

KINGHORN BIODIVERSITY MONTHLY REPORT - SEPTEMBER 2021



Left and Centre: Speckled Woods (*Pararge aegeria*) on roses, Kinghorn Loch, 15 September (*left*) and 29 September 2021 (*centre*). **Right:** Angle Shades (*Phlogophora meticulosa*), 29 September 2021. Photos Robert Mill.

Except for its last few days, September 2021 was yet another mild to warm, sunny and dry month -- ‘the second warmest on record’, according to the Met Office. Everything changed in the last week, which was mostly wet, windy and much cooler as Atlantic weather systems started to sweep in from the west. Another 68 additions were made to the Loch area’s known biodiversity during the month. Many were lower plants (fungi, lichens and mosses) as these are under-recorded at the Loch and I have been making a special effort to increase our knowledge about them. In all, the new records in September comprised 3 moths, 4 Hymenoptera (1 ant, 2 gall-wasps, 1 sawfly plus an as yet unidentified sawfly larva not included in the figures), 1 mayfly, 1 grasshopper (apparently the first recorded in the Loch area), 4 bugs, 3 flies (1 crane fly, 2 leaf-mining flies), 1 mite, 1 snail, 6 flowering plants, 1 fern, 1 liverwort, 20 lichens, 19 fungi (5 ‘mushrooms’, 3 rusts, 3 powdery mildews, 2 downy mildews, 6 other ascomycetes), 2 terrestrial algae and 1 plant virus. I also added three records made in earlier months but either overlooked previously or only identified in September; these were a **soldier beetle**, *Cantharis decipiens* (29 May), a **moth fly** species (Psychodidae: 29 May, almost impossible to identify to species from photographs but possibly *Boreoclytocerus ocellaris*), and **Hard Fern** (*Blechnum spicant*: 18 April). making a total of 71 new records. These brought the total known biodiversity of the Loch area up from 1,150 (31 August) to **1,221** on 30 September. Many of September’s records of lichens and fungi still await identification and some will no doubt represent further additions. In the report that follows, ‘new Loch record(s)’ is abbreviated NLR.

AROUND THE LOCH Birds Forty-seven bird species were recorded around the Loch in August. It was a month of transition and migration. Of the summer visitors, both **Swallows** and **Willow Warblers** remained until at least 18th; however, **Chiffchaff**, **House Martin**, **Sand Martin** and **Swift** were unrecorded and are assumed to have gone. On the other hand, there were two notable passage migrants on 22nd, seen by Paul Williams (KLWG Facebook group): a **Spotted Flycatcher** and a **Northern Wheatear**. The latter was Paul’s first for the Loch although Ronnie Mackie (in a post on KLVG Facebook group) said he saw one at the Loch on 4 June 1983. Also, there is one previous record (19 April 2019, so not Ronnie’s) for OS 1 km square NT2587, in which most of the Loch except the east shore is located (NBN Atlas). A **Gadwall** seen by Andy Pay on 6th may also have been on passage. Winter arrivals included the first skeins of **Pink-footed Geese** (from 19th over Kinghorn as noted in the Village and Beach sections of this report; part of a skein flying over the Loch on 25th was photographed by Jacqueline Davidson, KLVG) and **Mistle Thrush** (also by Jacqueline Davidson, 25th). **Little Grebes** (**Dabchicks**) have also returned to the Loch after being absent since the spring; Jacqueline Davidson saw three on 25th and I saw four on 29th, at the west end near the hide. Meanwhile, the **Great Crested Grebes** remained all month. Other more notable records included a **Buzzard** hunting over the Loch (25th, Jacqueline Davidson), **Canada Goose** (25th, Jacqueline again), **Common Snipe** (28th, Paul

Williams), **Grey Wagtail** (20th, Andrea Mill), and **Treecreeper** (15th, me). The full list of birds recorded at the Loch during August is: *Blackbird, Black-headed Gull, Blue Tit, Bullfinch, Buzzard, Canada Goose, Carrion Crow, Chaffinch, Collared Dove, Common Gull, Common Snipe, Coot, Curlew, Farmyard geese hybrids, Feral Pigeon, Gadwall, Goldfinch, Great Crested Grebe, Great Spotted Woodpecker, Great Tit, Greenfinch, Grey Heron, Grey Wagtail, Greylag Goose, Herring Gull, Jackdaw, Lesser Black-backed Gull, Linnets, Little Grebe or Dabchick, Magpie, Mallard, Mistle Thrush, Moorhen, Mute Swan, Pheasant, Pied Wagtail, Pink-footed Goose, Robin, Skylark, Spotted Flycatcher, Swallow, Treecreeper, Tree Sparrow, Wheatear, Willow Warbler, Wood Pigeon, Wren.*

Mammals and amphibians: **Toads** were found among the lavender plants opposite the Ecology Centre and up the steps to the larch wood by a member of the TEC staff on 15th. A **Grey Squirrel** was photographed by Pauline Bell (25th: KLWG Facebook page).

