

## A new, purple-leaved form of *Poa annua* L. (Poaceae) is a cryptic weed

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### ABSTRACT

A name, *Poa annua* f. *purpurea*, is provided for a purple-leaved form of *Poa annua*. So far it is only known from cultivated ground in gardens where it is a significant weed.

### INTRODUCTION

In recent years a distinctive purple-leaved form of *Poa annua* L. (Annual Meadow-grass) has become widespread at The Royal Horticultural Society's (R.H.S.) Garden at Wisley, Surrey (v.c. 17) (Grant 2000). It is particularly common, and a significant problem weed, on the Portsmouth Field (trials area) and Rock Garden, both areas where annual weeds need constant elimination. The leaves of this form are a brownish-purple and serve to camouflage it well against bare soil – its favoured habitat. It only becomes obvious when it flowers because the spikelets, although purple-tinged, reveal green areas as they expand. *P. annua* flowers and sets seed so quickly that herbicides are relatively ineffective and this novel leaf camouflage provides further defence against hand-pulling and hoeing.

The appearance of this new weed is interesting because its evolution has been driven by physical selection pressures (the camouflage deters hand-pulling and hoeing) rather than chemical selection by herbicides.

*P. annua* is predominantly self-pollinating or inbreeding (Hutchinson & Seymour 1982) and our purple-leaved population remains true to type every year. Wherever it forms substantial colonies, and these can cover several square metres if a whole bed is fallow, only a few plants of the green-leaved form persist against the competition. However, it is also possible to find a few intermediate forms which have leaves of a purplish-green colour and are usually twice the size of either of the other two forms. It is tempting to speculate that these are hybrids that have arisen from occasional outcrossing as is reported in this species (Hutchinson & Seymour 1982).

I have not yet heard of this form occurring in the wild and its likely method of distribution is by seed in soil transferred with plants from nurseries or informal plant exchange. Despite an extensive search of the literature containing infraspecific epithets in this species (e.g. Chase & Niles 1962; Gibeault 1966; Gibeault & Goetze 1972; Naylor *et al.* 1982) I have not been able to find any that cover this variant. It is desirable to provide a name for this plant because of its present weed status and because it may need recording from the wild in the future. Distinguishing such variants is also in line with recent exhortations (Chater 2003) to characterise infraspecific variation in British taxa.

### ***Poa annua* L. f. *purpurea* M. L. Grant, f. nov.**

Differt a typo foliis purpureis bruneolis suffusis fortiter, glumae et lemmae margine purpurea suffusus.

Differs from the typical form in having the leaves heavily suffused with brownish-purple giving an overall colour approximating to N186A on the R.H.S. Colour Chart (R.H.S. 2001). The margins of both the glumes and lemmas are also flushed purple. It is annual and does not belong to any of the short-lived perennial infraspecific taxa such as var. *aquatica* Asch. or var. *reptans* Hausskn.

HOLOTYPUS: R.H.S. Garden, Wisley, Surrey, v.c. 17, TQ066578, on bare cultivated soil, 28 August 2002, M. L. Grant s.n. (WSY).

## HISTORY AND DISTRIBUTION

The origin of the present form is not known but reports of purple-leaved *P. annua* date back over 50 years. The late David McClintock (pers. comm. 2000) had it in his W. Kent garden (v.c. 16) since he moved there in 1945 and samples I collected there in 2002 (deposited at **WSY**) represent f. *purpurea*. The small, dark form from his garden (McClintock 1980) which he deposited at **BM** and **MNE**, and the similar form found by A. W. Stelfox in Co. Down (v.c. H38) in 1965 and deposited at **K**, which he also referred to, have very narrow leaves and small inflorescences and do not appear to represent typical f. *purpurea*. The latter was determined as “? var. *parviflora* Fiek” by C. E. Hubbard. A later 1993 sheet deposited by McClintock at **BM** consists of two robust plants with distinctly purple leaves which do represent f. *purpurea*.

T. G. Tutin made detailed observations (Tutin 1957) on a number of inbreeding races of *P. annua* in his Leicester garden (v.c. 55), one of which (stock C) was purplish but smaller than the typical green form (stock A, which he regarded as var. *annua*). He referred to it again from the same location in a later paper (Tutin 1973). The purple-leaved form described here is not smaller than typical *P. annua*.

There are anecdotal reports (J. England, pers. comm. 2002) of f. *purpurea* being present at R.H.S. Garden Wisley since the late 1960s. Tony Lord (pers. comm. 2001) remembers seeing it at a large nursery wholesalers in E. Norfolk (v.c. 27) in the 1970s and Alan Leslie (pers. comm. 2002) has known it in his Surrey garden (v.c. 17) and as a nursery weed in Surrey and Cambridgeshire (v.c. 29) for over 20 years. Tom Cope (pers. comm. 2002) recently found it at the Royal Botanic Gardens, Kew, Surrey (v.c. 17). The R.H.S. Members' Advisory Service has received specimens of f. *purpurea* from the gardens of A. W. Page, W. Kent (v.c. 16) in 1999 and A. F. J. Russell, S. Hants (v.c. 11) in 2000. Since my earlier request (Grant 2000), I have also received reports of this form from the gardens of M. Edmunds, W. Lancs (v.c. 60), T. Tarpey, N. Essex (v.c. 19) and P. R. Woods, Cheshire (v.c. 58).

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