

Recorder for Liverworts, [Sam Bosanquet](#), and Recorder for Mosses, [Tom Blockeel](#), present their annual reports and new vice-county record lists

# The liverwort year – 2016

A total of 111 liverwort vouchers were confirmed during 2016, three records were deleted and one was placed in brackets. Two people sent in *Marchantia polymorpha* subsp. *ruderalis* from **H35** and two sent *Colura calyptrifolia* from **H34**, so the true number of additions and amendments in 2015 was 113. This is a slight increase in activity compared with 2014 and 2015 – thanks particularly to the Irish Summer Meeting – and there still does not appear to be a downturn after the big push of recording for the 2014 *Atlas*. For the second year running, Rory Hodd was the most prolific recorder, contributing 15 specimens, with David Long and Tom Blockeel coming second and third, with 11 and 10 respectively; Rory Whytock sent 8 and Sam Bosanquet 7, with Liz Kungu and Tom Ottley next on 5. 74 taxa were collected during the year, which is an increase on the 68 from 2015

and 62 from 2014. The host counties for the BBS Summer Meeting produced the lion's share of vouchers – 13 from Tyrone **H36** and 11 from East Donegal **H34**. There were 6 vouchers apiece from the 'South Wales Bryos' team in Glamorgan **41** and from Richard Lansdown and Pete Martin in West Gloucestershire **33**, five from Rory Whytock in Ayrshire **75**, and three each from Breconshire **42**, Nottinghamshire **56**, Kirkudbrightshire **73**, Selkirkshire **79** and Stirlingshire **86**. All 33 of the vouchers that were collected in Ireland during the year were sent to **DBN**, whilst 9 vouchers were sent to **E**.

### The liverwort year

2016 was a good year for liverwort recording in Britain and Ireland, with higher tallies for England, Ireland and Wales compared with 2016, although Scotland fared less well than in 2015 because of the lack of a BBS Spring

The number of records reported in 2016 is as follows:

	2016					2015				
	England	Wales	Scotland	Ireland	Channel Islands	England	Wales	Scotland	Ireland	Channel Islands
New entries	27	18	21	20	–	14	4	39	10	–
Debrackets*	4	–	6	12	–	11	–	7	7	3
Persisting†	1	–	–	–	–	–	–	–	–	–
Bracketings*	1	–	–	–	–	–	–	–	–	–
Deletions	–	–	2	1	–	–	–	1	–	–
<b>Totals</b>	<b>33</b>	<b>18</b>	<b>29</b>	<b>33</b>	<b>0</b>	<b>25</b>	<b>4</b>	<b>47</b>	<b>17</b>	<b>3</b>

\*Debrackets are existing vice-county entries for which a post-1960 record has been vouched. \*Bracketings are existing entries for which the post-1960 records are unconfirmed or erroneous, but older record(s) are valid.

†Persisting colonies have survived outdoors at sites outside their known native range for more than 10 years.



△Fig. 1. *Porella obtusata*, Bessie's Meadow. B. Stewart

or Summer Meeting there. England's most notable record was *Cephaloziella massalongi* at its northernmost British site; Scotland's best were *Riccia canaliculata*, identified by David Long from a 2010 collection by Nick Stewart, and *Lejeunea mandonii* found by Gordon Rothero; Wales mustered *Aphanolejeunea microscopica*, *Drepanolejeunea hamatifolia* and *Lepidozia cypressina* in the far south and did particularly well by recent standards; and Ireland's second known population of *Barbilophozia atlantica* was a highlight from that country.

Three new hornwort records is roughly average for recent years, as was the proportion of thallose liverworts to leafy liverworts, although *Marchantia* and *Conocephalum* only mustered four records apiece and the common *M. polymorpha* subsp. *ruderalis* and *C. conicum* are close to saturation at the vice-county level. I have received very few specimens of *Sphaerocarpos* in the last eight years, so the *S. michelii* that Jan Hendy passed on to me was welcome. Barry Stewart bit the bullet (at my prompting) and sent in persisting *Preissia* from Wisley, although its abundance in the rock garden suggests that previous visitors have ignored it. Another quandary came when Matthew Osland-Barker emailed me a photograph of fruiting *Aneura mirabilis*, new for Warwickshire, but had not collected a voucher specimen: it is such a

unique species that I accepted it as a new Vice-county record based on the photograph. Four aquatic *Riccias*, including *R. canaliculata* and *R. huebeneriana*, suggest low summer water levels, and two specimens of *R. subbifurca* is a good tally. Mags Crittenden, Des Callaghan and David Long filled in gaps for *Fossombronina incurva*, which is heading towards ubiquity at the vice-county level. Rory Hodd's *Pleurozia purpurea* from Tyrone was the first voucher of this species that I have received, because it is so well-recorded in its relatively restricted range.