Invertebrates ('minibeasts')



New invertebrate records, September 2021. Far Left: Common Field Grasshopper (*Chorthippus brunneus*), 18th. **Centre left:** Black Willow Bark Aphid (*Pterocomma salicinum*), 4th. **Centre Right:** Pond Olive mayfly (*Chloeon dipterum*), 2nd. **Far right:** Strawberry Snail (*Trochulus striolatus*), 8th. All photos Robert Mill.

Four **butterfly** species were seen at the Loch in September: **Green-veined White** (7th and 11th), **Small White** (7th), **Small Tortoiseshell** (2nd) and **Speckled Wood** (six dates scattered throughout the month). George Guthrie undertook another moth-trapping session at the Loch (Craigencalt) on the night of 1st/2nd and recorded 44 species. One of these, **White-blotch Bell** (*Epinotia trigonella*) was a new Loch record (NLR). Meanwhile, I saw numerous **Nettle-taps** throughout the month (also trapped by George) and found a beautiful **Angle Shades** moth on Water Mint on 29th. I also found the leaf mines of **Pale Feathered Leaf-cutter** (*Incurvaria pectinea*) on 15th, and of **Small Beech Pigmy** (*Stigmella tityrella*) on 8th; these were both NLRs. A **Common Darter dragonfly** was photographed at the marsh boardwalk on 14th by Pauline Bell (KLWG) and I saw one at exactly the same spot on 18th, although it settled so briefly that I didn't have time to take my own photo! I found a second **mayfly** species, **Pond Olive** (*Chloeon dipterum*: NLR), at the marsh on 2nd. Two **grasshoppers** were recorded during the month: on 18th I found a **Common Field Grasshopper** (*Chorthippus brunneus*: NLR) in a gorse bush beside the track from Craigencalt Farm to the allotments and the 'back way' in to the woodlands managed by TEC at the west end of the Loch, while Lee of TEC told me that he had found a grasshopper in the polytunnel but could give no other details -- whether this was another Common Field Grasshopper or a different species such as Meadow Grasshopper is therefore not known. These are the first grasshopper records for the Loch area as far as I'm aware.

Just two bumble-bee species (**Buff-tailed** on 2nd, **Common Carder Bee** on seven occasions between 7th and 18th) were seen, as well as **Honey Bee** (again only on 2nd) and **Common Wasp** (six dates). The galls of three **gall wasps** were found on oak trees, two being NLRs: **Common Spangle Gall** (*Neuroterus quercusbaccarum*, 7th) and **Knopper Gall** (*Andricus quercuscalicis*, 8th). The first one is another spangle gall on the undersides of the leaves, like *N. numismalis* found last month but larger, while the second deforms what would normally develop into an acorn. An unidentified **sawfly** larva was also found near the bottom of a larch trunk on 29th. One of the moth's most interesting observations was on 2nd and 4th. On 2nd, I was by the osiers nearest the composting toilet and noticed that large numbers of **Common Wasps** were gathering around the tops of the

