

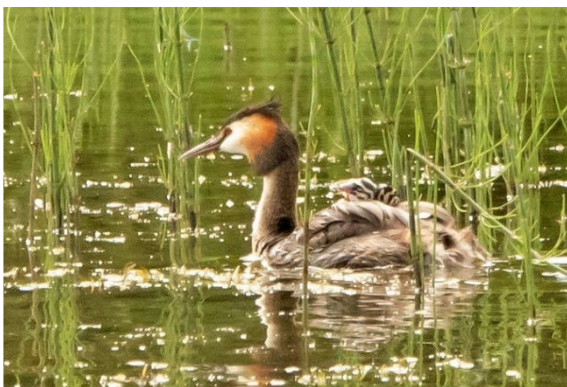
## KINGHORN BIODIVERSITY MONTHLY REPORT - AUGUST 2021



Medium Olive mayfly (*Baetis vernus*) caught in a spider's web on rushes in the marsh at the west end of Kinghorn Loch, 19 August 2021. New loch record. Photo Robert Mill.

August 2021 was yet another mostly dry month. Although many days started off very misty, the haar usually burned off by late morning to give sunny afternoons. 54 new records were made in the area of the Loch during the month; these comprised 1 butterfly, 1 moth, 1 mayfly, 1 bug, 1 beetle, 12 flies (1 crane fly, 1 greenbottle fly, 2 gall-midges, 8 leaf-mining flies), 2 gall wasps, 2 gall mites, 1 snail, 12 flowering plants, 2 ferns, 1 lichen and 17 fungi (2 'mushrooms', 3 rusts, 6 powdery mildews, 2 downy mildews, 4 other ascomycetes). I also added Elaine O'Rourke's **Bank Vole** photographic record of 21 June 2021 from the Facebook page of the Kinghorn Loch Wildlife Group (KSWG), two bird records (**Barn Owl** and **Waxwing**) from the latest version of Paul Williams' Loch bird list (also on the KSWG Facebook page) and 15 records of plankton from a 1985 thesis on the recovery of the Loch after the period of red mud pollution, making a total of 72 additional records. These brought the total known biodiversity of the Loch area up from 1,078 (31 July) to **1,150** on 31 August. A few sightings remain unidentified and will, if identified, are likely to represent additional new records. They include a tiny but very beautiful metallic green **chalcid wasp** on 4th on Shasta daisies near the sluice; unfortunately, because of its minuteness, only a very poor photo could be obtained.

**AROUND THE LOCH Birds** Forty-nine bird species were recorded around the Loch in August. The **Great Crested Grebes** are continuing to bring up their two young, which are growing bigger by the week. So, when visiting the Loch, **please continue to leave the grebes at peace and avoid disturbing them**, whether you are walking, fishing, or especially doing water sports, and **keep dogs under very close control** if you are near the west end of the Loch. The beginnings of autumn wader migration were evident, with a **Greenshank** paying a visit on 11th (Nigel Voaden: eBird) and **Curlew** flying over on 19th and 23rd. **Tufted Duck** and **Great Black-backed Gull** were present on 4th (Francesca Bouaoun; eBird). The only raptor noted was a **Common Buzzard** on 4th (Francesca Bouaoun, eBird). Summer migrants present during the month comprised **Swallow** (throughout; a