Two species of *Porella* were added to the Glamorgan flora in 2016: George Tordoff found *P. arboris-vitae* and Barry Stewart collected *P. obtusata* (Fig. 1). Nearby, in Breconshire, Graham Motley and I located first *Aphanolejeunea microscopica* and then *Drepanolejeunea hamatifolia*; another edge of range population of *Drepanolejeunea* was located by Rory Whytock in Ayrshire. Tim Blackstock's *Frullania microphylla* was a long-awaited first for Anglesey. The outstandingly rare *Lejeunea mandonii* was found, complete with its distinctive perianths, by Gordon Rothero in Argyll, south of its previous Scottish records. Tom Blockeel added *Kurzia sylvatica* to the Derbyshire flora, but relegated *K. pauciflora* to brackets because only a few very old records are from plausible habitats. *Kurzia trichoclados* was collected twice, and David Long's



△Fig. 2. *Aphanolejeunea microscopica*, Lower Pyrrdin Valley. C. Hipkin

specimen from Roxburghshire was so strongly scented that I scarcely needed to open the packet to rule out its two congeners! Peter Sturgess discovered *Lepidozia cupressina* in the still under-recorded eastern valleys of Glamorgan, hinting at further riches to be found.

*Lophocolea fragrans* was probably the most notable of a good set of records from the Forest of Dean that Richard Lansdown made; this is very close to its south-eastern limit in Britain. In contrast, *Plagiochila spinulosa* on a tor in westernmost Cornwall, found by Matt Stribley, was remarkably far west, because *P. bifaria* predominates in this vice-county. Rory Whytock relocated *Plagiochila exigua* in Ness Glen, after a BBS visit had failed to find it, and Mark Lawley updated *Cephalozia lunulifolia* in Herefordshire. *Cephalozia pleniceps* was found in Ireland and *C. loitlesbergeri* in Scotland, but 2017 was not a vintage year for *Cephalozia*. Tom Ottley did well to detect a few tiny shoots of *Cladopodiella francisci* in Cardiganshire, marking his arrival in the Vice-county after his move from Sussex; he also collected *Tritomaria exsecta* from the well-worked Devil's Bridge area. Coniston Coppermines produced *Cephaloziella stellulifera* as well as *C. massalongi* for Des Callaghan, and the former was also found in West Gloucestershire.

One of two Irish populations of *Barbilophozia*

*atlantica* was relocated by Rory Hodd, many decades after it was last seen. Tristan ap Rheinallt found small *B. attenuata* on the coast of Lewis, but it was huge in comparison with Julie Smith's *Anastrophyllum hellerianum* from West Perth (these two species can look remarkably similar). It was a pleasure to see Gordon Rothero's very distinctive *Lophozia longidens* from West Perth, particularly because it was so well-grown. Tom Blockeel's *L. perssonii* from a woodland ride in Nottinghamshire raises the prospect of this species colonising tracks in a similar way to *Jungermannia atrovirens* and *Leiocolea badensis* further west. One of Rory Hodd's high altitude *Lophozias* was confirmable as *L. opacifolia*, although another appeared to be *L. incisa*. David Long's *Scapania cuspiduligera* in East Donegal was the liverwort highlight of the BBS Summer Meeting, and there were also two records of *S. scandica* and a notable southern Scottish discovery of *S. uliginosa*. *Calypogeia suecica* in Co. Dublin is one of the most thought-provoking records of the year: might it be overlooked in western England and Wales? Sandy Payne confirmed that *Leiocolea gillmanii* is still present in Caithness, whilst Mark Pool updated *Marsupella funckii* in south Devon.

