

KINGHORN BIODIVERSITY MONTHLY REPORT - JULY 2021



This striking deep red object is the gall formed on the stem of Amphibious Bistort (*Persicaria amphibia*) by a tiny gall midge, *Wachtliella persicariae*, which was one of the 62 new records for the Loch made during July 2021. 13 July 2021, photo Robert Mill.

July 2021 was mostly sunny, dry and reasonably warm (with a very hot spell in the second half). Rain was mostly concentrated on two days, one of which was the 4th (when Edinburgh though not Kinghorn had severe flash floods). Sixty-two new records were made in the area of the Loch by myself or in one instance Andy Pay during the month; these comprised 1 mammal, 1 butterfly, 14 moths, 5 bugs, 1 gall-midge, 6 leaf-mining flies, 1 beetle, 1 leaf-mining sawfly, 1 gall mite, 8 fungi (mostly mildews), 1 fern and 22 flowering plants. I also added 13 records from old scientific papers published in 1893 and 1905 of tiny freshwater crustaceans found in the Loch's plankton long before the period of red mud pollution, making a total of 75 additional records. These brought the total known biodiversity of the Loch area up from 1,003 (30 June) to **1,078** on 31 July.

AROUND THE LOCH



Coot with four chicks ('cootlings'), 19 July 2021. Photo Andy Pay.

Birds Only 39 bird species were recorded at the Loch during July, 12 fewer than last month. The **Great Crested Grebes** continued to incubate their four eggs in the first part of the month. Andy Pay tells me that of the clutch, two chicks fledged and these are currently being fed by their parents. I repeat the advice I gave last month: if visiting the Loch, **please do not disturb the grebes while they still rearing their young**, 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. Other fledglings or juveniles noted during July

included five **Swallows** from an outbuilding near the launching area (approx. 7th; Andy Pay), a juvenile **Bullfinch** (16th, Pauline Bell), a second brood of four **Coot** chicks or ‘cootlings’ (19th, Andy Pay, see photo; sadly, one of the four chicks was subsequently eaten by another Coot) and another brood of seven **Mallard** ducklings (22nd, Andy Pay). No particularly unusual birds were seen at the Loch during July and many of the smaller songsters had fallen silent as is typical during summer and is one reason for the relatively low number of recorded species. However, **Buzzards** were seen over the Loch on 1st and 13th, a female **Tufted Duck** was at the west end on 13th, two **Grey Wagtails** were present on 26th (Pauline Bell) and **Sand Martins** were feeding over the Loch on 24th and 29th. The full list of birds recorded at the Loch during July is: *Blackbird, Blackcap, Black-headed Gull, Blue Tit, Bullfinch, Buzzard, Carrion Crow, Chaffinch, Chiffchaff, Collared Dove, Coot, Dunnock, Farmyard geese hybrids, Feral Pigeon, Goldfinch, Great Crested Grebe, Great Spotted Woodpecker, Greenfinch, Grey Heron, Grey Wagtail, Greylag Goose, Herring Gull, Lesser Black-backed Gull, Magpie, Mallard, Moorhen, Mute Swan, Pheasant, Robin, Sand Martin, Sedge Warbler, Skylark, Song Thrush, Swallow, Tree Sparrow, Tufted Duck, Willow Warbler, Wood Pigeon, Wren.*

Mammals and amphibians: The only **mammal** seen in the vicinity of the Loch during July was a **Brown Hare** in the field overlooked by the two interpretation panels on the Rodanbraes track on 29th. Although not strictly seen at the Loch, I have included it among the Loch’s ‘new records’, as I did last month with the Heath Dog-violet also seen on the Rodanbraes track in the same area.



TOP ROW. Left: This distinctive black and yellow bug, *Grypocoris stysi*, found on Hogweed on 15 July 2021, was a new Loch record. Photo Andy Pay. **Centre:** Lunar Hornet Moth (*Sesia bembeciformis*) being attracted to a pheromone lure, 13 July 2021. Photo Andy Pay. **Right:** Common Blue Damselfly (*Enallagma cyathigerum*), 13 July 2021. Photo Robert Mill. **BOTTOM ROW. Far left:** Black Snipe Fly (*Chrysopilus cristatus*), 13 July 2021. Photo Robert Mill. **Near left:** Common Drill moth (*Dichrorampha petiverella*), 26 July 2021, one of 14 new Loch moth records. Photo Robert Mill. **Near right:** The bug *Apolygus lucorum* on Tansy flowers, 26 July 2021, new Loch record. Photo Robert Mill. **Far right:** Red Soldier Beetle (*Rhagonycha fulva*) on Hogweed, 10 July 2021, new Loch record. Photo Robert Mill.

