

## On the presence of some species of the genus *Wagneriala* Anufriev, 1970 (Hemiptera, Cicadellidae) in Spain and Greece

D. Aguin Pombo

### ABSTRACT

The genus *Wagneriala* includes small leafhoppers associated mainly to grasses. Four species are currently known in Europe but only one of these, *W. sinuata*, is known from Spain and Greece. This work reports for the first time the presence of *W. incisa* and *W. palustris* in the Iberian Peninsula and *W. incisa* in Greece. For these little known species it has been compiled information on food plant associations and distribution.

**Key words:** Hemiptera, leafhoppers, *Wagneriala*, Iberian Peninsula, Greece, distribution.

### RESUMEN

**Sobre la presencia de algunas especies del género *Wagneriala* Anufriev, 1970 (Hemiptera, Cicadellidae) en España y Grecia.**

El género *Wagneriala* incluye pequeñas cigarrillas asociadas principalmente a gramíneas. Se conocen actualmente cuatro especies de este género en Europa pero sólo una de éstas, *W. sinuata*, es conocida en España y Grecia. Este trabajo cita por vez primera la presencia de *W. incisa* y *W. palustris* en la Península Ibérica y de *W. incisa* en Grecia. Para estas dos especies poco conocidas ha sido recopilada información sobre sus plantas nutricias y distribución.

**Palabras clave:** Hemiptera, cigarrillas, *Wagneriala*, Península Ibérica, Grecia, distribución.

### INTRODUCTION

The genus *Wagneriala* was established by Anufriev (1970) for *Notus minimus*. The species of this genus are small in size and very similar morphologically. Males of *Wagneriala* species differ mainly in the shape of male aedeagus and styles while females may be distinguished by the shape of the distal edge of the 7th abdominal sternite but

differences in body size are also important. According to Nast's catalogue (1972, 1987) in Europe have been recorded four species: *W. franzi* (Wagner, 1955), *W. incisa* (Then, 1897), *W. minima* (J. Sahlberg, 1871), *W. palustris* (Ribaut, 1936) and *W. sinuata* (Then, 1897). Only one of these species, *W. sinuata*, is known from Greece and Spain (Drosopoulos *et al.* 1981; Morris, 1983). In Spain, Morris (1983) has recorded this species as *Dikraneura sinuata* from Jaca in the Pyrenees.

The biology and ecology of the species of this genus is almost unknown. The main information on host plant associations and biology was due to a Vidano's work (1965) published nearly forty years ago. On the other hand, data on the distribution of the species of this genus is scarce. Apart from *W. minima* which is widespread in Europe, most species are known only from very few countries. Therefore, the objective of this work is to give new information on the distribution of the species of this genus in Greece and Spain, two countries where the study of Cicadellidae fauna is still insufficient.

## MATERIAL AND METHODS

Only male specimens were sampled by sweeping with a net on plant foliage during 1990 and 1991 in Greece and Northwest of Spain respectively. Male genitalia were macerated in 10% KOH, then rinsed in distilled water and placed on a drop of glycerine to be examined under the stereomicroscope.

Ten male specimens were examined and identification was based on the works of Wagner (1959), Della Giustina (1989), Ribaut (1936) and Ossiannilsson (1955, 1981). Even though good illustrations of these species have been given by these authors some details of male genitalia differed from the figures shown in these previous works, therefore, new drawings were made with the assistance of a camera lucida attached to a microscope. Plant names given in the text follow Flora Europaea (Tutin *et al.* 1980).

## RESULTS AND DISCUSSION

The new information on distribution given in this work suggests that at least some species of *Wagneriala* show a wider distribution than it could be initially guessed. Therefore, any future research including careful sampling on grasses and preferential habitats is necessary to contribute to a better knowledge of the species of this genus.

### *Wagneriala incisa* (Then, 1897)

The only male specimen in which overall body length could be measured was 2.6 mm which is in the range of the values 2.55-2.75 (♂ ♀) reported by Della Giustina (1989) and Ossiannilsson (1981). This species may be separated from other species of this genus because it differs in the aedeagus shape which is comparatively shorter (Figure 1a). In lateral view, the apex of the aedeagus is elongate similar to the figures of Ossiannilsson (1981). The apical part of aedeagus dorsally has a very small teeth which were obvious in specimens from Greece but not so clearly distinguished in Spanish specimens. Styles in the apical part are as it is shown in figure 1b but slightly different from figures of Ossiannilsson (1981) and Della Giustina (1989). The 2nd and 3rd abdominal apodemes smaller than in *W. palustris*.

