NEW DATA ON AEGILOPS UNIARISTATA VIS. IN ITALY

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New data on Aegilops uniaristata Vis. (syn.: Triticum uniaristatum (Vis.) K. Richt.) in Apulia are given. A new locality of A. uniaristata in Apulia on the Adriatic coast of the Italian Peninsula is discovered. The taxon was already known from the Mediterranean East and Croatian coasts. A. uniaristata is deemed relevant and is included into the Regional Red List of plants (Apulia) as endangered (EN) and into the Red Book of Croatian vascular flora as near threatened (NT).

Key words: new data, distribution, Aegilops uniaristata Vis., Apulia Region

INTRODUCTION

In the flora of Europe (TUTIN & HUMPHRIES, 1980), Aegilops L. is represented by 10 species. The revision of the genus Aegilops regarding its genome and taxonomy gives a total of 27 specific and intraspecific taxa (VAN SLAGEREN, 1994; ČEREPA NOV, 1996). It is worth to mention that some authors, such as HAYEK (1932) and CONTI et al. (2005), included A. in the Triticum genus. However, the majority of botanists, whether they agree with this nomenclature or not, continue to refer to Aegilops.

There are six species of Aegilops in the Croatian flora (FLORA CROATICA DATABASE, 2004), and three of them (A. cylindrica Host, A. neglecta Req. ex Bertol., A. uniaristata Vis.) are near threatened (NT) (NIKOLIĆ & TOPIĆ, 2005). In Italy, there are known eight species of the genus Aegilops (PIGNATTI, 1982). Regarding Aegilops, Apulia is the richest Italian region, with seven species (A. biuncialis Vis., A. cylindrica,
A. neglecta, A. geniculata Roth, A. triuncialis L., A. ventricosa Tausch and A. uniaristata Vis.). Recently, in Italy A. ventricosa has been included into A. fragilis Parl. (CONTI et al., 2005). Six of the Italian A. species (A. biuncialis, A. cylindrica, A. fragilis, A. neglecta, A. uniaristata and A. triuncialis) are included in IUCN categories and 4 of them (A. biuncialis, A. fragilis, A. uniaristata and A. ventricosa) grow in Apulia. A. biuncialis and A. fargilis are critically endangered, while A. ventricosa is protected by law. A. uniaristata is marked as an endangered species (EN) and as such is listed in the Regional Red List plants of Apulia (CONTI et al., 1992; 1997) and as at risk of extinction in the Atlas of Species (SCOPPOLA & SPAMPINATO, 2005).

A. uniaristata is a species widespread throughout Eastern Mediterranean countries: Croatia, Greece (islands included), Albania and Italy (HAYEK, 1932; VISIANI, 1852; DAVIS, 1986; VAN SLAGEREN, 1994). According to the recent work Vascular Flora of Turkey (SEMIZ & CELIK, 2005) A. uniaristata does not occur in this country. In addition, A. uniaristata is also important for the environment in which it grows, a characteristic type of vegetation that probably could be included into »Pseudo-steppe with grasses and annuals of the Thero-Brachypodieta« (code *6220), a priority habitat of directive habitat 92/43 CEE (European Commission, 1992; European Commission DG Environment, 2007; SAN MIGUEL, 2008).

METHODS

For identification of plants the floras of PIGNATTI (1982) and TUTIN et al. (1980) were used, but for Aegilops species only the monograph by VAN SLAGEREN (1994) was considered. The nomenclature matches that of CONTI et al. (2005), except for the genus Aegilops following VAN SLAGEREN (1994).

Herbarium specimens of A. uniaristata were deposited in the Herbarium of Botanical Garden Museum, University of Bari.

RESULTS AND DISCUSSION

The most recent studies of Croatian flora, such as those in Krka National Park (MILOVIĆ & MITIĆ, 2009), Vrgada island and surrounding islets (PILJAC-KOSOVIĆ & PANDŽA, 2009) and of Istrian grasses (VITASOVIĆ KOSIĆ & BRITVEC, 2005), indicate the presence of Aegilops neglecta Req. ex Bertol., and (for the last two areas only) of A. triuncialis, but not of A. uniaristata, which confirms its limited presence in only some localities of Southern Istria (Montecchio, V. Bado, Altura, Pula/Pola, V. Bandon, Sikić, Vinkuran, etc.) (FREYN, 1978). A. uniaristata is absent also from the Vela Kluda islands (VLADOVIĆ et al., 2001).