Invertebrates (‘minibeasts’)

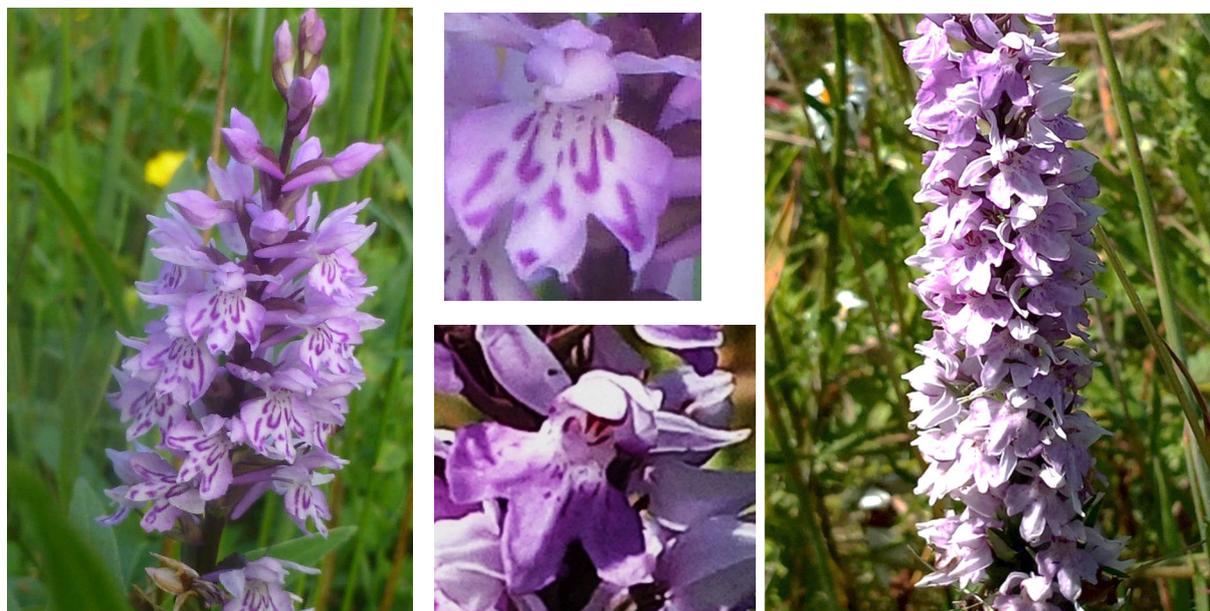
Four **butterfly** species were present at the Loch during July: **Ringlet** (13th, new Loch record), **Small Tortoiseshell** (24th), **Small White** (24th and 26th) and **Green-veined White** (29th). Two **moth**

trapping sessions were conducted by George Guthrie, on the nights of 30 June/1 July and 30/31 July. As both trap openings took place during July, all the records are for that month. Seventy-two species were recorded on 1st and 78 on 31st, 28 of which had also been trapped on 1st, giving a total of 122 different species for the two trappings. On 13th, Andy Pay used pheromone lures in the hope of attracting **Lunar Hornet Moths** and he was successful, with three 'taking the bait' (see photo). Four day-flying moths (or, in one case, the leaf mine made by its caterpillar) were also recorded by myself, giving a grand total of 127 moth species recorded during July. Of these, 14 represented new Loch records: **Hoary Bell**, **Latticed Heath**, **Lead Belle**, **Pied Grey**, **Satin Grass-veneer**, **Tawny Marbled Minor** and **The Magpie** (all 1st, G. Guthrie), **Common Drill** (26th, R. Mill, see photo), **Garden Lance-wing** (30th, leaf mine on hogweed, R. Mill), **Buff Footman**, **Dotted Rustic**, **Grey Tortrix**, **Shuttle-shaped Dart** and **The Spinach** (all 31st, G. Guthrie).