**Distribution:** This is an European species which has been reported from north Italy, Poland, Romania, Sweden and former Yugoslavia (Nast, 1972, 1987; D'Urso, 1995).

**Food plants:** In Italy Vidano (1965) collected this species on the following xerophilous species of *Carex*: *C. verna* Chaix, *C. muricata* L. and *C. montana* L. which grew in coppices of *Castanea sativa* Mill. and *Quercus* species as *Q. robur* L., *Q. petraea* (Matt.) Liebl, *Q. cerris* L. and *Q. pubescens* Willd. Ossiannilsson (1955) did also collected this species on cultivated *Carex pediformis* C.A. Mey. According to Vidano (1965) this species overwinters in egg-stage.

**Material examined:** GREECE: MACEDONIA: Agia Anargiri-2 Km Florina, 40°47' N 21°22' E, 660 m, 26.VIII.90, 4♂♂ sampled on herbaceous plants growing under coppices of *Castanea sativa* Mill and *Quercus* spp. SPAIN: PONTEVEDRA: Portonovo-Sanxenxo, 42°25'N 8°47'O, 5m, 5.IX.1991, 9♂♂ on grasses growing under coppices of pine trees mixed with some chest nuts.

### *Wagneriala palustris* (Ribaut, 1936)

The overall body length 2.8 mm recorded agrees with the values 2.8-3.0 mm (♂♀) given by Ribaut (1936). This species has the aedeagus progressively thinner to the apex and the curve in the apical part of the aedeagus conform an angle obtuse with the basis. The apex of the aedeagus is subtruncate (Figure 1c) similar to those drawings of Ribaut (1936) but different from those of Wagner (1955) which resemble more *W. incisa*. The distal end of the styles is as it is seen in Figure 1d.

**Host plants:** The biology of this species is unknown and according to Ribaut (1936) is also found associated to *Carex* species.

**Distribution:** Nast (1987) records this species only from Austria and France. This new records suggest that the distribution of this species is wider ranging from the Iberian Peninsula to Centre Europe.

**Material examined:** SPAIN: LUGO: Ribeira de Arriba-Quiroga, 600-700 m, 21.8.1994, 1♂ on grasses growing under *Quercus*.

## REFERENCES

- ANUFRIEV, G. A., 1970. New genera of Palaearctic *Dikraneurini* (Homoptera, Cicadellidae, Typhlocybinae). *Bulletin de l'Academie Polonaise des Sciences Série Sciences Biologiques*, 18: 261-263.
- DELLA GIUSTINA, W., 1989. Homoptères Cicadellidae 3. Compléments aux ouvrages d'Henri Ribaut. *Faune de France* 73. INRA. Paris. 350 pp.
- DROSOPOULUS, S., M. ASCHE & H. HOCH, 1986. A preliminary list and some notes on the Cicadomorpha (Homoptera-Auchenorrhyncha) collected in Greece. *Proceedings of the 2<sup>nd</sup> International Congress of Rhynchota Balkan Mikrolimmi, Grecia*. 8-13.
- D'URSO, V., 1995. *Homoptera Auchenorrhyncha*. In: Minelli, A., Ruffo, S. & La Posta, S., (eds.). *Checklist delle species della fauna italiana* 42. Calderini, Bologna: 35 pp.
- MORRIS, M. G., 1983. Apuntes preliminares sobre capturas sistemáticas de Hemiptera-Auchenorrhyncha del Alto Aragón occidental en junio y julio de 1972. *Pirineos*, 118:63-70.

