

## *Vicia parviflora* Cav.

### Slender Tare

*Vicia parviflora* has narrowly winged scrambling stems, unbranched tendrils, bluish-purple flowers and unequal calyx teeth. Each pod contains between four and eight seeds. It is an annual plant of calcareous clay soils waterlogged in the winter months but baked dry in the summer, and is most often found in habitats that have some periodic disturbance, including arable margins, ditch and hedge-banks, tracksides, woodland margins and waste ground. It is restricted to lowland areas of southern England where it has experienced substantial declines, leading to an assessment of Vulnerable in Great Britain.



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#### IDENTIFICATION

*Vicia parviflora* has 2-5 pairs of leaflets and unbranched tendrils that anchor the plant to the surrounding vegetation. Leaves are alternate, and have conspicuous green, triangulate to lanceolate stipules 5-7 mm long. The stems of *V. parviflora* are narrowly winged, solid and glabrous or sparsely adpressed hairy (Poland & Clements, 2009).

The inflorescence emanates from the axil and has very small caducous bracts (i.e. bracts that fall off easily) and pale bluish-purple flowers (1-8), each 6-8 mm long. Calyx teeth are glabrous and unequal, with the upper teeth shorter than the tube (Stace, 2010). Each seed pod contains 4-6(8) seeds, and each seed has a scar (hilum) where it has left its point of attachment. The hilum is about as long as it is wide and less than 1/8 of the seed circumference (Stace, 2010).



Stocking Lane Protected Road Verge in Huntingdonshire, where *Vicia parviflora* occurs on the side of a ditch bank near to another threatened species of lowland England, *Melampyrum cristatum*. ©Pete Stroh

#### SIMILAR SPECIES

*Vicia parviflora* may initially be confused with both *V. tetrasperma* and *V. hirsuta*. However, the flowers for both of the latter species are usually smaller (4 mm and 4-5 mm respectively), and the seed pods usually contain 4 seeds and 2 seeds respectively rather than the 4-6(8) of *V. parviflora*.

In addition, *V. hirsuta* has calyx teeth that are equal and are all at least as long as the tube, whereas *V. parviflora* has unequal calyx teeth. *V. tetrasperma* has mucronate tips to the leaflets (Poland & Clements, 2009) as opposed to the acuminate leaves of *V. parviflora*, and *V. tetrasperma* seeds have a hilum more than twice as long as wide and about 1/5 of the seed circumference.

#### HABITATS

A scrambling annual of sticky calcareous clay soils which are frequently wet in winter but baked dry in summer (Pearman, 2002).

It may be found on arable field margins and ditch banks, sunny hedge-banks, tracksides, road verges, walls and clay cliffs (Wilson & King, 2003), and also on urban wasteground, in municipal flower beds, as a casual of legume crops (Pearman, 2002) and on the margins of woods (Wells, 2003).

In Dorset it grows on crumbling lias soils on sea cliffs with other legumes including *Lathyrus aphaca*, *L. nissolia*, *L. sylvestris* and occasionally with *V. bithynica* (Farrell, 1994). Other known (arable) associates include nationally threatened species such as *Ranunculus arvensis*, *Torilis arvensis* and *Scandix pecten-veneris* (Wilson & King, 2003).

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### BIOGEOGRAPHY

*Vicia parviflora* has a Submediterranean-Subatlantic element (Pearman, 2002), is native to Europe, northern Africa and western Asia and has become naturalised in the Azores.

In Britain its native range is confined to lowland areas in the south of England, although it was recorded as a casual in north Lincolnshire by John Dony in 1951.

Core populations with clusters of more than 25 recent tetrad records occur in the Somerset Levels and in the base-rich heavy clay soils of south-east Cambridgeshire, bordering Huntingdonshire and north Bedfordshire. It is absent from Wales, Scotland and Ireland, and is considered naturalised in Cornwall.

### ECOLOGY

*Vicia parviflora* is an annual therophyte which reproduces by seed and has little or no vegetative spread (Grime *et al.*, 2007). It flowers from June to August, occasionally into September.

There is very little published information concerning the ecology of *V. parviflora*. Germination is thought to mainly occur in the autumn (Wilson & King, 2003), and experimental annual ploughing in early autumn has led to the establishment of the species at a site in Oxfordshire (McDonald, 2010), along with other rare and threatened arable plants.

It is not known if *V. parviflora* has a persistent soil seed bank,

although it has in the past been recorded in cliff-top set-aside fields (Preston & Pearman, 1992). In addition, a long-lived seed bank has been recorded for other *Vicia* species found in similar habitats e.g. *V. tetrasperma* and *V. hirsuta* (Grime *et al.*, 2007).

### THREATS

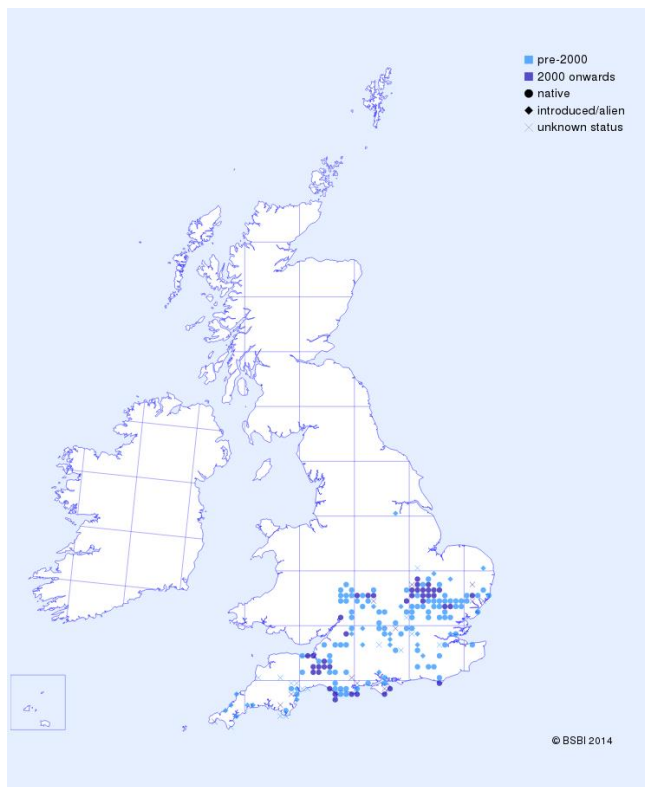
There is evidence of a widespread and continuing decline of this species in its arable habitats (Pearman, 2002). This is almost certainly linked to changing farm practices, including an increase in the use of nitrogen and the use of broad-spectrum herbicides (Wilson & King, 2003). Its distribution in other habitats appears to be relatively stable.

### MANAGEMENT

Where populations are known to occur, alerting relevant landowners and managers to the presence (extant or historical) of this vulnerable species could promote the uptake of specific conservation measures under various agri-environment schemes designed to benefit a broad range of annual arable 'weeds'. Such measures could include instating wide field margins and, in areas close to known populations, the strategic planting of hedgerows to provide a physical barrier to herbicide drift.

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Distribution of *Vicia parviflora* in Great Britain and Ireland.

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### AUTHOR VERSION

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