

LLOYDIA SEROTINA

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Edward Llwyd botanised in Snowdonia on many occasions in the 1680s, and after the earliest visit of which we have a record, on 24 August 1682, he listed the more interesting plants and then added: "I observed several other plants, wch because they were not then in flower, I knew not whither to reduce" One of these unknown plants that he saw on this or a later visit was a small, bulbous herb with a single fruit at the top of the stem, growing on high rocks in several localities. In 1688 Llwyd sent a collection of plants from North Wales to his fellow botanist Jacob Bobart at Oxford, and evidently drew special attention to a specimen of this unknown bulb, for Bobart anxiously writes in his letter of thanks: "One thing I must express some part of my passion in wch you must excuse, that is that I am not soe fortunate as to find that bulb wch in yr letter you direct me to at the top of the biggest box, wch I search'd and researched grass by grass and can by noe means find; I feare it was not put in...". This collection of plants later became part of Sir Hans Sloane's herbarium which is now in the British Museum (Natural History); either Bobart did later find the missing bulb or Llwyd sent him a replacement, for there is a specimen of it in the collection.

In 1695 Llwyd published a list of "more rare plants growing in Wales" in Gibson's edition of Camden's Britannia and took the opportunity of including the unknown bulb. The entry is worth quoting in full as it is the first appearance of our plant in print: "Bulbosa Alpina juncifolia pericarpio unico erecto in summo cauliculo dodrantali. A certain Rush-leav'd bulbous Plant, having one Seed-vessel on the top of an erect stalk about nine inches high. On the high rocks of Snowdon, viz. Trigvylchau y Clogwyn du ymhen y Gluder, Clogwyn yr Ardhu Crib y Distilh, &c. Mr. Lhwyd. It hath three or four more narrow and short leaves upon the stalk." Llwyd also reported, and perhaps sent, the plant to John Ray, the greatest botanist of the day, who included a very similar entry about it in the second edition of his Synopsis Methodica Stirpium Britannicarum published in 1696. In the absence of flowers Ray too was unable to classify it and placed it at the end of the bulbous-rooted herbs.

It is uncertain who first found the plant in flower. In an undated letter of about the time of Ray's publication Llywd wrote to the Rev. John Lloyd of Rhuthun that he understood that Dr. Humphrey Foulks (an Eton tutor and then rector of Llan Sain Siôr, Dinbych) "has found a plant in flower on Snowdon, which I have mention'd in Mr. Ray's Synopsis, but with the addition that I never saw the flower of it. I suppose 'tis either Subularia Lacustris Alpinorum Lacuum Isoetes lacustris, which it of course could not have been if it flowered] or the Bulbosa Alpina juncifolia; but would gladly be informed whether of them; and would be much obliged to him for the best description of the flower in your next letter..." Llywd himself saw it in flower presumably shortly after this, for in September 1696 he wrote to Tancred Robinson, the physician and naturalist, reporting on a journey earlier that year: "At Snowdon Hills we met with little or nothing additional to what is in Mr. Ray's Synopsis; only the little Bulb I found plentifully in flower..." He also sent a flowering specimen to Ray, who replied in an undated letter (ascribed by Canon C.E. Raven in his biography of Ray to 1696, but by R.W.T. Gunther in his edition of Ray's correspondence to 1699): "The Bulb with a single flower, wch you had seen in seed before, if it be not a plant sui generis but educible to any of ye known kinds, I think it may be referred to Ornithogalum"

In 1700 Llywd showed the plant to the botanist and antiquary Richard Richardson, who collected specimens which he sent to various botanical colleagues. The specimen he sent to James Petiver (which, like one he sent to John Buddle, joined Llywd's earlier one in the Sloane herbarium) was accompanied by a long note describing how "in Mr. Lhwyd's company we found several plants of it in flower upon the side of Trigvulcaugh being the first time we saw it in flower which was in the beginning of June..." In 1726, three distinguished botanists, Samuel Brewer, J.J. Dillenius and Littleton Brown, went to look for the plant; although they were accompanied by a guide called Griffith who had seen the plant with Richardson, Brewer recorded in his diary: "We did not find it, tho' Dr. Richardson says we were upon the very rock, being very dark and wet weather." Botanising is all too often still like this !

