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Salvatore Pasta

A NEW CASUAL ALIEN PLANT IN SICILY: *PERSICARIA CAPITATA* (BUCH.-HAM. EX D.DON) H.GROSS (*Polygonaceae*)

SUMMARY

The ongoing process of naturalization of this central Asiatic knotweed is here presented. Moreover, the paper provides basic information of the site where it grows (urban centre of Palermo) and on the plant community it takes part to. The recent diffusion of this xenophyte at global scale suggests its potentially invasive behaviour.

RIASSUNTO

Una nuova pianta avventizia in Sicilia: Persicaria capitata *(Buch.-Ham. ex D.Don) H.Gross (Polygonaceae).* Viene segnalata la presenza allo stato subspontaneo di questa poligonacea d'origine centro-asiatica. Si fornisce inoltre una breve descrizione della stazione di rinvenimento, posta nel centro urbano di Palermo, e della comunità vegetale cui la xenofita partecipa. La sua recente diffusione su scala globale suggerisce il suo comportamento potenzialmente invasivo.

During my last temporary teaching appointment in a secondary school of Palermo, I noticed a strange creeping knotweed growing at the base of a heap of sand and crushed stones, remnant of an abandoned construction site in the inner playground of the school. The day after, the direct observation of a sample by using the key for Italian *Polygonum* s.l. published by Galasso (2009) enabled me to solve the enigma: the "mysterious" plant actually is *Persicaria capitata* (Buch.-Ham. ex D.Don) H.Gross (Polygonaceae). After a careful check of the most recent contributions on the alien flora of Sicily (Raimondo *et al.*, 2005a, 2005b; Domina & Mazzola, 2008; Scuderi & Pasta,

2009) and Italy (CELESTI-GRAPOW *et al.*, 2009), it may be assessed that this is not only the first official record for Sicilian vascular flora, but also for all Central and Southern Italy. In fact, up to now its presence has been reported only from Piedmont (AESCHIMANN *et al.*, 2004), while some recent photos on two different national internet sites testify the ongoing naturalization of this species also on two islands of Naples province in Campania (Capri, april 2008: cfr. www.naturamediterraneo.com/forum; Ischia, june 2008, Grazia Sergi: cfr. www.actaplantarum.org/acta) and along the coasts of Liguria (Zoagli, Genova Province, 200 m a.s.l., january 2011, Daniela Longo: cfr. www.actaplantarum.org/acta).

Persicaria capitata (Fig. 1) is native to the Himalayan area, where it grows in N Pakistan, N India, Bhutan, Nepal and W China (QAISER, 2001). Outside of its natural range this plant prefers full sun, but it is able to tolerate partial shade. It often grows on disturbed, rather humid urban places such as rock crevices, stone walls, roadsides, but it also invades subnatural ecosystems like fallows, artificial forests and orchards.

Introduced worldwide (LI *et al.*, 2003), mostly as a garden groundcover (GLEASON & CRONQUIST, 1991), once established it can be difficult to eradicate as it can spread prolifically. During the last two decades it performed an impressive colonization success of all the continents, mostly in the biomes characterized by warm-temperate climate, being recorded as an invasive plant in U.S.A (e.g. West Coast and Hawaii: WESTER, 1992), Central and South America (Mexico, Costa Rica, Colombia, Venezuela and Brasil: MEIER, 2003), Taiwan (HSU *et al.*, 2004), Australia and New Zealand (GROVES *et al.*, 2005; HOWELL, 2008), Tropical and South Africa (HENDERSON, 2008). In Europe, this weed is known for Portugal, N Spain, Azores (CASTROVIEJO *et al.*, 1990), Madeira (HANSEN & SUNDING, 1993), United Kingdom (CLEMENT & FOSTER, 1994; STACE, 1997) and Greece (STRID & TAN, 1997; ARIANOUTSOU *et al.*, 2010).

Once dried, the collected and studied specimen was given to the *Herbarium Mediterraneum* of Palermo (PAL). The label of the *exsiccatum* contains the following information: "Centro storico di Palermo, Istituto d'Istruzione Superiore Regina Margherita, cortile interno tra il plesso centrale ed il plesso "Protonotaro", comunità ruderali su cumuli di sabbia e pietrisco, 20 m s.l.m., coord. 38°06'86" Nord, 13°21'85" Est, S. Pasta, 2.III.2012".

Local population of *Persicaria capitata* is probably formed by a single individual which up to now occupies an area of c. 1 m^2, where it co-occurs together with few nitrophilous species typical to different classes of synanthropic vegetation such as *Parietarietea judaicae* Oberdorfer 1977 (chasmonitrophilous plant communitites), *Stellarietea mediae* R. Tx. Lohmeyer & Preising ex von Rochow 1951 (annual, herb-rich ruderal communities), *Poly-*

a

b

Fig. 1 a-b — Particular of *Persicaria capitata* (D.Don) H.Gross (photo: S. Pasta and S. Mandalà, 7.III.2012).

gono-Poëtea annuae Rivas-Martínez 1975 (short-lived, trampled ruderal plant communities), etc. (Table 1).

This xenophyte is probably escaped from a private garden in the surroundings, and it may have been introduced in the playground by one of the

Table 1
Phytosociological relevés of the plant assemblages co-occurring with Persicaria capitata *(S. Pasta, 5.III.2012). Substratum abbreviations: sa = (calcareous) sands; ce = cement; cs = crushed (calcareous) stones.*

Nr of relevé	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Total cover rate (%)	90	100	30	30	40	30	90
Surface (m^2)	1	1	1	2	2	2	1
Substratum	sa	ce	ce	cs	cs	sa	ce
Aspect	N	N	S	S	N	N	S
Average slope (°)	0	0	0	10	40	30	0
Persicaria capitata (Buch.-Ham. ex D. Don) H. Gross	5						
Char. *Parietarietea judaicae* Oberdorfer 1977							
Parietaria judaica L.	+	5	2	+	1	+	4
Antirrhinum siculum L.			r	+	2	1	+
Char. *Stellarietea mediae* R. Tx. Lohmeyer & Preising ex von Rochow 1951							
Solanum nigrum L.			r	r	r	r	
Senecio vulgaris L.				+	+	+	
Urtica membranacea Poir.			+				+
Erigeron canadense L.					r	r	
Sonchus oleraceus L.			+				
Galactites tomentosa Moench				r			
Hordeum sp.				r			
Ricinus communis L.					r		
Char. *Polygono-Poëtea annuae* Rivas-Martínez 1975							
Polycarpon tetraphyllum (L.) L.	+		+		+	+	r
Trisetaria aurea (Ten.) Pignatti				+			
Cardamine hirsuta L.					+		
Char. *Lygeo-Stipetea tenacissimae* Rivas-Martínez 1978							
Symphyotrichum squamatum (Spreng.) G.L. Nesom	r						
Piptatherum miliaceum (L.) Coss.				+			
Char. *Stipo-Trachynietea distachyae* Brullo in Brullo, Scelsi & Spampinato 2001							
Hypochoeris glabra L.						r	
Musci indet.	1	+	+	+	1	1	+
Hepaticae indet.	+					+	

Yellow-legged gulls (*Larus michahellis*) nesting on the roofs of the neighbouring buildings. In fact, these colonial birds seem to play an important role as vectors of plant propagules (CALDARELLA *et al.*, 2011).

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Address of the Author — S. PASTA, via Vittorio Ziino (già V.F. 19), 60/A — 90126 Palermo (I); e-mail: salvatore.pasta@alice.it.