Jonathan Shanklin made yet another new Vice-county record of *Cololejeunea minutissima*

– in North-east Yorkshire – carrying on his quest to elucidate its north-eastern range limit. He also found *Metzgeria consanguinea* new for Cambridgeshire, and *Lophocolea semiteres* in North Northumberland. *Colura calyptrifolia* was added to the bryophyte lists of five Vice-counties, the greatest number of additions for any liverwort species in 2016, with West Gloucestershire lying close to its current south-eastern range edge. There were no new Vice-county records for *Lophocolea bispinosa*, but *L. semiteres* was newly found in four Vice-counties, split between south-east and north-east England.

### New vice-county records and amendments

Vouchers are deposited in the BBS herbarium (BBSUK) unless otherwise stated. Other herbarium abbreviations are **DBN** = National Botanic Garden, Glasnevin, Dublin; **E** = Royal Botanic Garden, Edinburgh.

- 1.1. *Anthoceros punctatus*. 41:** vertical bank at side of track, Afan Portal of Gytylchi Tunnel, Afan Forest Park, SS81699529, 2016, C Hipkin & H Hipkin.
- 2.1. *Phaeoceros laevis*. 6:** eroded clay on bank of sunken lane, 110 m alt., Higher Alham, Lower Alham Farm, ST68064027, 2016, SL Pilkington; **81:** on soil bank by footpath on steep wooded slope, 34 m alt., slopes of River Tweed, Paxton House, NT93185188, 2016, DG Long 44159 (**E**).
- 2.1. *Blasia pusilla*. 34:** very wet mud and pool in tyre rut in clay in abandoned quarry, Barnhill Plantation, SO594109, 2016, RV Lansdown.
- 3.1. *Sphaerocarpos michelii*. 15:** under apple trees, Brogdale Fruit Farm, Faversham, TR007596, 2016, T Witt, conf. J Hendey.
- 5.1.b. *Marchantia polymorpha* subsp. *ruderalis*. 43:** in pavement crack, 210 m alt., Station Crescent, Llandrindod Wells, SO05956125, 2016, SL Pilkington, BBS Spring Meeting; **H24:** edge of gravelled carpark, Knockavoneen More, N279671, 2016, RL Hodd, J Conghan & C Bruton (**DBN**); **H35:** edge of pavement, Rathmelton, C22382109, 2016, TL Blockeel 45/685 (**DBN**), BBS Summer Meeting; **H35:** on soil of roadside on bridge, 37 m alt., Dromore Bridge, Leanan River, south-west of Kilmacrenan, C12441765, 2016, DG Long 44444 (**DBN**), BBS Summer Meeting.
- 6.1. *Preissia quadrata*. 17:** well established on tufa wall outside alpine glasshouse, RHS Wisley, TQ06285818, 2016, B Stewart; **H24:** wall of ruined church, Ardagh, N203686, 2016, RL Hodd, J Conghan & C Bruton (**DBN**).
- 9.1. *Conocephalum conicum*. H36:** in ditch, Knockway Forest, H54425523, 2016, RL Hodd (**DBN**); **H37:** river bank, River Blackwater opposite Benburb, H818519, 2016, RL Hodd (**DBN**), BBS Summer Meeting.
- 9.2. *Conocephalum salebrosum*. 23:** stream bank/culvert, 130 m alt., Salford, SP294280, 2016, JD Shanklin; **89:** soil at base of tree in woodland near riverbank, 11 m alt., Woody Islands, NO10512636, 2016, T ap Rheinallt 89/16/2.
- 10.1. *Riccia cavernosa*. 73:** on dried out bed of pond scrape, 5 m alt., Mershead RSPB Reserve, Briach Hide, NX92905630, 2016, EM Kungu, V Heppel & E-J Sadler (**E**).
- 10.3. *Riccia huebeneriana*. 70:** draw-down zone of reservoir, Thirlmere, NT32171327, 2016, DA Callaghan.
- 10.4. *Riccia fluitans*. H36:** floating among marginal vegetation on margin of lough, 90 m alt., Lough near Drumash, H31535537, 2016, R Weyl (**DBN**), BBS Summer Meeting.