Interest in the plant continued unabated and many naturalists have recorded their experience of it. One chain of reports from the late 18th century, discussed by James Britten in the Journal of Botany, 1923, is typical. John Lloyd, whose primary interest was in geology, sent a specimen to Sir Joseph Banks in 1778. Banks seems to have doubted whether it was the correct plant, for Lloyd was provoked into justifying his identification by giving a vividly accurate description of how it grows, in a letter he wrote that October: "I was much surprised to find you were not satisfied of the bulbous Plant I sent being Bulbocodium [the current name for our plant]: I

do not recollect ever before having seen any Plant with a bulbose root near Llanberris; and the Leaves answered the Description very exactly; so I hope, upon the whole, you may be mistaken; it grew deep betwixt a Cleft in the Rock which was moist facing the North, with a great deal of Earth about the Root, which lay 4 Inches under the Splinter of the Rock." In November 1790 Lloyd wrote to Banks that J.W. Griffith (probably the son of the guide to Brewer's party in 1726) "spent some time this autumn at Llanberris... He has found every plant mentioned by the old Botanists... He has now a very fine and plentiful collection of them all... in his garden... The Bulbocodium blossomed in Mr. Griffith's Garden last month... he thinks all the specimens we have seen have been blossoms of the year preceeding that, when they were collected." Banks acquired another specimen in 1794, which is labelled: "Trig-y-fylichan, Part of the Glydr Range, on the N side of Llanberris in the county of Carnarvon; found by J.W. Griffith of Garn Esqr. the 23rd of June 1794." In 1800 Griffith sent a fresh specimen to J.E. Smith, the founder of the Linnean Society, who forwarded it to Sowerby who promptly and accurately figured it in English Botany t. 793.

Although Llywd discovered our plant new to Britain, it had been known from the Alps long before his time. The earliest detailed description of it is probably by Gaspard Bauhin in his Prodromus of 1620; he called it Pseudo-narcissus gramineo folio, sive Leuconarcissus aestivus. When Linnaeus published his Species Plantarum in 1753 and established his uniform binomial system of nomenclature, he called our plant Bulbocodium serotinum; in the second edition he called it Anthericum serotinum. It was not until 1812 that R.A. Salisbury, in a paper entitled "On the cultivation of Rare Plants" in the Transactions of the Horticultural Society of London, reopened Ray's suspicion that the plant might be sui generis and wrote: "As it constitutes a distinct genus, I have named it after the celebrated Edward Lhwyd, Esq." He also wrote: "A very rare British plant, which, I have no doubt, might be cultivated in a border of peat earth, kept constantly moist, and shaded by pales or a wall, not under trees or shrubs; for Dr. William Alexander, of Halifax, who, like Sir Thomas Gage, was near losing his life in climbing to the dangerous summits where it grows wild, preserved it for many years in his garden." Salisbury named the plant Lloydia alpina. Unfortunately in so doing he made two errors; firstly he should, under our retroactive rules of botanical nomenclature, have given some description of the new genus Lloydia, and secondly, he should have used Linnaeus's serotina as the species name. It was not until 1830 that the German botanist H.G.L. Reichenbach provided a description of the genus in his Flora Germanica Excursoria (the most compendious pocket Flora ever published). The correct name at last emerged as Lloydia serotina (Linnaeus) Salisbury ex Reichenbach. The Welsh name for the plant, Brwynddail y Mynydd, was coined by Hugh

Davies in his Llysieuath Gymraeg in 1813. The English names are Mountain Spiderwort and Snowdon Lily. There are now considered to be about 20 species in the genus.