Common Blue Damselflies were flying in the marsh at the west end of the Loch on 13th. Six bumble-bee species (**Buff-tailed**, **White-tailed**, **Early**, **Large Red-tailed** and **Tree Bumblebees**, **Common Carder Bee**), **Honey Bee** and **Common Wasp** were all recorded during the month, as well as the solitary bee **Davies' Colletes** on Tansy flowers and the leaf mine of a sawfly, **Heterarthrus flora**, on a sycamore leaf; this latter species was a new Loch record. More than 20 individuals of the distinctive black and yellow bug **Grypocoris stysi** were found on Hogweed on 15th; this was another new record for the Loch. Four other bugs also represented new Loch records: **Common Nettle Aphid** and **Common Nettle Bug** (both 13th) and **Apolygus lucorum** and **Tansy Aphid (*Macrosiphoniella tanacetaria*)**, both on Tansy on 26th. Two beetle species were seen in July: **Red Soldier Beetle (*Rhagonycha fulva*)** on four dates from 10th but another new Loch record, and **Seven-spot Ladybird** on 10th. In contrast to June, no fewer than 11 different **hoverfly** species were seen at the Loch or on Rodan Braes, by either Andy Pay or myself; none were new Loch records as Andy has sampled the Loch's hoverflies pretty thoroughly. Those seen at the Loch were **Banded Hoverflies** (most probably ***Syrphus ribesii***; there are other similar species) on two dates, **Marmalade Hoverflies (*Episyrphus balteatus*)** on five dates from 13th, ***Chrysogaster solstitialis*** on 8th and at Rodan Braes on 7th and 23rd (Andy Pay), and either ***Melangyna compositarum*** or ***M. labiatarum*** on 8th (Andy Pay; the two species can't be separated in the field). Andy also saw the following seven species only at Rodan Braes, on one or more of 3rd, 7th and 23rd July: **Dead Head Hoverfly (*Myathropa florea*)**, **Great Pied Hoverfly (*Volucella pellucens*)**, **Common Drone-fly (*Eristalis tenax*)**, **Tapered Drone-fly (*Eristalis pertinax*)**, ***Cheilosia illustrata***, ***Epistrophe grossulariae*** and ***Leucozona glaucia***. The greenbottle species ***Lucilia caesar*** was seen quite frequently and a **Black Snipe-fly (*Chrysopilus cristatus*)** was at the marsh on 13th. while the presence of a **gall midge, *Wachtliella persicariae***, was evident through the very conspicuous large deep red swellings that it had formed on the stems of Amphibious Bistort (***Persicaria amphibia***) in the marshy ground at the west end of the Loch and around the Loch margins. This was another new Loch record, as were the mines or galls of several other flies. Alder leaves on trees by the north shore of the loch just before the 'fishermen's gate' were heavily infested with the galls of a **gall mite, *Eriophyes laevis*** (one of two that have alder as their host; first noticed on 24th and another new Loch record). Finally, **Brown-lipped Snail (*Cepaea nemoralis*)** was noted on three occasions (9th, 10th, 13th) and **slugs** under the mats on 9th.

Flowering plants

As in June, the majority of July's new Loch records were of flowering plants: 22 in all, plus one fern (**Bracken** near Craigencalt Farm, surprisingly unrecorded previously!). The reason for this, and all the many other plant records I have added to the 'Loch list' since moving to Kinghorn in March this year, is that the list I was supplied with was largely based on the 2018 BioBlitz, which gave a snapshot of the plants present and identifiable on a single day in June. Many of the July new records were of species that mostly do not start flowering until after the summer solstice, such as **Meadowsweet** and **White Stonecrop** (5th), **Tansy** (9th), **Greater Bindweed** and **Good King Henry** (10th), **Fat Hen**, **Honeysuckle**, **Sneezewort** and a few rather unwelcome plants of the invasive **Himalayan Balsam** (all on 24th). Others were of casuals such as **Opium Poppy** and **Six-rowed Barley**, both on a rubbly slope at the former Earthship site (24th). Two wild orchid species were added to the list: **Heath Spotted Orchid** (10th) and **Common Spotted Orchid** (15th: Kate Blair). These can be separated by the patterning on their flowers: mostly streaks and lines in Heath Spotted Orchid, mostly dots and spots in Common Spotted (see photos); Heath Spotted also tends to occur on wetter, more acid soils and Common Spotted on drier, more neutral ones. **Common Rest-harrow**, noted in June along the coastal path, was in flower in the Ecology Centre car park area from 5th, as was **Agrimony**; see the 'Beach and Coastal Path' section below for more details on Agrimony.



Spotted Orchids seen at the Loch in July. **Left:** Spike of Heath Spotted Orchid (*Dactylorhiza maculata*), 13 July 2021. Photo Robert Mill. **Right:** Spike of Common Spotted Orchid (*Dactylorhiza fuchsii*). Photo Kate Blair. **Centre:** Enlargements from both photos showing detail of markings on flowers. **Top:** Heath Spotted Orchid. **Bottom:** Common Spotted Orchid.

Fungi

The mostly warm and dry July shortened the flowering season of some plants and was favourable to the development of mildews. These are usually very host-specific so if you can identify the host, the relevant mildew can also be ascertained. Five different powdery mildews were recorded (***Podosphaera aphanis*** on Herb Bennet, ***Podosphaera clandestina*** on Hawthorn, ***Erysiphe heraclei*** on Hogweed, ***Erysiphe viburni*** on Guelder Rose and ***Sawadea bicornis*** on Field Maple and Sycamore) as well as the 'white mould' ***Ramularia pratensis*** on Broad Dock, ***Mycosphaerella ulmi*** on Wych Elm and **Tar Spot (*Rhytisma acerinum*)** on Sycamore. All of these were new Loch records.