- 10.6. *Riccia canaliculata*. 90:** on exposed mud flats with inundation vegetation, Loch of Lintrathen, NW bay, NO279557, 2010, NF Stewart & S Eckert, conf. DG Long (E).
- 10.9. *Riccia glauca*. H35:** on track in coastal woodland, 10 m alt., Castlewray, north-east of Letterkenny, C22251487, 2016, DG Long 44447 (DBN), BBS Summer Meeting.
- 10.10. *Riccia subbifurca*. 34:** low point in track over small stream, Bradley Hill, SO655085, 2016, RV Lansdown.
- 10.10. *Riccia subbifurca*. 50:** thin soil over limestone, 335 m alt., Eryrys, SJ19325810, 2016, SDS Bosanquet.
- 14.2. *Pellia neesiana*. H36:** moist earthy bank in field, near Magherakeel Graveyard, H18417968, 2016, TL Blockeel 45/666 (DBN), BBS Summer Meeting.
- 16.1. *Fossombronina foveolata*. 75:** reservoir margin, 210 m alt., Loch Doon, NS47670078, 2016, RT Whytock; **86:** reservoir margin, Port na Lich, Loch Katrine, NN40141106, 2016, RT Whytock.
- 16.4. *Fossombronina pusilla*. H36:** sparsely vegetated poached ground below small hillock in permanent pasture, 60 m alt., E bank of Strule River, near Stone Bridge, H43647772, 2016, EM Kungu (DBN), BBS Summer Meeting.
- 16.8. *Fossombronina incurva*. 56:** lowland heathland, area of light trampling between two tracks on Sherwood sand, 80 m alt., Budby South Forest, SK61846914, 2016, M Crittenden 35; **59:** damp grassy path through dune slack, 13 m alt., Ainsdale Sand Dunes NNR, SD29251074, 2016, DA Callaghan; **H34:** on track in conifer plantation, 155 m alt., Bunadaowen River, Meenafea SW of Ballybofey, H08198742, 2016, DG Long 44477 (DBN), BBS Summer Meeting.
- 19.1. *Pleurozia purpurea*. H36:** raised bog, Cranny Bogs, H41256392, 2016, RL Hodd (DBN), BBS Summer Meeting.
- 20.2. *Metzgeria consanguinea*. 29:** on detached *Acer campestre* branch, 55 m alt., Madingley Wood, TL39975964, 2015, JD Shanklin; **51:** *Salix* by road, 330 m alt., Gwernto Plantation, SJ247545, 2016, SDS Bosanquet.
- 21.2. *Aneura mirabilis*. 38:** beneath *Sphagnum* at base of birch tree, Blackroot Heath, SP10529866, 2016, M Osland-Barker, photograph verified but specimen not collected; **79:** under *Sphagnum* in damp valley with *Betula* woodland, 245 m alt., Tima Water below Meerlees, NT28051284, 2016, DG Long 44363 (E).
- 22.3. *Riccardia incurvata*. 86:** edge of loch on mud bank, 120 m alt., Loch Katrine, NN401110, 2016, RT Whytock; **H34:** flushed ground on quarry floor, Trummans West, Laghy, G971731, 2016, RL Hodd (DBN), BBS Summer Meeting; **H36:** small patch of disturbed peaty soil on lake margin, Carrickaholten Forest, H19387631, 2016, TL Blockeel 45/663 (DBN), BBS Summer Meeting.
- 22.4. *Riccardia palmata*. 34:** on log in woodland, 150 m alt., Newark Park, ST78109287, 2016, P Martin, C Halpin & D Marshall.
- 22.5. *Riccardia latifrons*. H36:** on *Sphagnum* in bog, Crockbaravally, H642644, 2016, RL Hodd & EM Kungu (DBN), BBS Summer Meeting.
- 23.3. *Porella arboris-vitae*. 41:** limestone outcrop at woodland margin, 55 m alt., Old Castle Down, SS90487614, 2016, G Tordoff.
- 23.4. *Porella obtusata*. 41:** on Old Red Sandstone quartz-conglomerate boulder, Bessie's Meadow, Rhossili Down, SS41839061, 2015, B Stewart. (Fig. 1).
- 25.3.a. *Frullania microphylla* var. *microphylla*.**

