mfn-berlin.de

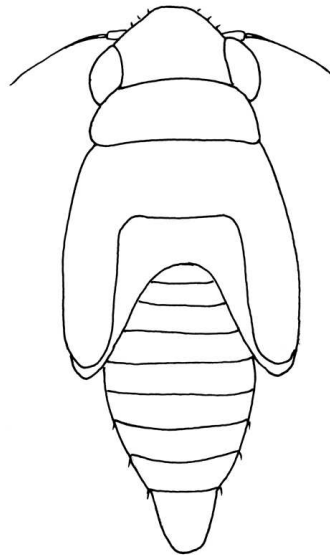
2. Specimens examined

Typical feeding damage caused by typhlocybine leafhoppers was noticed on the leaves of a Norway Maple (*Acer platanoides*) tree in the centre of Stuttgart, Germany (close to the Natural History Museum) on the occasion of the 12th Zikaden Tagung, 3.vii 2009. A number of nymphs were found and a few adults, which appeared to be *Z. pulchra*. All were taken and several adults subsequently reared. Several nymphs were preserved for further study, as were the nymph skins from emerged adults. The association between the adult *Z. pulchra* and the nymph was confirmed. Specimens are preserved in the collection of the National Museum of Wales, Cardiff.

3. Results

Description of the nymph of *Zyginella pulchra* (Figs 1-2), following format of Wilson (1978):

Colour: Pale yellow overall. Dorsal surface of abdominal segments with median whitish stripes each side of the mid line. Small whitish patches visible on dorsal surface of wing pads (Fig. 1).



Figs 1-2: 5th instar nymph of *Zyginella pulchra* Löw, 1885.

Head: Anterior margin of head smoothly curved between eyes. Ratio of vertex length at internal margin of the eye to vertex length at mid dorsal line is greater than 1.25. Antennal flagellum length - medium (ratio of head width to flagellum around 1.2). Small, scattered spines present at top of face, barely visible from above. Head width (including eyes approximately same as pronotum width.

Pronotum: Without spines.

Legs: medium length, tibial spines only moderately developed.

Wing: wing pads without spines.

Abdomen: small spines visible in on lateral margin of segments 6-8.

Comments: In the key to genera of woodland associated species (Wilson, 1978) *Z. pulchra* would key out at couplet 6. Here the species *Fagocyba carri* (Edwards) and *Wagneripteryx germari* (Zetterstedt) are separated. *F. carri* has prominent lateral spines on the abdominal segments and is confined to *Quercus* spp. *W. germari* appears similar but is confined to *Pinus* sp.

4. References

- Bleicher, K. Orosz, A., Cross, J.V. (2007): *Zyginella pulchra* Low 9Hemiptera: cicadellidae) – a leafhopper new to the British Isles. – British Journal of Entomology and Natural History 20: 139-141.
- Nickel, H. (2003): The leafhoppers and planthoppers of Germany (Hemiptera, Auchenorrhyncha): Patterns and strategies in a highly diverse group of phytophagous insects. – Pensoft Publishers, Sofia-Moscow, Goedeke & Evers, Keltern. 1-460.
- Stewart, A.J.A. (1986): Descriptions and key to the nymphs of *Eupteryx* (Curtis) leafhoppers (Homoptera: Cicadellidae) occurring in Britain. – Systematic Entomology 11: 365-376.
- Stewart, A.J.A, Botting, J. Talbot, M.E. Bantock, T., Badmin, J.S. (2009): Rapid recent spread of *Zyginella pulchra* (Hemiptera-Auchenorrhyncha: Cicadellidae) in Britain. – British Journal of Entomology and Natural History 22: 53-55.
- Vilbaste, J. (1982): Preliminary key for the identification of the nymphs of North-European Homoptera Cicadinea II Cicadelloidea. – Annales Zoologici Fennici 19, 1-20.
- Wilson, M.R. (1978): Descriptions and key to the genera of the nymphs of British woodland Typhlocybinae (Homoptera). – Systematic Entomology 3(1): 75-90.