branches. They completely ignored me, flying right past me to get to the shoots -- normally I attract wasps, so this was unusual -- they were obviously finding something even more interesting! Intrigued, I tried to find out the reason but failed, although I suspected that they might be attracted by some sugary substance. I went back to the same spot on 4th and noticed the same phenomenon happening. Knowing the wasps were not interested in me, I carefully lowered some of the branches and found colonies of black-and-white aphids, attended by a few **Black Ants**. I identified the aphids as **Black Willow Bark Aphids (*Pterocomma salicis*)**. Both species -- the aphid and Black Ant -- were NLRs! Three other bug species were also NLRs: two leafhoppers, ***Edwardsiana flavescens*** on the beech hedge of the approach road (3rd) and ***Cicadella viridis*** at the marsh on 15th, and immature nymphs of **Red-legged Shield-bug (*Pentatoma rufipes*)** on tree trunks on 15th and 18th. All three were familiar to me from my time at the Royal Botanic Garden Edinburgh where I frequently saw the first of the two leafhoppers as well as the shield-bug. The only **beetle** record of the month was **7-spot Ladybird** on the same gorse bushes as the Field Grasshopper on 18th. **Hoverflies** seemed rather thin on the ground during September; five species were recorded. These were **Banded Hoverflies (*Syrphus* spp., most probably *S. ribesii*)** on 8th and 25th, **Marmalade Hoverfly** on 2nd, **Tapered Dronefly** on 2nd, **Common Dronefly** on 8th and **Striped Hoverfly** on 2nd and 15th. Eighteen other fly species were recorded, either as adults or from their larval galls or leaf mines. Two of the leaf-mining flies, ***Agromyza abiens*** on Borage and ***Agromyza anthracina*** on Stinging Nettle, were NLRs, as was the **cranefly *Tipula paludosa*** (2nd; the commonest cranefly species in autumn). The two common **greenbottle** species, ***Lucilia caesar*** (8th) and ***Lucilia sericata*** (2nd and 8th) were both recorded again, as was **Noon Fly (*Mesembrina meridiana*)** on three different dates. **Common Bluebottle** was present on 2nd. **Red Spider Mites** of unidentified species were on tree-trunks along the fishermen's path on 15th and 18th - a NLR. I photographed a **Zebra Spider** near Craigencaft Farm on 18th; there is a previous record for the Loch. A **snake millipede, *Tachypodoiulus niger***, was seen on 2nd. Two more presumed **Brown-lipped Snails (*Cepaea nemoralis*)** were recorded, on 2nd and 11th. The one on 11th was very large and dark with a typical dark brown lip, but the one on 2nd, found in the marsh, was much smaller with a very pale, whitish lip that made me think at



Zebra Spider (*Salticus scenicus*), 18 September 2021. Photo Robert Mill.

first that it was the closely related White-lipped Snail, not found so far at the Loch though nationally equally common. However, I have since found out that Brown-lipped Snail has an uncommon white-lipped morph and, given the numbers of typical Brown-lipped Snails I've found at the marsh this summer, I now think it was much more likely to have been one of those. **Strawberry Snail (*Trochulus striolatus*)** was found on 8th (NLR); it is non-hairy but otherwise very similar to **Hairy Snail (*Trochulus hirsutus*)**, recorded last month.

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Flowering plants and ferns



New Loch plant records, September 2021: **Left:** Italian Ryegrass (*Lolium multiflorum*), 8th. **Right:** Common Polypody (*Polypodium vulgare*), 18th. Both photos Robert Mill.

Flowering plants largely started to die back in September and far fewer species remained in flower. Even so, six species were NLRs, bringing that part of the Loch's list up to 297 species. Four of them can be classed as more-or-less ephemeral 'garden throwouts' although some may persist if they or their habitat are left alone: **Italian Ryegrass (*Lolium multiflorum*)** on the slope that was the Earthship site (8th, with more plants noted in flower on 29th), **Autumn Crocus (*Colchicum autumnale*)** on the north shore (8th), **Garden Nasturtium (*Tropaeolum majus*)** on a dump in a corner of the old polytunnel site near where the labyrinth used to be (9th, and again on 29th) and **Corn Marigold (*Glebionis segetum*)** by the metal toolshed area fence on 29th. **Charlock (*Sinapis***

29th) and **Corn Marigold (*Glebionis segetum*)** by the metal toolshed area fence on 29th. **Charlock (*Sinapis***

arvensis) was beside the Corn Marigold on the same day. The sixth NLR, **Downy Birch (*Betula pubescens*: 29th** in the larch wood above the car park) was the result of an effort by me to establish whether both common British native birch species are present around the Loch. **Silver Birch (*Betula pendula*)** was found on the same day near the old Earthship site. It was already on the Loch's list and I was struck by the apparent anomaly of Downy Birch *not* being on it, especially given that Downy Birch is the commoner of the two in many parts of Scotland. Another fern was also added to the Loch's list in September, **Common Polypody (*Polypodium vulgare*; 18th)**, while I have already mentioned **Hard Fern** recorded in April 2021 but overlooked then as a NLR as I had only just started volunteering and recording.

