

Irish Spurge (*Euphorbia hyberna*) in England: native or naturalised?

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Abstract

Most modern authorities have considered *Euphorbia hyberna* to be native in Britain but with the possibility that it could have been introduced from Ireland. The results from a literature survey, on the historical occurrence of the species, strongly suggest that it was introduced and has become naturalised at a few locations in south-west England.

Keywords: status; Cornwall; Devon; Lusitanian; horticulture

Introduction

The Irish Spurge (*Euphorbia hyberna* L.) is an extremely rare plant in England with only recent occurrences for west Cornwall, north Devon and south Somerset (Stace, 2010) although now extinct in the last vice-county (Crouch, 2014). The earliest records for the three vice-counties contained in the Botanical Society of Britain and Ireland (BSBI) Database (DDb) are:

1842 v.c.4 Lynton (Ward, N.B. More, W.S.)
1883 vc.1 Portreath (Marquand, E.D.)
1898 v.c.5 Badgworthy Valley (Salmon, C.E.)

As the only element of the so-called Lusitanian flora in England, with an extremely restricted distribution pattern in the south-west, the species represents an unresolved biogeographical conundrum: native or naturalised? A review of the historical literature can provide valuable information on a species' occurrence and thus may help in determining if it may have been introduced to a region. Botanical and other literature sources on the historical occurrence of *E. hyberna* in England were examined with the objective of answering the above question.

Among the criteria that have been used in assessing the status of doubtfully native species in the British flora are first date into cultivation and first date found in the wild (Pearman, 2007).

The plant in cultivation

The species, then known as *Tithymalus hibernicus*, was cultivated in some of the botanic gardens in England from an early date. It is not mentioned in the catalogue

of plants in the Botanic Garden at Oxford in the mid-seventeenth century (Anonymous, 1648) by its first director Jacob Bobart (1599-1680). However, a decade later it is listed in the updated catalogue of the plants there (Stephanus & Brouneus, 1658) wherein it is marked with an asterisk (*) to denote it as a 'non descript', i.e. not previously noted by any other English authors having been acquired from another country. There is a dried specimen, in the Oxford University Herbaria, labelled as *Tithymalus latifolius Hispanicus* without location and date which was collected by Jacob Bobart the Younger (1641-1719).

A specimen, collected in the south of Ireland, was sent by Dr William Stephens, Professor of Botany at Dublin University, to Eltham Garden in Kent, belonging to James Sherard (1666-1738) brother of the celebrated botanist William Sherard (1659-1728), where it flowered in 1729. The specimen was drawn and engraved by Johan Jacob Dillenius (1684-1738), the German botanist who settled in England and who later became professor at Oxford, and illustrated (Fig. 1) in his catalogue of the rare plants growing there (Dillenius, 1732).

Euphorbia hyberna was growing in the Chelsea Physic Garden, established since 1673, in 1731 (Rand, 1733) and was also cultivated at Kew later in the eighteenth century (Aiton, 1789). It was not among the plants cultivated at the Cambridge Botanic Garden towards the close of the eighteenth century (Donn, 1796) but was listed as a British, as well as an Irish, species a few years later (Donn, 1800) and yet in an edition of the same catalogue printed almost 50 years later it was listed as only native to Ireland (Donn *et al.*, 1845).

By the second decade of the nineteenth century it was said to be generally cultivated in private gardens in the London area and listed as a British species (Sweet, 1818). John Claudius Loudon (1783-1843) in his exhaustive catalogue, of the third decade of the nineteenth century, lists it also as a native of Britain (Loudon, 1830). At the close of the century it was growing at the Botanical Garden (Victoria Park) in Bath (Milburn, 1898).

Philip Miller (1691-1771), who was gardener of the Botanic Garden at Chelsea, said of the plant that it "grows wild in several Parts of *Ireland*, where it was formerly much in Use among the Natives of that Country, and was the chief Physic used by them for all Distempers" (Miller, 1740). On its propagation, he adds that it is rarely preserved except in botanic gardens for the sake of variety and that it will thrive in almost any soil or situation. However, interestingly, he does allude to it being planted in the wild where it will thrive in wooded areas, namely "This may be planted in Wildernesses, where it will thrive very well under the Drip of Trees, and will serve to fill up in such Places where few other better Plants will live."

As well as the specimen sent to Eltham in the 1720s, many other samples of *E. hyberna* were dispatched from Ireland to England through the centuries. For example, John Templeton (1766-1825) sent fresh specimens to the botanical artist James Sowerby (1757-1822) from which he made an illustration for *English botany: or, coloured figures of British plants* (Plate dated July 1, 1804) and to which the eminent botanist and founder of the Linnean Society, James Edward Smith (1759-1828), added in the text "We have never been lucky enough to see English specimens". Even down to the late nineteenth century, specimens were still being sent, e.g. a specimen was sent from county Cork to the Lincolnshire Gardeners' Association which was exhibited at their monthly meeting in June 1885 (Anonymous, 1885).