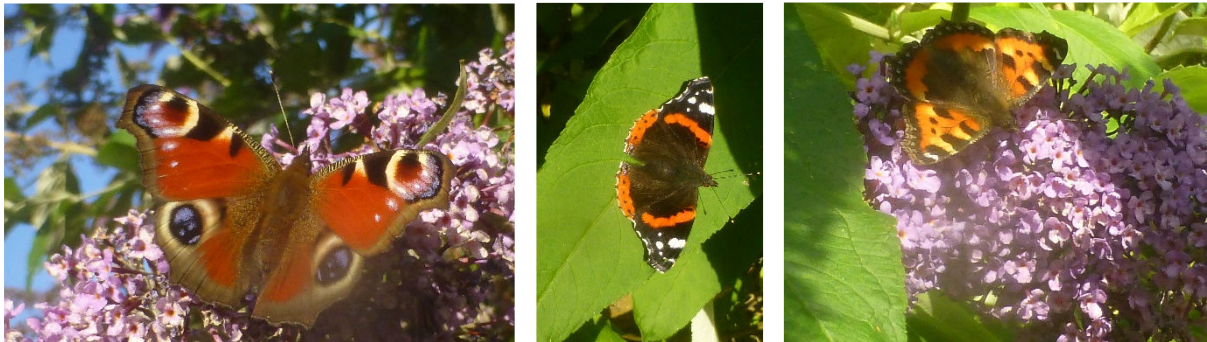


Great Crested Grebe (*Podiceps cristatus*) with chick on its back, 1 August 2021. Photo Andy Pay.

second brood of five young fledged on 28th -- Andy Pay), **Sedge Warbler** (singing on 4th), **House Martin** (14th, 23rd, 25th), **Swift** (4th, Francesca Bouaoun, eBird), **Common Whitethroat** (4th, Francesca Bouaoun, eBird; and photographed by Elaine O'Rourke on 16th: KSWG Facebook page), **Chiffchaff** (8th, Francesca Bouaoun, eBird), **Willow Warbler** (19th) and **Blackcap** (20th). A **Grey Wagtail** was seen by Pauline Bell on 18th. **Skylark**, **Linnet** and **Starlings** were all seen on the track from Craigencalt Cottage to the Kissing Trees road on 23rd. The full list of birds recorded at the Loch during August is: *Blackbird, Blackcap, Black-headed Gull, Blue Tit, Bullfinch, Buzzard, Carrion Crow, Chaffinch, Chiffchaff, Coal Tit, Collared Dove, Common Gull, Common Whitethroat, Coot, Curlew, Farmyard geese hybrids, Feral Pigeon, Goldfinch, Great Crested Grebe, Greenfinch, Great Black-backed Gull, Great Spotted Woodpecker, Great Tit, Greenshank, Grey Heron, Grey Wagtail, Greylag Goose, Herring Gull, House Martin, Jackdaw, Lesser Black-backed Gull, Linnet, Magpie, Mallard, Moorhen, Mute Swan, Pheasant, Pied Wagtail, Robin, Sedge Warbler, Skylark, Starling, Swallow, Swift, Tree Sparrow, Tufted Duck, Willow Warbler, Wood Pigeon, Wren.*

**Mammals and amphibians:** No mammals or amphibians were seen at the Loch during August.

#### Invertebrates ('minibeasts')



**Butterflies at Craigencalt Farm, 23 August 2021. Left:** Peacock (*Aglais io*). **Centre:** Red Admiral (*Vanessa atalanta*). **Right:** Small Tortoiseshell (*Aglais urticae*). All photos Robert Mill.

Eight **butterfly** species were recorded at the Loch during August. **Green-veined White** and **Small White** were both present all month and a **Meadow Brown** was seen on 4th, while on 23rd at least four **Small Tortoiseshells**, at least three **Peacocks** and at least three **Red Admirals** were all on a large Buddleia bush at Craigencalt Farm. **Speckled Wood** butterflies photographed by Elaine O'Rourke on 19 June and 16th August and by Stephen Sorbie on 24th August (the images are all on the KSWG Facebook page) were the first definite Loch records of which I am aware, although TEC staff have told me that this lovely brown-and-cream butterfly had previously been seen. Elaine and Stephen both also photographed a **Painted Lady** butterfly at the Loch on 15th and 16th respectively (also available on KSWG's Facebook page). No **moth** trapping took place in August, but two **Apple Fruit Moths** (*Argyresthia conjugella*) were on rowan leaves by the fishermen's path on 2nd and three **Pale Straw Pearls** (*Udea lutealis*) were on flowers by the track near the waterworks above Craigencalt Cottages on 23rd. Several **Nettle-tap** moths were seen around the marsh and neighbouring woodland on 30th. A new moth record, on the basis of its larval leaf mine on its food plant Fat Hen (*Chenopodium album*), was **Six-spot Neb** (*Chrysoesthia sexguttella*; 2nd). The mines of two other species of moth were also found during the month. **Common Darter dragonflies** were reported as present at the marsh on the same day (Stephen Sorbie, KSWG Facebook page). What I believe to be a **Medium Olive mayfly** was found trapped but uneaten in a spider's web at the marshy area at the west end of the Loch on 19th (see photo at beginning of this month's report). This was not only a new Loch record but also the first mayfly species identified from the Loch. My identification is tentative and any correction would be appreciated.