Fungi, lichens and bryophytes



New fungi records, September 2021. TOP ROW: Far Left: Bloody Brittlegill (*Russula sanguinaria*), 11th. **Near left:** Alder Rollrim (*Paxillus rubicundulus*) under its host, Alder, 11th. **Near right:** Stump Brittlestem (*Psathyrella piluliformis*), 18th (inset, same group a week earlier, 11th). **Far right:** Lemon Disco (*Bisporella citrina*), 18th. **BOTTOM ROW: Far left:** Black Witch's Butter (*Exidia glandulosa*), 11th. **Near left:** *Ramularia brunnea* leaf spot on Coltsfoot, 15th. **Near right:** The rust *Puccinia urticata* on Stinging Nettle leaf, 8th. **Far right:** A rust resembling *Puccinia cnici-oleracei* on Creeping Thistle, 29th (see text). All photos Robert Mill.

These are under-recorded at the Loch (particularly lichens, of which only a single species had been recorded prior to August 2021!). Forty fungal species were recorded in September, 19 of them NLRs. However, so far it has been a slow season for 'toadstools', no doubt because of the prolonged spell of dry weather -- maybe things will change now that rain has been battering our windows. Therefore, of the 40, only six were 'toadstools' or other fungi that an average person might notice. These were **Turkeytail (*Trametes versicolor*)** on 11th and 18th, both of a much darker-brown form than the greyer one found by Andy Pay earlier in the year, **Alder Rollrim (*Paxillus rubicundulus*)** under its host, alder trees, on 11th, **Stump Brittlestem (*Psathyrella piluliformis*)** on 11th and 18th, **Bloody Brittlegill (*Russula sanguinaria*)** in the pinewood at the NW edge of the Loch area above the bird hide (11th), and two rejoicing in wonderful English names: **Black Witch's Butter (*Exidia glandulosa*)** on a tree-stump on 11th and an ascomycete, **Lemon Disco (*Bisporella citrina*)** on a rotting log (18th). All except Turkeytail were all NLRs. Twelve different **powdery mildews** were found, of which the following three are NLRs: ***Golovinomyces orontii* s.l.** [*sensu lato*, meaning 'in the broad sense'] on *Sedum spurium* on 2nd, ***Golovinomyces* cf. *sonchicola*** on Smooth Sowthistle (*Sonchus oleraceus*; 11th) and **Rose Powdery Mildew *Podosphaera pannosa*** on Japanese Rose, *Rosa rugosa* (4th). Two more new **downy mildews** were found: ***Ramularia brunnea*** on Coltsfoot (*Tussilago farfara*: 15th) and ***Ramularia sambucina*** on Elder (*Sambucus nigra*) leaves (3rd, 12th, 15th). New **rust** records were ***Puccinia menthae*** on Marjoram (*Origanum vulgare*) on 4th and on Water Mint (*Mentha aquatica*) on 29th (probably a different

strain), *Puccinia urticata* on Stinging Nettle (8th), and a rust that I found on leaves of Creeping Thistle (*Cirsium arvense*) in the marsh on 29th, which very closely resembled published photographs of *Puccinia cnici-oleracei*. The latter rust has two known hosts, Marsh Thistle (*Cirsium palustre*) and another thistle that is not native to the UK; it has not been recorded on Creeping Thistle, hence my hesitation to say that it is definitely that species. It is certainly *not* the common rust species that attacks Creeping Thistle, *Puccinia punctiformis*, which I have not so far found at the Loch. Other fungal NLRs were *Marssonina salicicola* on a shaded willow tree (29th) and the leaf spots *Ascochyta urticae* on Stinging Nettle (also 29th), **Raspberry Leaf Spot** *Elsinoe veneta* on Raspberry (2nd), *Rhytisma salicinum* on willow (15th) and *Thectogonia ligustrina* on Privet (8th).

I made a special effort to photograph and attempt to identify the lichens of the area around the Loch during the month. Twenty-two species were identified, 20 of which were NLRs. Others remain unidentified at the time of writing. Spin-offs from this effort were the discovery of a new liverwort for the Loch, **Common Kettlewort** (*Blasia pusilla*), as well as two terrestrial algae on tree trunks and telephone poles. These were *Desmococcus olivaceus* which causes green colouration at the base of tree trunks and poles, and *Trentepohlia* sp. (probably *T. aurea*) which is bright orange. Both are NLRs.



New records of lichens, liverwort and terrestrial algae, September 2021. **TOP ROW.** Lichens. **Far left:** *Melanelixia glabratula* on wooden handrail, 15th. **Near left:** *Xanthoria polycarpa* on twig, 15th. **Near right:** *Cladonia* cf. *floerkeana* on tree stump, 18th. **Far right:** *Candellariella aurella* on tree trunk, 15th. **BOTTOM ROW.** **Far left:** *Peltigera hymenina* (a Dog Lichen) in grass by low wall, 18th. **Near left:** a liverwort, Common Kettlewort (*Blasia pusilla*), 18th. **Near right:** the terrestrial alga *Trentepohlia* cf. *aurea*, 11th. **Far right:** the terrestrial alga *Desmococcus olivaceus* on telephone pole, 15th. All photos Robert Mill.