- 52:** north-facing coastal rock face, Dinas Gynfor, N of Llanlleiana, SH391948, 2016, TH Blackstock.
- 27.1. *Aphanolejeunea microscopica*. 42:** upstream side of slender ash in waterfall mist zone, Nedd-fechan valley, near Glan-yr-afon, SN90060927, 2016, SDS Bosanquet; **H34:** in cleft of low crag on rocky moorland hillside, 220 m alt., Cronaglack, River Swilly valley, C04080660, 2016, DG Long 44397 (DBN), BBS Summer Meeting.
- 28.1. *Cololejeunea calcarea*. Delete H21:** specimen from Dublin collected by Thomas Taylor in 1830 was critically examined by Pearson (1889) and determined as *C. rossettiana*.
- 28.3. *Cololejeunea minutissima*. 62:** on oak on bank by road, 130 m alt., Fangdale Beck, SE57239480, 2015, JD Shanklin.
- 29.1. *Colura calyptrifolia*. 34:** mature *Salix cinerea* sprawling over pool, 240 m alt., Merring Meend, SO65781692, 2016, SL Pilkington; **43:** *Salix* in Spruce plantation, 385 m alt., Camlo Hill Forestry, SO02937078, 2016, SDS Bosanquet, BBS Spring Meeting; **79:** on *Salix* trunk in damp valley with *Betula* woodland, 245 m alt., Tima Water below Meerlees, NT28051284, 2016, DG Long 44362 (E); **H34:** on *Salix* in break in conifer plantation, between Killea and Mannerstown, C37741782, 2016, TL Blockeel 45/674 (DBN), BBS Summer Meeting; **H34:** twigs at edge of forestry plantation, Monogorry Hill, C239053, 2016, RL Hodd & G Haycock (DBN), BBS Summer Meeting; **H36:** willow in forestry, Knockmany Forest, H54665614, 2016, RL Hodd (DBN), BBS Summer Meeting.
- 30.1. *Drepanolejeunea hamatifolia*. 42:** riverside Ash, Nedd-fechan valley, SN90100941, 2016, SDS Bosanquet & GS Motley; **75:** small sheltered gully on upland crag, Carleton Hill, Lendalfot, NX12688918, 2016, R Whytock.
- 32.1. *Lejeunea cavifolia*. H36:** on shrubs by stream and on epiphytic bryophytes, 140 m alt., Glenmore Woods, H654608, 2016, EM Kungu (DBN), BBS Summer Meeting.
- 32.7. *Lejeunea mandonii*. 98:** on *Neckera complanata* on shaded side of ash tree on steep slope, 40 m alt., woodland, east side of Kilbride Bay, Cowal, NR96596645, 2016, GP Rothero 2016012.
- 33.1. *Marchesinia mackaii*. H12:** on boulder of rock pool at base of waterfall in wooded ravine, Eden Vale, T042278, 2016, E ní Dhúill & F O'Neill (DBN).
- 34.1. *Microlejeunea ulicina*. 19:** on blackthorn in secondary woodland, 30 m alt., Eight Ash Green CP, Fordham Heath, TL94452656, 2016, T Pyner; **79:** on *Salix* branch in damp valley with *Betula* woodland, 245 m alt., Tima Water below Meerlees, NT28071289, 2016, DG Long 44364 (E).
- 37.1. *Trichocolea tomentella*. 74:** along stream edge in wet woodland, Garchew Wood, Bargrennan, NX33767546, 2016, RT Whytock; **H34:** flushed slope in woodland above river, River Dee near Drumkeen, C156017, 2016, GP Rothero 2016019 (DBN), BBS Summer Meeting.
- 40.1. *Bazzania trilobata*. 6:** East Harptree Coombe, ST5554, 2016, P Bowyer.
- 41.1. *Kurzia pauciflora*. H36:** blanket bog, Crockbaravally, H642644, 2016, RL Hodd & EM Kungu (DBN), BBS Summer Meeting; **Place 57 in brackets:** the most recent record from 1960 is from an unlikely site (Black Clough) for this bog liverwort and there are no subsequent records, although some from the 19th century are from bogs *fid*. Blockeel.
- 41.2. *Kurzia sylvatica*. 57:** on wet peat/litter