Four bumble-bee species (**Buff-tailed**, **Early** and **Large Red-tailed Bumblebees**, **Common Carder Bee**), **Honey Bee** and **Common Wasp** were seen. **Silk Button Spangle Galls** on oak leaves (24th)



**Kinghorn Loch Invertebrates of August 2021.** **TOP ROW:** *Far Left:* Tansy Aphid (*Macrosiphoniella tanacetaria*), 4th. *Near Left:* Lined Spittlebug (*Neophilaenus lineatus*), 30th, new Loch record. *Near Right:* Orange Ladybird (*Halyzia sedecimguttata*), 30th, new Loch record. *Far Right:* nymph of Hawthorn Shield Bug (*Acanthosoma haemorrhoidale*), 30th. **BOTTOM ROW:** *Far Left:* Galls of *Eriophyes laevis*, one of two gall mites found on alder trees. Galls are all over the leaf. 24 July (new Loch record) and throughout August. *Near Left:* Galls of *Eriophyes inangulis*, the other gall mite commonly found on alder leaves. Galls are in the angles of the veins (hence the Latin species name *inangulis*). 2nd, new Loch record. *Near right:* Silk Button Spangle Galls (*Neuroterus numismalis*) on oak leaf, 24th, new Loch record. *Far right:* Hairy Snail (*Trochulus hirsutus*), 24th, new Loch record. All photos Robert Mill.

were a new Loch record; they are caused by a **gall wasp**, *Neuroterus numismalis*. The small, pea-like galls of a different species of the same genus, *Neuroterus anthracinus*, were found on oak leaves on 30th and these were another new Loch record. **Tansy Aphid** (*Macrosiphoniella tanacetaria*; see photo) and the small green bug *Apolygus lucorum* were both on Tansy flowerheads on 4th with the latter bug also seen on 14th and 24th. A **Hawthorn Shield Bug** nymph was on a birch leaf on 30th while an adult **Lined Spittlebug** (*Neophilaenus lineatus*) was on bulrush in the marsh on the same day. This froghopper relative was another new Loch record. **Red Soldier Beetle** (*Rhagonycha fulva*) was only seen on 4th. An **Orange Ladybird** (*Halyzia sedecimguttata*) was on Field Maple on 30th, another new Loch record; the leaf it was on was covered in mildew and this ladybird's diet consists of mildew! Six **hoverfly** species were recorded in August. **Marmalade Hoverflies** were seen throughout the month, with **Banded Hoverflies** recorded on 24th, 25th and 30th, **Great Pied Hoverfly** and **Dead Head Hoverfly** both on 4th, **White-footed Hoverfly** (*Platycheirus albimanus*) on 4th and 19th and *Melanostoma mellinum* on 30th. Twenty-one other flies were recorded, either as adults or in many cases from their larval galls or leaf mines; 12 of them represented new Loch records. Two **greenbottle** species, *Lucilia caesar* (4th and 14th) and *Lucilia sericata* (2nd and 4th) were recorded, the latter species being a new Loch record. Two **crane fly** species were found: *Tipula lateralis* on 24th was a new Loch record while *Tipula oleracea* was seen on 19th. There was a **Noon Fly** (*Mesembrina meridiana*) near the marsh on 30th. The mines of 12 different **leaf-mining fly** species were found on various host plants, with seven of them representing new records for the Loch. The galls of two **gall midges**, *Hartigiola annulipes* on Beech leaves and *Kieffera pericarpicola* on Wild Carrot flowers, were also new Loch records. The heavy infestation of the alder gall mite *Eriophyes laevis* persisted throughout August, while I also found the galls of the other alder gall mite species, *Eriophyes inangulis*, on 2nd. A **Great Black Slug** was at the marsh on 19th. Another **Brown-lipped Snail** (*Cepaea nemoralis*) was noted on 19th and two were on bulrush stems in the marsh on 30th, whilst a **Hairy Snail** (*Trochulus hirsutus*) found in the woodland near the Forest School on 24th was the month's last new August invertebrate record.

