

Sedum villosum (Hairy Stonecrop) in Banffshire v.c. 94

S. villosum is a low growing, pink flowered, fleshy leaved, perennial, sometimes biennial plant, reproducing by offsets and seed (Clapham et al 1987, Braithwaite 1994).

Its typical habitat is described as “stony bryophyte-dominated flushes that are only slightly base-rich, often on rather level ground beside streams amongst species-poor hill grassland or heather moorland” (Braithwaite 1994). In Cumbria, the species’ typical habitat is described as “rather open, stony flushes although it also occurs amongst mosses in small sykes” (rivulets) (Halliday 1997) and in North Aberdeenshire as “flushes and marshes” (Welch 1993). It is not reported from highly calcareous flushes, eg. the moss *Cratoneuron commutatum* (*Palustriella commutata*) is described as infrequent, and *Galium uliginosum* (Fen Bedstraw) described as a typical associate in some areas, is the closest to a rich-fen species amongst those listed by Braithwaite.

Nationally, *S. villosum* is classified as *Near Threatened* (Cheffings and Farrell 2005) and *Nationally Scarce* (JNCC 2009). It was recorded from 95 hectads in GB in the period 1987 – 1999 (Preston et al 2002), with a change index of -0.76 . In Scotland alone, the change index was -0.98 , (Preston et al 2006).

In Banffshire, it is classed as *County Scarce* (Amphlett 2010), having been recorded from 7 tetrads since 1980. Here, it was first recorded in 1860, at Bogbraes (NJ6956) and Blackburn (NJ7154), 8 – 10 km south of Banff. In all, it has been recorded from 20 localised sites in 9 – 11 hectads in the county (Fig. 1, Table 1). Since 1990, it has only been recorded in 3 hectads, at just 2 localised sites. It was last recorded in the county in 1997 at Morinsh (NJ252303).

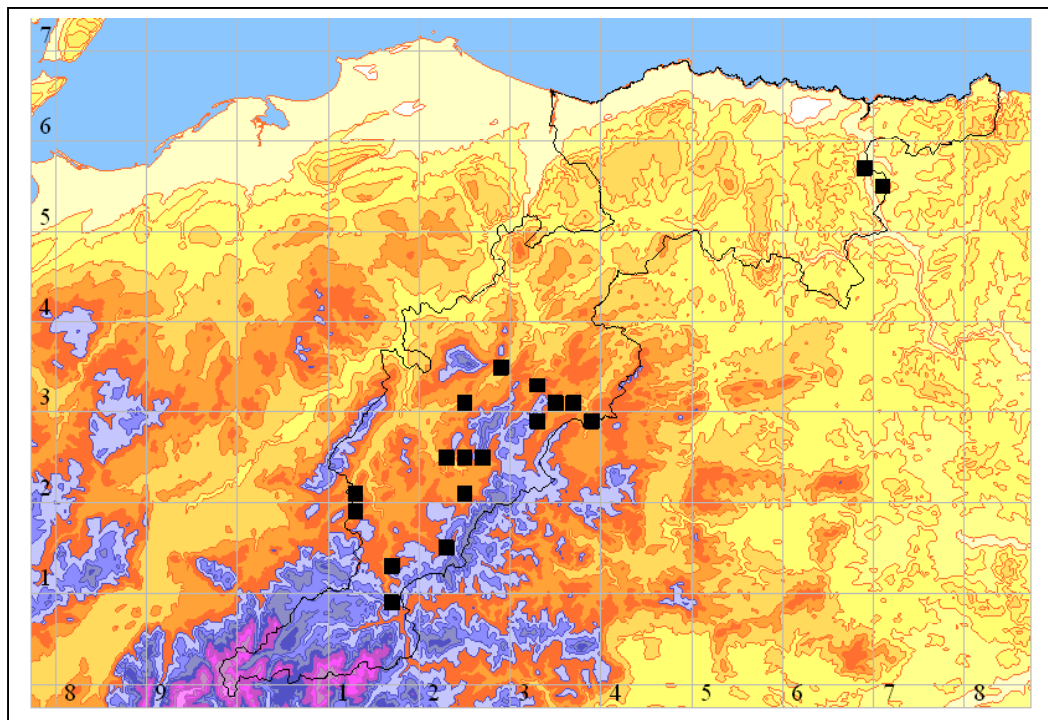


Fig. 1. Tetrad distribution of *Sedum villosum* in Banffshire. All localised records are shown. Relief shading is at 50 m intervals up to 200 m AOD, then at 100m intervals. Areas above 500 m AOD are in blue, and above 900 m in pink (Digital Map Data Copyright © Bartholomew 2007). The vice-county boundary is shown as a black line (© All rights reserved. National Biodiversity Network Trust and Crown Copyright 2003).