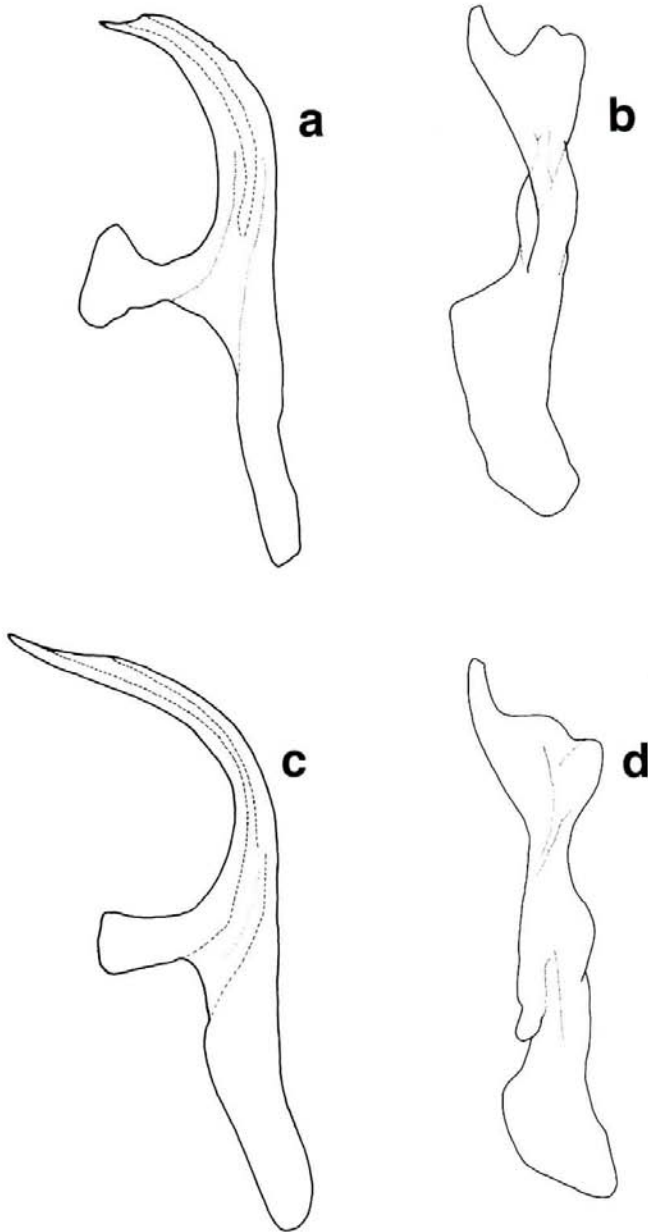


- NAST, J., 1972. *Palearctic Auchenorrhyncha (Homoptera). An annotated check list.* Polish Scientific Publishers. Varsovia. 499 pp.
- NAST, J., 1987. The Auchenorrhyncha (Homoptera) of Europe. *Annales Zoologici*, 40: 535-661.
- OSSIANNILSSON, F., 1955. Några för Sverige nya stritar (Hom. Auchenorrh.). Med en synonymisk anmärking. *Entomologisk Tidskrift*, 76: 121-133.
- OSSIANNILSSON, F., 1981. The Auchenorrhyncha (Homoptera) of Fennoscandia and Denmark. Part 2. The families Cicadidae, Cercopidae, Membracidae, and Cicadellidae (excl. Deltocephalinae). *Fauna Entomologica Scandinavica*, vol 7. Part 2. Scandinavian Science Press Ltd. Copenhagen. 223-593.
- RIBAUT, H., 1936. Homoptères Auchènorhynches 1. (Typhlocybidæ). *Faune de France* 31. Paul Le Chevalier et Fils. Paris. 228 pp.
- VIDANO, C., 1965. A contribution to the chorological and oecological knowledge of the European Dikraneurini (Homoptera Auchenorrhyncha). *Zoologische Beiträge*, 2: 343-367.
- TUTIN, T. G., V. H. HEYWOOD, N. A. BURGESS, D. M. MOORE, D. H. VALENTINE, S. M. WAALERS & D. A. WEBB (Eds.). 1980. *Flora Europaea. Vol. 5. Alismataceae to Orchidaceae (Monocotyledones).* Cambridge University Press. Oxford. XXXvi + 452 pp.
- WAGNER, W., 1955. Neue mitteleuropäische Zikaden und Blattflöhe (Homoptera). *Entomologische Mitteilungen aus dem Zoologischen Staatsinstitut und Zoologischen Museum Hamburg*, 6: 163-194.

*Fecha de recepción: 13 junio 2001*

*Fecha de aceptación: 10 octubre 2001*

**D. Aguin Pombo.** Department of Biology, University of Madeira, Campus da Penteada, 9000 Funchal, Madeira, Portugal, aguin@uma.pt. CCBG, Centre of Biological and Geological Sciences, University of Madeira, Campus da Penteada, 9000 Funchal, Madeira, Portugal



**Figure 1. a-b** Genital structures of *Wagneriala incisa*. **a.** aedeagus in lateral view (x60); **b.** left style in dorsal view (x40). **c-d** *Idem W. palustris*. **c.** aedeagus in lateral view (x60); **d.** left style in dorsal view (x40).

**Figura 1. a-b** Estructuras genitales de *Wagneriala incisa*. **a.** eedeago en vista lateral (x60); **b.** estilo izquierdo en vista dorsal (x40). **c-d** *Idem W. palustris*. **c.** eedeago en vista lateral (x60); **d.** estilo izquierdo en vista dorsal (x40).