## Flowering plants

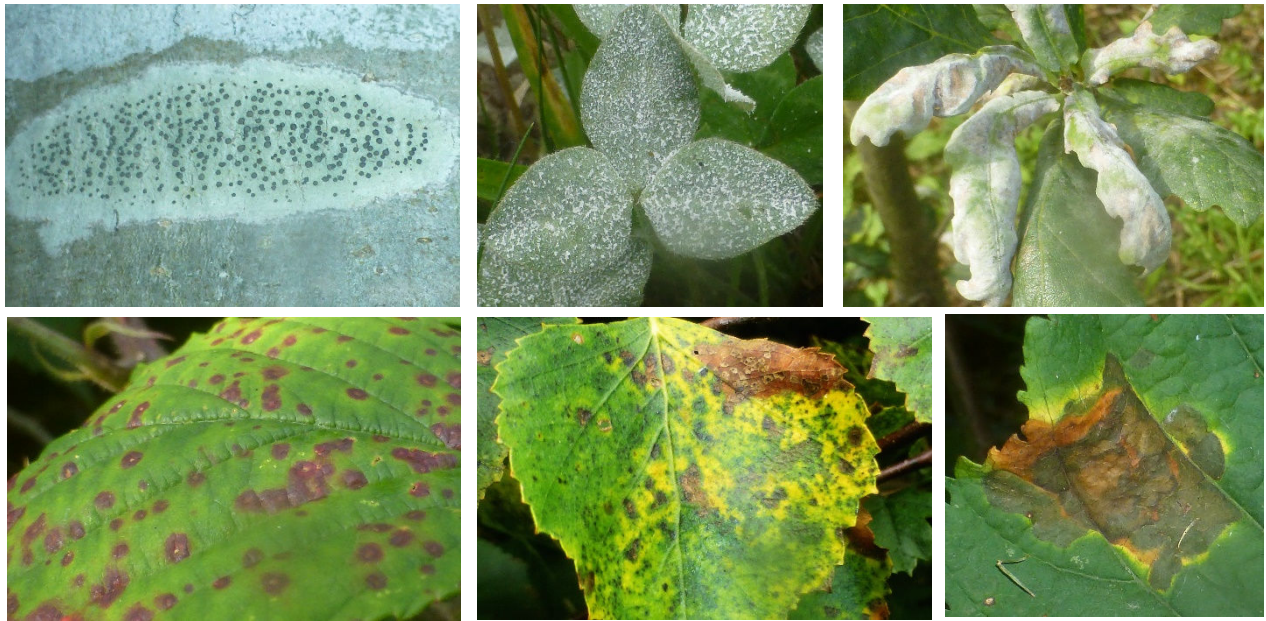


**New Loch plant records, August 2021.** TOP ROW: **Left:** Wild Carrot (*Daucus carota*), 4th. Area circled orange and arrowed red: developing purple galls of *Kieffera pericarpicola*, another new Loch record; there is also a Red Soldier Beetle (*Rhagonycha fulva*) on the umbel. **Centre:** Petty Spurge (*Euphorbia peplus*), 23rd. **Right:** Goldenrod (*Solidago virgaurea*), 14th; red arrow points to a green leaf beetle (Chrysomelidae sp.) that, if identified, might be another new Loch record. **BOTTOM ROW:** **Left:** Dwarf Mallow (*Malva neglecta*), 30th (inset: flower close up. Note small flowers, shallowly lobed leaves). **Centre:** Musk Mallow (*Malva moschata*), 30th; note large flowers, deeply cut leaves. **Right:** Maidenhair Spleenwort (*Asplenium trichomanes*; narrow fronds with dark midribs) and Black Spleenwort (*Asplenium adiantum-nigrum*; triangular fronds near bottom of photo) growing together on wall, 23rd. All photos Robert Mill.