Several of the more interesting features of Lloydia serotina have already emerged in the course of this brief history. Llywd called it Bulbosa Alpina, and an alpine bulbous plant is in itself an unusual thing. Plants which die back in winter leaving the growing bud buried beneath the soil are called geophytes, and, probably because where there is only a very short growing season it is useful for a plant to get off to a flying start each spring by having its buds already at or above the soil surface, geophytes are rare at high altitudes and high latitudes. Bluebell and Lesser Celandine are two geophytes whose altitudinal range overlaps with that of Lloydia, but Lloydia is the only one in Britain confined to high altitudes. It is often difficult to find in flower, partly because in an average year not more than one plant in ten flowers, and partly because the flowering period is very short; J.E. Griffith in The Flora of Anglesey and Carnarvonshire says: "The best time to find it in flower is from 12th to 21st June." It usually grows in very inaccessible sites on north or east facing precipices, probably not only because it has been exterminated from the more accessible ones but because in our climate such cliff sites suit it best; it still, however, grows plentifully at waist height by a footpath at one of its four or five remaining stations. In Britain it is confined to Snowdonia, but in the world as a whole it is said to have the widest distribution of any species in the Liliaceae, occurring in widely discontinuous areas; the Alps, Carpathians, S.W. Bulgaria, Caucasus, Arctic Russia, Baikal, Altai, Himalaya and the arctic and mountainous parts of North America.

Although the petals (perianth-segments) have large, conspicuous nectaries with exposed nectar, no insects have ever been observed visiting the flowers of the British plants, and they have never been known to set seed. Even in the Alps, where insect visitors have often been observed, seed is very rarely set. The way in which the plant overwinters and reproduces vegetatively, and the remarkably complex structure of the bulbs, is described by N. Woodhead in his account of Lloydia for the Biological Flora of the British Isles in the Journal of Ecology, 1951.

Lloydia was certainly over-collected in the past and this has probably contributed to a decrease in its numbers since Llywd's day. There are about 60 specimens from Snowdonia in the British Museum (Natural History), though none collected later than 1908. One specimen of 1826 is accompanied by a chilling note from one collector to another: "I am happy to send you this rarity as a return for your Cypripedium". J.E. Griffith saw basketfuls being collected in the

1880s. In 1975 Lloydia serotina was one of 21 species of plant to be given legal protection under The Conservation of Wild Creatures and Wild Plants Act, and may not, generally speaking, now be uprooted, destroyed or even picked. Like several other plants on this list, Lloydia needed protection particularly because of its undoubted appeal to the popular imagination. It is an embodiment of the rare, beautiful and inaccessible flower. A short story by C.E. Montague, In Hanging Garden Gully, published in a collection of stories entitled Fiery Particles in 1923, conveys perfectly this fascination in an account of an exciting and successful climb up Twll Ddu in Cwm Idwal to find the plant.

We can end with a curious episode. In 1968, in the Proceedings of the Botanical Society of the British Isles, R.F.O. Kemp published a new record of Lloydia from the Stanner Rocks, a well-known botanical site just inside Wales that has since been made a National Nature Reserve (for which a permit to visit is required). He had accidentally collected the plant, which had a shrivelled flower, along with a moss specimen on 12 April 1965, and wrote: "The plant would probably have been overlooked had it not been in flower on a date two months earlier than usual." It was a surprising place to find a high mountain species. The story now comes full circle, for in time it was realized that, like Edward Llwyd nearly three centuries before him, Kemp had discovered a species new for the British Isles. When the record was followed up and fresh flowers were found ten years later, it turned out to be not Lloydia but Gagea bohemica, undoubtedly native and very abundant, but hitherto overlooked because its infrequent flowering takes place in the first three months of the year. The days of discovery, even in so well-botanised a country as ours, are still with us and we need not look back to Edward Llwyd with envy.

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