Figure 1. The specimen of Irish Spurge, as illustrated in Dillenius (1732), sent from Ireland which flowered at Eltham Garden in 1729

That the species will only produce viable seeds under certain circumstances is amply illustrated by the experience of Arthur Wilson Stelfox (1883-1972) who collected a specimen from county Kerry in 1899, when just 16 years of age. This plant moved with him, from garden to garden, over a long period but only flowered and set seed when he moved from Dublin to Newcastle in the north of Ireland in 1956 (Stelfox, 1963). Although it has been classed as an extremely useful garden

plant which is easy to maintain (Wyse Jackson, 2006) *E. hyberna* will, nonetheless, only thrive in base-poor soil conditions and is not a widely cultivated plant today.

The plant in the wild

Rare plants were noticed from an early time in England. For example, Matthias De Lobel (1538-1616), botanist to King James I, was aware of a spurge then known as *Esula major* – now *Euphorbia villosa* – in a wood near Bath belonging to Dr John Coltes (Lobel, 1576). The Irish Spurge is not mentioned as occurring in England by Lobel (1576), John Parkinson (1640), William Howe (Anonymous, 1650), Christopher Merrett (1667) and John Ray (Raius, 1690) nor in William Turner's *Libellus de re herbaria novus* of 1538 (Jackson, 1877), *Gerrard's herball* (Gerarde & Johnson, 1636) and the later herbal of John Hill (1756). Some of these early writers would have been aware of its medicinal use in Ireland where it was also employed for poaching salmon in rivers. John Ray (1627-1705), for example, had two medical correspondents there who wrote him later regarding the plant in 1697 (Derham, 1718) which he had included as occurring *In Hibernia* in the 1690 and 1696 editions of his work. The Irish Spurge was known to these early botanists as *Tithymalus hibernicus*, e.g. William Howe (1620–1656) in his anonymous catalogue *Phytologia Britannica* (Anonymous 1650), but was assigned to *Euphorbia hyberna* by Linnaeus (Linnæus, 1753) who gave its habitats as Ireland, Siberia, Austria and the Pyrenees.

It was also commonly known in England as the Winter Spurge (e.g. Lindley, 1849; Ogilvie, 1871) an obvious mistake in interpretation of the specific name! It is noteworthy that it is not mentioned along with the six species of *Euphorbia* listed in the eighteenth-century *English flora* (Weston, 1775). Unlike in Ireland the plant has no tradition of application in medicine and use as a fish poison. An early Irish herbal, by the clergyman-naturalist John K'Eogh (1681-1754), lists it as a powerful purging medicine among other virtues (K'Eogh, 1735). It is particularly noteworthy that in the mid-eighteenth century the species was only known to grow "naturally in Ireland, from whence the roots have been brought to England" and "may be planted in Wildernesses" though "indeed is rarely preserved but in Botanic Gardens" (Miller, 1740; 1768).

The plant was reported as occurring in Kent, between Sittingbourne and Faversham (Hasted, 1798) in the late eighteenth century. However, that dubious record as well as two others, reported from Middlesex and Herts., were thought to be misnamed for *E. platyphyllos* (Watson, 1849). Up to the time of publication of Hewett Cottrell Watson's (1804-1881) second edition of *Topographical botany*, the plant was only known from north Devon (Watson, 1883) albeit in the same year it was discovered in Cornwall followed a decade and a half later in Somerset. Despite some early references to the plant in the wild, the first unequivocal record comes as late as 1842. Watson claimed to have found *E. hyberna* in the autumn of 1833 in Devon, in woods about Leemouth or Linton, but says he misidentified it as *E. pilosa* at the time (Watson, 1849). Having remained unnoticed, by local and visiting botanists, in Devon for so long must cast grave doubts on the species' indigeness.

Conclusions

From the literature sources, it can be established that the species was not known from any of its recently verified three vice-counties down to the mid-1830s (e.g.

Watson, 1835) but was recorded for north Devon shortly afterwards (Hore, 1842) and found in west Cornwall in 1883 (Anonymous, 1884; Marquand, 1884). It is also interesting to note that in the year it was first recorded in Somerset, in the Badgworthy Valley, it was already flowering at the Botanical Garden in Bath (Milburn, 1898). Thus, the first verified reporting of *E. hyberna* in the wild in England, at Lynton in Devon, was in 1842 more than a decade after the publication of *Flora Devoniensis* wherein seven *Euphorbia* spp. had been recorded for the county (Jones & Kingston, 1829).

Most modern authorities have considered the species to be native in Britain but with the possibility that it could have been introduced from Ireland (Preston *et al.*, 2002). Recently it has been regarded as naturally occurring in south-west England, having recolonised in post-glacial times from refugia in areas of northern Spain and southern France, as suggested by palaeodistribution modelling and phylogeographical studies (Beatty *et al.*, 2015). However, the aspect of its indigenusness is not supported by the findings from the literature review which has established the first date into cultivation and first date found in the wild for the plant in England. The documentary evidence presented here would strongly suggest that the plant was most probably introduced into some places in England and has survived in the two vice-counties where the habitat was suitable. Thus, it would appear that *E. hyberna* has become naturalised in south-west England where climate, soil and other habitat conditions are suitable for growth.

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