Twelve flowering plant species were added to the Loch's list during August, all but one of them late flowering species. They included the native species **Field Pennycress** (2nd), **Harebell** (2nd), **Tufted Hair-grass** (4th) **Wild Carrot** (4th), **Goldenrod** (14th), **Petty Spurge** (23rd), **Dwarf Mallow** and **Wood Burdock** (both 30th), as well as a self-sown **Butterfly Bush** and a clump of garden **Shasta Daisies** in a wild situation opposite the bulrushes near the sluice (both on 4th). Other probable 'escapees' were **False Apple Mint** near the allotments and **Musk Mallow** outside the fenced area near the former Craigenalt polytunnel (both 30th). Two more ferns were also added to the list, both on an old wall near Craigenalt Cottage on 23rd: **Maidenhair Spleenwort** (*Asplenium trichomanes*) and **Black Spleenwort** (*Asplenium adiantum-nigrum*).

## Fungi and lichens

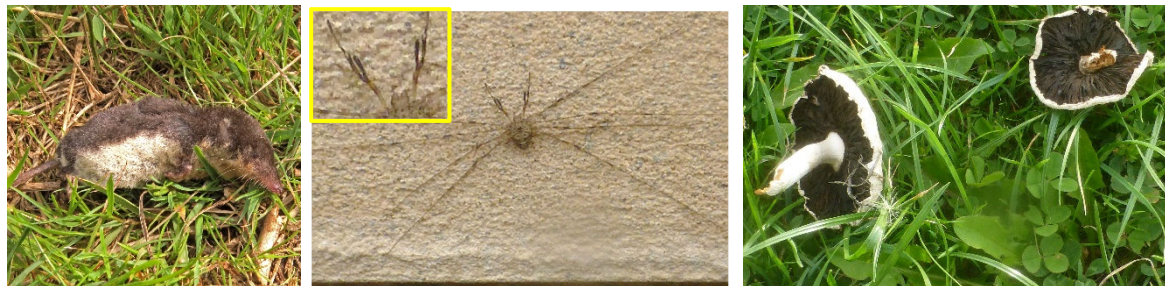
The 'mushroom season' began in August, with small buttons of **Field Mushroom** (*Agaricus campestris*) appearing just beyond the Ecology Centre's car park on 14th, and a **Brown Birch Bolete** (*Leccinum scabrum*) under a young birch tree near the composting toilet on 25th (found by Fraser Nicol, TEC). These were both new Loch records, as were those of seven different powdery mildews on leaves: *Erysiphe adunca* on Pussy Willow (30th), *Erysiphe alphitoides* on Oak (19th, 24th, 30th), *Erysiphe pisi* on Tufted Vetch and *Erysiphe trifoliorum* on Red Clover (both 30th), *Golovinomyces artemisiae* on Mugwort (30th) and *Golovinomyces cichoracearum* on Nipplewort (19th, 30th). Other new fungal records were two downy mildews (*Ramularia grevilleana* on Silverweed and *Ramularia inaequalis* on Smooth Sow thistle; both 30th), the rusts *Coleosporium tussilaginis* on Coltsfoot (19th) and *Puccinia arenariae* on Red Champion (24th), **Violet Bramble Rust** (*Phragmidium violaceum*) on Bramble bushes (24th), and the leaf spots *Marssonina betulae* on Silver Birch (30th), *Phyllosticta paviae* on Horse Chestnut (30th), *Pruniphilomyces circumscissus* on Rowan (2nd) and *Septoria aegopodii* on Ground Elder (30th).



**New fungi and lichen records, August 2021.** TOP ROW: **Left:** The lichen *Lecidella elaeochroma* on cherry bark, 2nd. **Centre:** The powdery mildew *Erysiphe trifoliorum* on Red Clover, 30th. **Right:** The powdery mildew *Erysiphe alphitoides*, very common on oak leaves, 19th. **BOTTOM ROW:** **Left:** Violet Bramble Rust (*Phragmidium violaceum*), 24th. **Centre:** Birch Leaf Spot (*Marssonina betulae*), 30th. **Right:** The leaf spot *Phyllosticta paviae* on Horse Chestnut, 30th. All photos Robert Mill.