In Italy, A. uniaristata is reported only in the Apulia and Basilicata regions, while it is uncertain in Calabria (CONTI et al., 2005). Previously, this taxon was considered exclusive to Apulia (PIGNATTI, 1982), and present only at one locality, Leucaspide (Taranto) (GROVES, 1887). Later it was reported for other localities, with a good range of distribution: south eastern Murge (Taranto), Laterza ravine and near Pianelle wood (Martina Franca), between Spongano, Surano (Lecce) (BIANCO et al., 1989), Rauccio wood (Lecce), Santa Cesarea Terme (MARCHIORI et al., 1993) and
more recently in an olive grove between Maruggio and Manduria (Taranto) (CAFORIO & MARCHIORI, 2006), and Veglie (Lecce) (Medagli, Herbarium Lupiensis LEC). The only data for the Basilicata region are those from Lucignano wood, near Matera (MEDAGLI & GAMBETTA, 2003).

The presence of this species at the border of a monumental olive grove inside the Coastal Dune between Torre Canne (Fasano) and Torre San Leonardo (Brindisi) is a locality of considerable interest in Apulia, because it is located on the Adriatic-coast, the second such location after that of Rauccio (Fig. 1). The population was identified from only a few individuals, one of which was collected and is preserved in the Herbarium Horti Botanici Barensis (BI) (Fig. 2). The geographic coordinates of the collection site are: (UTM – WGS 84): N 4641488; E 578521.

The new station of A. uniaristata (Fig. 3) fits into a unique landscape, which is rich in ecological infrastructure (Fig. 4) of other species of conservation interest, such as Stipa australitica Martinovský subsp. australitica, Helianthemum jonium Lacaita, Crepis corymbosa Ten. and two amphi-Adriatic species: Asyneuma limonifolium (L.) Janch. subsp. limonifolium and Scrophularia lucida L. (PERRINO et al., 2009).

The vegetation context in which the newly found plants grow presents a mosaic of shrubs, to evergreen sclerophyllous, low chamaephytic garrigues and annual meadows. The first coenosis is rich in heliophilous elements and correspond to the alliance Oleo-Ceratomion siliquae Br.-Bl. 1936 em. Rivas Martinez 1975, with Myrtus communis L., Pistacia lentiscus L., Rhamnus alaternus L., and with the subordinated presence of some deciduous shrubs as Anagyris foetida L., Calicotome villosa (Poir.) Link, Pyrus spinosa Forssk. and Spartium junceum L. The chamaephytic garrigues occur where
Fig. 2. Herbarium specimen 35682 of *Aegilops uniaristata* Vis., syn.: *Triticum uniaristatum* (Herbarium Horti Botanici Barensis).

Fig. 3. *Aegilops uniaristata* Vis. at the new Apulia site.

CONCLUSION

Before the discoveries by Marchiori et al. (1993) and Perrino et al. (2009), in Italy and particularly in Apulia, other sites of *A. uniaristata* were identified by Van Slageren (1994), all of them situated in the hinterland or in areas influenced by the Ionian Sea, but never referring to the Adriatic coast. It is not surprising considering the floristic affinity between the East and West coast of the Adriatic Sea. Regarding to the ecological aspect of the species, one has to remark that the edge of an olive
tree grove is one of its favourite habitats (PERRINO et al., 2009; VAN SLAGEREN, 2004) and that a clearing in a wood creates a good environment for its development.

The results of the present work taken together with the lack of floristic data for long stretches of the coast (ALBANO et al., 2005), except that of Monopoli (PERRINO & SIGNORILE, 2009), suggest new field works are needed. In fact, A. uniaristata seems to be more widespread along the Adriatic coast of Apulia than one would expect.

For these reasons, on the basis of the present findings, in the future one should investigate in the following three directions: i) checking if A. uniaristata has »always« been there and was just overlooked by previous botanists; ii) checking if »recent« environmental and climatic changes have created new ecological niches for the species; iii) checking if the species has developed special adaptation to and colonization of new ecological niches. Since none of these three cases can be excluded, one should promote more research in the field, along the coast of Apulia, to search for new sites, and in the lab, for checking the taxonomy of specimens at the morphological and molecular level. Genetic variability correlated with environmental conditions may show special adaptation patterns. The results of this new study could suggest changes in the taxonomical status of the investigated species and provide new information on the interactions between wild (Aegilops) and cultivated (Olea) species.

ACKNOWLEDGEMENTS

The author wishes to express his thanks to the Botanical Garden Museum of Bari, for the grant of the sample image from the Herbarium and the referees for valuable comments and suggestions on the manuscript.

Received April 7, 2010

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