- in wet heath, under *Calluna*, *Eriophorum* and *Vaccinium oxycoccos*, Leash Fen, SK29767415, 2016, TL Blockeel & S Maynard 45/280.
- 41.3. *Kurzia trichoclados*. 42:** among *Diplophyllum* on crag, Nedd-fechan valley, near Glan-yr-afon, SN90200961, 2016, SDS Bosanquet; **80:** in hollow among *Calluna* on raised bog, 240 m alt., east side of Threepwood Moss, NT51994265, 2016, DG Long 44487 (E).
- 42.3. *Lepidozia cupressina*. 41:** on shaded blocks of sandstone in beech/oak woodland, Nant y Brynau woodland, Mountain Ranch, ST13948477, 2016, P Sturgess.
- 44.4. *Lophocolea semiteres*. 14:** steep sandy-clay bank by road, 45 m alt., Spithurst Road, Newick, TQ43311870, 2016, TW Ottley & S Rubinstein 16071102; **16:** on low rock, 125 m alt., Rusthall Rocks, TQ56553915, 2016, S Lemon; **64:** on rotting wood under birches in woodland, 30 m alt., Ox Close Wood, near Collingham, SE3646, 2016, TL Blockeel 45/712; **68:** dense patch on pine root in conifer plantation, 250 m alt., Edge Wood, NT95050729, 2015, JD Shanklin.
- 44.6. *Lophocolea fragrans*. 34:** upper edge of largely bare face of sandstone boulder in woodland, Mailscot Wood, SO55941411, 2016, RV Lansdown.
- 48.7. *Plagiochila spinulosa*. 1:** vertical side of granite I a shaded hollow, North side of Carn Galver, West Penwith, SW42633650, 2016, M Stribley.
- 48.10. *Plagiochila exigua*. 75:** growing through *Pseudotaxiphyllum elegans* in glen, 215 m alt., Ness Glen east bank, NS4701, 2016, RT Whytock.
- 52.6. *Cephalozia lunulifolia*. 36:** on decorticated log in deciduous woodland, High Vinnals, SO472728, 2016, M Lawley; **41:** decorticated log, Penllergare Woods, SS62809867, 2016, B Stewart; **85:** rotting wood on steep slope in conifer plantation, 114 m alt., Arraty Burn, near Falkland, NO22640788, 2016, T ap Rheinallt 85/16/2.
- 52.7. *Cephalozia pleniceps*. H36:** growing among *Sphagnum* in opening in marginal shrubby woodland, 90 m alt., Lough near Drumash, H31505524, 2016, EM Kungu (DBN), BBS Summer Meeting.
- 52.8. *Cephalozia loitlesbergeri*. 80:** in hollow among *Calluna* on raised bog, 240 m alt., east side of Threepwood Moss, NT52054272, 2016, DG Long 44481 (E); **110:** on *Sphagnum* in undisturbed blanket mire, 140 m alt., Blar nam Faoileag, north of Muirneag, Lewis, NB47885241, 2015, T ap Rheinallt.
- 53.1. *Cladopodiella fluitans*. H34:** in bog pool with *Sphagnum denticulatum*, Blue Stack Mountains, Cloghervaddy, H0290, 2016, JE Smith (DBN), BBS Summer Meeting.
- 53.2. *Cladopodiella francisci*. 46:** peaty cut edge of track, 340 m alt., Goginan: Banc Trawsnant, SN70948238, 2016, TW Ottley 16102001.
- 55.1. *Nowellia curvifolia*. 15:** on decorticated pine log near stream, 70 m alt., Hemsted Forest, TQ80793506, 2016, TW Ottley 16020101; **56:** on decorticated log in mixed woodland, 40 m alt., Nursery Wood, Clumber Park, SK61787393, 2016, TL Blockeel 45/273.
- 58.2. *Cephaloziella elachista*. Delete 110:** record published in 2015 was an inputting error.
- 58.7. *Cephaloziella stellulifera*. 34:** dry oak stump in acid grassland, Edgehills, SO667154, 2016, RV Lansdown; **69:** old copper mine waste, Coniston Coppermines, SD29069851, 2016, DA Callaghan.
- 58.8. *Cephaloziella massalongi*. 69:** shaded recess in old mine building, Coniston



△Fig. 3. *Barbilophozia atlantica*, northern slopes of Bulbin. R. Hodd

Coppermines, SD28389881, 2016, DA Callaghan.