At 15 of the 20 sites, *S. villosum* has only been recorded once. While in part this may reflect the generally low level of plant recording in the county, it is also suggestive of populations being transient at some individual sites. Of 7 sites where the record provides information on the habitat, 5 were by rivers or burns (one record refers to damp shingle). It is plausible to speculate that these were transient populations originating from seed or plants washed down from source populations higher upstream.

Assuming that each recorded population persisted between the date of first record and the most recent, it is possible to infer the minimum number of recorded sites present in the county in each decade (Fig. 1, below left). Apart from the 2 records from 1860, all other localised records were made post 1950. There were peaks in the number of recorded sites in the 1960s and 1980s. However, to better interpret this pattern, account has to be taken of variability of recording effort. One measure of this effort is the combined number of individual plant records, of all species, made in each decade in the hectads in which *S. villosum* has been recorded. Dividing the number of sites in Fig. 1 by the number of plant records per decade, gives a measure of frequency of extant sites, calibrated for recording effort (Fig. 2, below right).

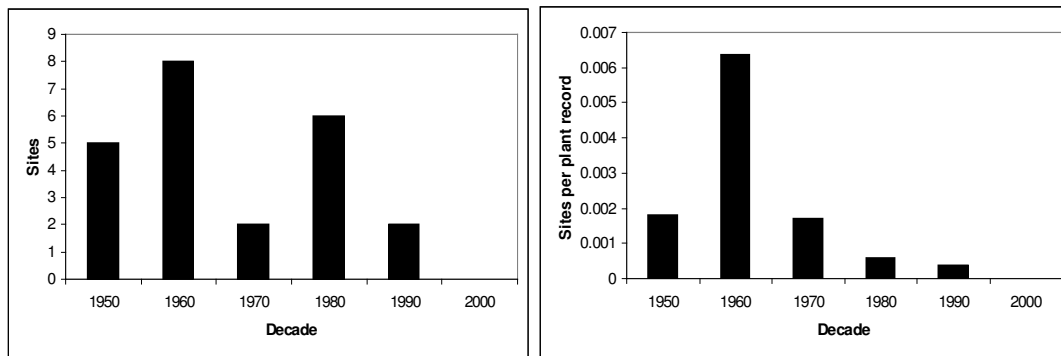


Fig. 1 (above left). Estimated number of extant recorded sites of *S. villosum* per decade, 1950 – 2009. Fig. 2 (above right). Estimated number of extant recorded sites of *S. villosum* per decade, 1950 – 2009, calibrated for recording effort.

The calibrated site data suggest that the high number of recorded sites in the 1980s may have been the product of increased recording effort, and that there has actually been a pronounced downward trend in number of sites since the 1960s. In Banffshire, 10 of the 20 localised sites have been re-visited since 2000, and *S. villosum* has not been re-found at any of them. This result is in line with the GB and Scottish Change Indices, both of which are negative. In the 100 km OS grid square NJ, in NE Scotland, *S. villosum* has been recorded from 26 hectads, but in 17 of these (65%) not since 1986 or earlier, and only in one hectad has it been recorded since 2000 (<http://www.bsbimaps.org.uk/atlas/main.php> - accessed 31/01/2010). In southern Scotland, Corner (2010) states that *S. villosum* “has lost ground throughout the Borders”. In North Aberdeenshire (v.c. 93), Welch (1993) says that *S. villosum* is “now rare and confined to uplands”. Earlier statements that the species is likely to still be present in upland hectads where there are no recent records (Braithwaite 1994, Croft 2002), appear, in the absence of evidence to the contrary, overly optimistic.