A second lichen was also added to the Loch's list: *Lecidella elaeochroma* which is a very common species on smooth-barked trees such as cherry, on whose bark the examples I found were present (2nd). There are several other species all awaiting identification now that my lichen books have surfaced from the unpacking of my books after moving to Kinghorn!

#### IN AND AROUND THE VILLAGE



**Left:** Dead Water Shrew (*Neomys fodiens*), 14 August 2021. Photo Andy Pay. **Centre:** The harvestman *Dicranopalpus ramosus*, 29 August 2021 (inset: front 'legs' [pedipalps] enlarged to show forking.) Photo Robert Mill. **Right:** Field Mushrooms (*Agaricus campestris*), 18 August 2021. Photo Robert Mill.

**Field Mushrooms** appeared on the grass between the golf course and the primary school on 18th.

A dead **Water Shrew** was found by Andy Pay on the Burnside Path (14th).

The harvestman *Dicranopalpus ramosus* agg. was on the outside wall of our house in Lochside Grange (29th). Harvestmen are arachnids, related to spiders, but easily told apart by the fact that the connection between the two parts of their bodies (the cephalothorax or 'head', and the abdomen) is broad so that it looks all-in-one, whereas in true spiders the two parts are very obvious. Harvestmen also usually have extremely long legs and some people call them 'daddy-long-legs' but that name is also used for crane-flies (Diptera or true flies: family Tipulidae). The particular species on the wall of our house is a relatively new immigrant to Britain from Morocco that only reached Scotland in 2000. It is easily separated from other harvestmen by the front 'legs' or *pedipalps* appearing unequally forked (see inset in photo). Unfortunately it has recently been split into two separate species that can only be separated by using a microscope, so that normally it can only be identified as '*Dicranopalpus ramosus* aggregate'. The epithet *ramosus* means branched and alludes to the forked pedipalps.

## DOWN ON THE BEACH AND COASTAL PATH



**TOP ROW. Left:** Part of a Sea Potato (*Echinocardium cordatum*), Pettycur, 1 August 2021. **Centre:** leg of a Norway Lobster (*Nephrops norvegicus*), Pettycur, 15 August 2021. **Right:** Common Shore Crab (*Carcinus maenas*), Kinghorn beach, 18 August 2021. **BOTTOM ROW. Left and centre:** an unusual bindweed species (Convolvulaceae), Kinghorn cliffs, 27 August 2021. Note the purple blotches (honey guides?) at base of each corolla lobe; typical Field Bindweed (*Convolvulus arvensis*) does not have these. **Right:** Harebell (*Campanula rotundifolia*), Kinghorn beach, 3 August 2021. All photos Robert Mill.

**Sandwich Terns** were often seen plunge-diving between Pettycur and Seafield. **Waders** began returning from their Arctic breeding grounds, with numerous **Turnstones** and **Ringed Plovers** near the East Vows north of Seafield Tower on 22nd.

While paddling in the sea just off Kinghorn beach on 3rd, my wife saw a **flatfish**, probably a **Plaice** or **Flounder**, quickly swim past her. As well as the usual mixture of shells on the beach at Pettycur, a few more unusual things were found during August. They included part of a **Sea Potato** (*Echinocardium cordatum*) on 1st and legs of **Norway Lobster** (*Nephrops norvegicus*) on 15th. A live **Common Shore Crab** (*Carcinus maenas*) was at the waterline on Kinghorn Beach on 18th.

An unusual bindweed species was flowering in great profusion all down the cliffs at the top of Kinghorn beach just beyond the lifeboat station at the bottom on 27th. I had previously been recording it as Field Bindweed (*Convolvulus arvensis*), but it is clearly not that because of the conspicuous purple blotches at the base of each corolla lobe (see photo). At the moment its identity remains a mystery.