

## The high mountain leafhopper genus *Handianus* in Greece

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**ABSTRACT** In Greece the genus *Handianus* Ribaut, 1942 consists of three distinct species which usually occur in high mountain areas. *H. ignoscus* (Melichar, 1896) is distributed in northern Greece, while the other two species, *H. procerus* and a previously unknown species (DROSOPOULOS, ASCHE and HOCH, 1987), were found to occur together on four mountains of southern Greece. The unknown species is smaller than the other two and differs also in its internal male genitalia. These structures exactly fit those reported by Dr. R. LINNAVUORI from Israel for a new subspecies named *H. ignoscus mediterraneus* LINNAVUORI, 1962. Evidently, the unknown species is genetically isolated from the other two and after personal communication with Dr. R. LINNAVUORI it is here deleted from synonymy with *H. ignoscus* (NAST, 1972). Therefore, this species should be called *H. mediterraneus* Linnavuori, 1962. Zoogeographically *H. mediterraneus* could be characterized as a northeastern Mediterranean species.

**IZVLEČEK** V Grčiji nastopajo tri visokogorske vrste škržatov iz rodu *Handianus*. Vrsta *H. ignoscus* (Melichar, 1896) je razširjena v severni Grčiji, *H. ignoscus* in tretja, do nedavnega neznana vrsta, pa nastopata skupaj v širih gorskih območjih južne Grčije. Škržati te tretje vrste so manjši in se razlikujejo tudi po notranjih genitalnih strukturah samčkov, ki se povsem skladajo s podvrsto *H. ignoscus mediterraneus*, ki jo je opisal LINNAVUORI (1962) po osebkih iz Izraela. Ker je ta takson očitno genetsko izoliran od drugih dveh vrst, ga moramo brisati iz sinonimov za *H. ignoscus* in imenovati za vrsto *H. mediterraneus* Linnavuori, 1962. Zoogeografsko ga lahko označimo za severovzhodnomediterransko vrsto.

In the Palaearctic catalogue of *Auchenorrhyncha-Homoptera* of NAST (1972, 1982) 37 species of the genus *Handianus* are included. The largest number of these species are reported from the middle and south of Russia where the centre of speciation of this genus apparently occurs. From this area, only *H. procerus* and *H. ignoscus* seem to extend their distribution into the west Palaearctic. The existence of *H. wagnerinus* Dlabola, 1961, described from one male collected by him in Spain and reported in a paper referring entirely to the *Auchenorrhyncha* from central Asia, Dagestan and Transcaucasia, remains questionable. In addition to these two species LINNAVUORI (1962) described a new subspecies from Pian Perduto, Mti Sibillini-Italy named *H. ignoscus mediterraneus* which in NAST's catalogue is synonymized with *H. ignoscus*.

Analysing all the material collected in Greece of this genus (DROSOPOULOS, ASCHE and HOCH, 1986) the two species which are distributed in the west (*H. procerus* and *H. ignoscus*) were indeed easily detected. In addition to these two species, a third unknown species was found in several localities distributed in central and western Greece (Fig. 1). This species, smaller than the other two known ones, occurred frequently syntopically and synchronically with *H. procerus* and even in one locality with both the other species. However, in the western islands of Greece, the unknown species was found to occur without the other two species.

Ecologically these three species seem to occur at high elevations (above 1000m), usually on thistles and *Eryngium* spp. from the middle of June until the beginning of September.

Morphologically male genital characters of all specimens of *H. ignoscus* and *H. procerus* are identical to those reported by RIBAUT (1952) and LINNAVUORI (1962). In all samples from Greece the unknown species could easily be separated by its smaller size and the differences in the aedeagus. The general shape of the aedeagus of this species matches closely the figures reported for *H. ignoscus mediterraneus* by LINNAVUORI (1962).

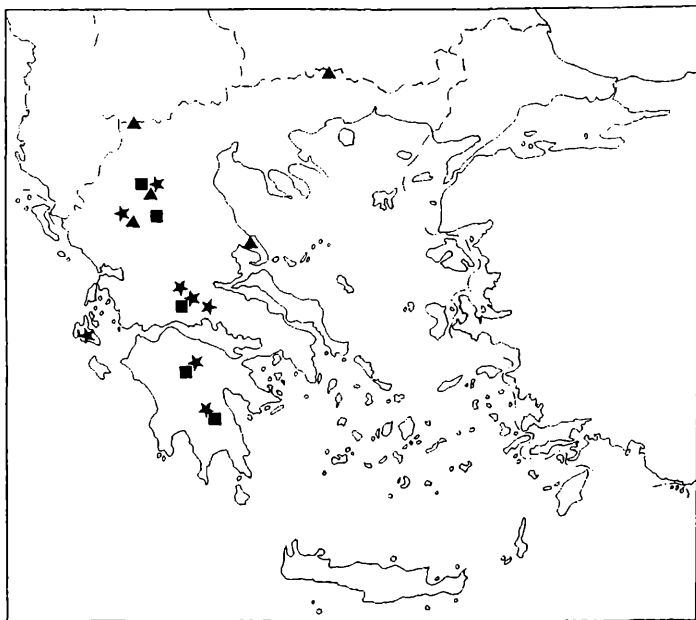


Fig. 1 Distribution of the species of *Handianus* in Greece. The asterisks, triangles and squares refer to *H. mediterraneus*, *H. ignoscus* and *H. procerus* respectively.

According to these figures, the aedeagal appendage b is very characteristic for all specimens checked from Greece. Some variation was found in the aedeagal appendage a. This appendage, which can be easily broken in some specimens, is slightly different from the Italian holotype received recently by the author from the American Museum of Natural History (New York) through the kind request of Dr. R. LINNAVUORI on the other hand, the size of the holotype, is the same as that of the specimens collected in Greece.

All data presented in this paper suggest that the subspecies described by LINNAVUORI should not have been synonymized with *H. ignoscus*. The fact that the two species occur together in mount Vourinos in central Greece without intermediate forms indicates that these two species are genetically isolated. It is possible that Greek populations of these species could have been differentiated from the Italian ones of *H. ignoscus mediterraneus*. However, this question can be solved only biosystematically by studying the reproductive isolation of these populations. It is therefore safe to remove *H. ignoscus mediterraneus* from synonymy with *H. ignoscus* and attribute the specimens from Italy and Greece to *H. mediterraneus* Linnavuori, 1962. This species seems to replace *H. ignoscus* geographically in the most southwestern part of its distribution, probably by allopatric speciation. This is more pronounced in Greece than in Italy since there are records of *H. ignoscus* only from three localities in Italy (Trentino-Alto Adige, Ubria and Calabria) and one from Sardinia (SERVADEI, 1967).

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