In Banffshire, the two 19th-century sites were at less than 100 m AOD. Of the other 18 localised sites (found post 1950), altitude can be estimated for 17; median 350 m (IQ range 330 – 380 m, range 250 – 450 m). The species is reported up to 1100m AOD in the Breadalbanes (Croft 2002), but has not been recorded from montane sites in Banffshire.

Further efforts to re-find this species in Banffshire are a survey priority.

References

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| Hectad | Gridref | Year | Site Name | Recorder | Comment |
|--------------|----------|-------|--------------------------------|---|---|
| NJ10 | NJ1609 | 1975 | River Avon below Foal's Craig | P. Harrold | |
| NJ11 | NJ11 | 1968 | Tombreck Muckle Fergie Burn | A. McG. Stirling BSBI Field Meeting M. McCallum Webster | Damp river shingle Record not localised (Tomintoul area) Flushes Date class 1987 - 1999 |
| | NJ127193 | 1969 | | | |
| | NJ11 | 1983 | | | |
| | NJ1613 | 1983 | | | |
| | NJ11 | 1987+ | | | |
| NJ10 or NJ11 | | 1912 | Kirkmichael Parish | Burgess, Mr. J.J. | |
| NJ12 | NJ1220 | 1905 | Glen Brown | Rev E.S. Marshall | Site may have been in NJ11 |
| | NJ120210 | 1986 | Bridge of Brown | Tidswell, R. | Grid ref overlaps the v.c. 94 / 95 boundary |
| NJ21 | NJ235153 | 1966 | Well of Lecht | J. Rogerson | |
| | NJ247193 | 1969 | Scalan | A.J. Souter | |
| | NJ21 | 1996 | Glenlivet / Ladder Hills | J. Edelsten & E.S. Bruce | |
| NJ22 | NJ274246 | 1956 | Upper Glenlivet | A.J. Souter | Flushes Plentiful. A good place at Chapelton filled in when distillery built. Over 100 plants |
| | NJ258204 | 1966 | Corrunich Farm | J. Rogerson | |
| | NJ2524 | 1968 | Upper Glenlivet | M. McCallum Webster | |
| | NJ243210 | 1969 | Chapelton | A.J. Souter | |
| | NJ235249 | 1982 | Allanreid | E.S. Bruce | |
| | NJ235249 | 1992 | Allanreid | E.S. Bruce | |
| NJ23 | NJ23SE | 1980 | Milltown of Laggan | M. McCallum Webster | Cart track at ford |
| | NJ285344 | 1982 | Milltown of Laggan | P. Somerset Ward & J. Cameron | |
| | NJ252303 | 1997 | Morinsh | M. Canham | |
| NJ24 | NJ24 | 1912 | Aberlour Parish | White, Mr. J. | Aberlour town is in NJ24. Record probably refers to NJ23. |
| NJ32 | NJ32 | 1912 | Cabrach Parish | Craib, W.G. | Parish overlaps with v.c. 93 |
| | NJ396294 | 1956 | Corinancy | A.J. Souter | |
| | NJ32Z | 1964 | Bank of Corinacy | A.J. Souter | |
| | NJ3328 | 1983 | Blackwater Lodge | M. McCallum Webster | |
| | NJ332288 | 1987 | Allt na Bradan. | J. Edelsten & E.S. Bruce | |
| | NJ32J | 1988 | Blackwater Lodge area | J. Edelsten & E.S. Bruce | |
| NJ33 | NJ33 | 1860 | Mortlach Parish | Stewart, Dr. L. | Bank of artificial lochan |
| | NJ33SE | 1954 | | M. McCallum Webster | |
| | NJ346303 | 1956 | By Black Water | A.J. Souter | |
| | NJ367316 | 1956 | Bridgend | A.J. Souter | |
| | NJ33 | 1974 | Glen Fiddich | A.J. Souter | |
| | NJ3232 | 1983 | Glen Fiddich | M. McCallum Webster | |
| NJ65 | NJ6956 | 1860 | Bogbraes | Todd, Rev. Dr. | |
| NJ75 | NJ7154 | 1860 | Blackburn | Todd, Rev. Dr. | |

Table 1. Summary of *Sedum villosum* records, v.c. 94 (Banffshire).