- 60.4. *Barbilophozia atlantica*. H34:** on rocky outcrops, northern slopes of Bulbin, C35694264, 2016, RL Hodd (DBN). (Fig. 3)
- 60.5. *Barbilophozia attenuata*. 110:** under heather on rocky outcrop on steep coastal slope, 26 m alt., Cala Ghlumaig, Arnish, Lewis, NB42263087, 2016, T ap Rheinallt 110/16/6.
- 64.2. *Anastrophyllum hellerianum*. 87:** on mature birch on edge of mire, NW of Loch Achray, NN50540700, 2016, JE Smith (E).
- 65.2. *Tritomaria exsecta*. 46:** rocks at edge of footpath, 150 m alt., Devil's Bridge, near Mynach Falls, SN74147713, 2016, TW Ottley 16111301; **73:** in bryophyte mat on sloping rock by wooded burn, 85 m alt., Black Burn, Wood of Cree RSPB reserve, NX38377105, 2015, GP Rothero 2015119; **Delete 85:** vice-county for Rothero 2015119 was wrongly input.
- 66.1. *Lophozia longidens*. 87:** on old birch tree, 270 m alt., south slopes of Ben A'an, Trossachs, NN50130800, 2016, GP Rothero 2016085.
- 66.7. *Lophozia perssonii*. 56:** on compacted hardcore (probably Magnesian Limestone) of woodland ride, 60 m alt., Clumber Park, SK60597548, 2016, TL Blockeel 45/003.
- 66.11. *Lophozia incisa*. 51:** peaty gravel of path through plantation, 300 m alt., Nercwys Mountain, SJ22345848, 2016, SDS Bosanquet.
- 66.12. *Lophozia opacifolia*. H29:** On soil on N-facing slope, 650 m alt., Truskmore, G762474, 2016, RL Hodd & M Molloy (DBN).
- 67.3. *Diplophyllum obtusifolium*. 75:** bank by track, Tairlaw Plantation, NX41379823, 2015, R Whytock.
- 69.4. *Scapania cuspiduligera*. H34:** on low rock outcrop on steep sea cliff slope, 150 m alt., Cormra, above Glentooskert, Malin Peninsula, C51545527, 2016, DG Long 44427 (DBN), BBS Summer Meeting.
- 69.5. *Scapania scandica*. 14:** on top of sandstone rocks by path in quarry with *Solenostoma hyalinum*, 55 m alt., Scotney Castle gardens and parkland, TQ68813533, 2016, TW Ottley 16021601; **52:** on acidic soil bank by track near forestry plantation, North side of Mynydd Llwydiarth, SH5479, 2016, TH Blackstock.
- 69.17. *Scapania uliginosa*. 73:** slightly base-rich flush, 730 m alt., Merrick Hill, NX42448569, 2016, RT Whytock.
- 70.2. *Mylia anomala*. H36:** on edge of cutover bog, 180 m alt., Bog by Cloghfin,

H64256437, 2016, EM Kungu (DBN), BBS Summer Meeting.

**74.6. *Calypogeia sphagnicola*. 86:** among *Sphagnum capillifolium* on Lowland Raised Bog, 20 m alt., Wester Moss, NS83689095, 2016, RT Whytock; **H36:** growing among *Sphagnum* in opening in marginal shrubby woodland, 90 m alt., Lough near Drumash, H31505524, 2016, EM Kungu (DBN), BBS Summer Meeting.

**74.7. *Calypogeia suecica*. H21:** on dead log in woodland, Glenasmole, O0933722393, 2015, RL Hodd & GF Smith, conf. DG Long (DBN).

**75.2. *Leiocolea gillmanii*. 109:** rich, damp dune slack grassland with *Primula scotica*, Keiss Links, ND341593, 2015, AG Payne.

**75.5. *Leiocolea collaris*. H34:** with *Sphagnum*, West of Aughgeely, Lettershanbo, C11700325, 2016, JE Smith (DBN), BBS Summer Meeting.

**75.7. *Leiocolea badensis*. H34:** edge of gravelly track in forestry plantation, Dooish Mountain, C30291130, 2016, TL Blockeel 45/675 (DBN), BBS Summer Meeting.

**80.5. *Solenostoma hyalinum*. 41:** on slag wall alongside railway adjacent to *Molinia* mire, Llwynbrwydrau, SS700975, 2016, B Stewart. (Fig. 4).

**86.1.b. *Marsupella emarginata* var. *aquatica*. H34:** wet rocks in gully, Cronamuck River,

east of Blue Stack Mountains, H02099102, 2016, TL Blockeel 45/682 (DBN), BBS Summer Meeting.

**86.4. *Marsupella funckii*. 3:** acid gravelly surface of track, 410 m alt., Dartmoor, near Warren House Inn, SX676810, 2016, M Pool; **75:** compacted soil next to road, 230 m alt., Ness Glen, NS47750153, 2016, RT Whytock.

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▽ Fig. 4. *Solenostoma hyalinum* habitat on slag wall alongside railway (VC41). B. Stewart