Emerging flying Black Ants (*Lasius niger*), 25 July 2021, Burnside Path.
Photo Robert Mill.

IN AND AROUND THE VILLAGE

Meadow Brown and **Ringlet** butterflies were both abundant on the track across the golf course towards Grangehill on 25th (Meadow Brown was also seen there on 12th), while a **Small Tortoiseshell** was present there on 12th, as well as a **Nettle-tap** moth. It was a very warm and somewhat humid evening on the 25th, and this stimulated many flying **Black Ants** to emerge from a nest on the steep slope up from the Burnside Path to Kilcruik Road. These are the fertile males and females (as opposed to the thousands of unwinged worker ants) that enjoy a brief mating flight once a year in hot, humid conditions. **Red Soldier Beetles** were on flowers such as thistles and hogweed in several places such as the Burnside Path and the track across the golf course; some were observed mating.

Much more **Field Bindweed** was in flower on and near the Burnside Path during July and it was also noted elsewhere such as the clifftops around the Harbour View. A large plant of so-called '**Scotch Thistle**' (*Onopordum acanthium*) was in flower close to the play area on 27th; the species is not native to Scotland at all and the true "Scots thistle" is presumably one of the common roadside weeds found everywhere such as Spear Thistle (*Cirsium vulgare*) or Field Thistle (*Cirsium arvense*).

DOWN ON THE BEACH AND COASTAL PATH



Three jellyfish recorded on local beaches during July. **Left:** Common or Moon Jellyfish (*Aurelia aurita*), 7 July 2021 (Kinghorn; also at Pettycur). Photo Andrea Mill. **Centre:** Blue Jellyfish (*Cyanea lamarckii*), 15 July 2021 (Seafield; also seen at Pettycur). Photo Robert Mill. **Right:** Lion's Mane Jellyfish (*Cyanea capitata*), 12 July 2021 (Kinghorn). Photo Andrea Mill.

The **Fulmars** had all deserted the Kinghorn cliffs by mid-July but a few **Eiders** remained, with the drakes entering their strange black-and-white eclipse (moult) plumage during the month. **Sandwich Terns** were frequently heard. I had a superb, really close view of a hovering **Kestrel** along the coastal path just after the sharp 'zigzag' in the path between Kinghorn and Seafield on 27th; it once swiftly dived down in search of prey, before resuming its hovering.

Three **jellyfish** species were recorded during July: **Common or Moon Jellyfish** (*Aurelia aurita*) at Pettycur on 7th and Kinghorn on 26th, **Blue Jellyfish** (*Cyanea lamarckii*) at Pettycur on 7th and near Seafield on 15th, and **Lion's Mane Jellyfish** by Andrea Mill at Kinghorn beach on 12th. Another **Lion's**

Mane Jellyfish at Pettycur earlier in the month led to a child being treated in hospital after receiving a very nasty sting from its tentacles.

The yellow flower spikes of **Agrimony (*Agrimonia eupatoria*)** was seen at several locations along the Fife Coastal Path between Seafield and Kinghorn on various dates, and it was also found inland on the footpath from Longloch to Burntisland on 28th. I don't think I have ever seen so much of it previously, having been brought up on the west coast of Scotland and only seeing it rarely when living in Edinburgh -- indeed, the only time I remember it being as frequent as it is around Kinghorn was on a holiday to Scarborough in the early 1960s! Scarborough and the Kinghorn area have one thing in common which is the limestone rocks that make our local flora so varied and interesting, and Agrimony prefers limestone (basic) or neutral soils to acid ones. It belongs to the rose family and has been used in the past in herbal medicine. Also flowering along the coastal path and on the cliffs at Pettycur and Kinghorn was **Hemp Agrimony (*Eupatorium cannabinum*)**. This is quite unrelated to Agrimony, being a member of the daisy family. The "eupatoria/eupatorium" bits of the scientific names of both species commemorate King Mithridates VI Eupator of Pontus (northern Turkey), who lived from 134--63 BC. **Wild Carrot** and **Wood Sage** were also in flower between Seafield and the zigzag on 27th, and **Himalayan Balsam** by the railway track nearer the village on the same date.



TOP ROW. Left: Agrimony (*Agrimonia eupatoria*, yellow) and Hemp Agrimony (*Eupatorium cannabinum*, pink) growing together on coastal path, 15 July 2021. **Centre:** Close-up of flowers of Agrimony, 15 July 2021. **Right:** Close-up of flowers of Hemp Agrimony, 26 July 2021. **BOTTOM ROW. Left:** Wild Carrot (*Daucus carota*), 27 July 2021. **Centre left and right:** Wood Sage (*Teucrium scorodonia*), 27 July 2021 (right-hand photo, close-up of flowers). **Right:** Himalayan Balsam (*Impatiens glandulifera*), 27 July 2021. All photos Robert Mill.