IN AND AROUND THE VILLAGE

A skein of **Pink-footed Geese** flew southwards above the track from Longloch Farm towards Burntisland in the afternoon of 19th, the first I'd seen this autumn. Three more skeins flew over Lochside Grange during the afternoon of 23rd, totalling at least 250 birds. Another three, totalling at least 300, flew over Inchkeith island between 11.00 and 11.30 a.m. on 25 September, the same day that Jacqueline Davidson photographed a skein flying over the Loch (see above). Autumn has definitely arrived!

The **powdery mildew** *Golovinomyces cynoglossi* was found on Field Forget-me-not (*Myosotis arvensis*) beside the fence of Kilcruik House by the grass path connecting Kilcruik Road and the Burnside Path on 29th.

DOWN ON THE BEACH AND COASTAL PATH



Coastal life, September 2021. TOP ROW. Far left, Near left: two different Lion's Mane Jellyfish (*Cyanea capillata*), Pettycur, 13th. **Near right:** Sea Potato (*Echinocardium cordatum*), Pettycur, 13th. **Far right:** Barnacle pitted by the lichen *Collemopsisidium foveolatum*, Kinghorn, 16th. **BOTTOM ROW. Far Left:** One of September's many Common Guillemots (*Uria aalge*) seen along the coast, 9th. **Near left:** Common Whelk (*Buccinum undatum*), Kinghorn, 16th. **Near right:** mine of the leaf-mining fly *Phytomyza aquilegiae* on Columbine leaf, 14th. **Far Right:** Russian Vine (*Fallopia baldschuanica*), 14th. All photos Robert Mill.

One of the most remarkable things about September 2021 along the coast between Kinghorn and Seafield, and beyond, was the numbers of **Razorbills** and especially **Common Guillemots** offshore, frequently very close in and sometimes almost at the water's edge off Kinghorn and Pettycur beaches. They were seen from 5th onwards until our last visit to Pettycur on 25th; some were equally close inshore below Ravenscraig Castle (Dysart) on 9th. The largest number seen was a loose flock of both species, numbering at least 30, off Pettycur (13th). On 25th they were joined by several juvenile **Gannets** plunge-diving. There must have been a plentiful supply of fish all along the coast during the month. However, sadly, a few of these auks were found washed up dead. **Sandwich Terns** were also offshore all month. **Bottle-nose Dolphins** were also seen (17th, Bruce Meldrum & Jacqueline Davidson, Kinghorn Photos). Five **Shelduck** flew in a line towards Kinghorn from the north in the late afternoon of 5th and two 'redhead' (juvenile or female) **Red-breasted Mergansers** were close inshore off the coastal path south of Seafield on the same day. Drake **Eiders**, resplendent in their normal mostly white plumage, were present at Pettycur from 13th although some were still in eclipse. A **Northern Wheatear** was perched on top of a rock at the Kiln Rocks (14th); 26 **Curlew** flew over there at the same time. Flowering plants along the coastal path included residual **Bloody Cranesbill** and **Meadow Cranesbill** whose main flowering season was earlier in the year. **Heath Bedstraw** and **Heath Groundsel** were in flower on the beach south of Seafield (14th). **Russian Vine** was flowering *en masse* on the cliffs above Kinghorn beach (16th) with more near the caravans beyond Nethergate play park (14th). A particularly beautiful, heart-shaped, mine of a **leaf-mining fly**, *Phytomyza aquilegiae*, was found on Columbine leaves beside the coastal path (14th).

Three **Lion's Mane Jellyfish** were washed up at Pettycur (13th). Two were large (one particularly so) while the third was much smaller and, on the beach, was octagonal in shape (see photos). On the same day, large numbers of **Sea Potatoes** were washed up at the water's edge during the very low tide. Unlike the white fragment illustrated in last month's report, these were all complete or almost so, including the 'hairy' outer covering (see photo). On the beach at Kinghorn, **Common Whelks** were on rocks exposed at very low tide (16th); many barnacles were found to be pitted due to colonisation by the lichen *Collemopsisidium foveolatum*. Many other lichens were found on the rocks between Kinghorn and Seafield and await further study.