

## OTHER BIOLOGICAL RECORDS FROM LUNDY

The following reports have been compiled by the recorders for each group of taxa. The records summarised have been taken mainly from the LFS Logbook and are reproduced here in good faith. No attempt has been made to verify all of the records, but unusual or particularly interesting entries will have been checked with the originators.

### WHALES, DOLPHINS AND PORPOISES

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*Compiled by Keith Hiscock*

The most frequently seen cetaceans were Harbour Porpoise and Short-beaked Common Dolphin. Both species were seen through the year. Favoured locations for porpoise were the tide races off the south and north coasts and, for dolphins, open water off the east coast – although there may be bias because of where observers go. The much greater number of sightings of porpoise off the south-east coast may also be a reflection of where observations are made and, since tide-races are favoured locations, off the north-west corner (the Hen and Chickens) would be worth more attention. The size of pods of Common Dolphin did not reach the c.100 seen in July 2020 and, overall, numbers reported were smaller than in 2020. There were no sightings of Bottlenose Dolphin (only one in 2020). The two sightings of a Minke Whale near to the island contrast with one in 2020.

#### **[Possible] Pygmy Sperm Whale** *Kogia breviceps*

8 Oct – a sighting by Chris Baillie of an individual 3-4m long from the Castle. Although the description was very detailed, specialists consulted could not confirm the possible identification.

#### **Minke Whale** *Balaenoptera acutorostrata*

4 Apr – seen close inshore off Quarry Beach then swam south into the Landing Bay and around Rat Island. Appeared to be a young animal. (Dean Jones & Zoë Barton).

1 May – one seen surfacing offshore from Jenny's Cove by Exeter University students Ingrid Helgstad. Laila Akahtar, Yavanna Burnham & Claire Goughan des Palliers.

#### **Short-beaked Common Dolphin** *Delphinus delphis*

There were 16 logbook entries for Common Dolphin with a maximum count of about 50 offshore (west) of the Old light on 21 Feb (Dean Jones).

#### **Harbour Porpoise** *Phocoena phocoena*

There were 17 logbook entries for Harbour Porpoise, mostly single or two individuals. Four were seen 1 km due east of Castle Parade on 29 Jul by Chris and Sharon Blackmore. Five adults and one calf were seen on 11 Oct in the tide race off Rat Island (Anon.).

Thanks to all of those who reported sightings.

### [SEALS]

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A detailed account of the studies carried out on the Lundy Grey Seals in 2021 can be found on p.109.]

### MARINE FISHES

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*Compiled by Keith Hiscock*

This report would include unusual or charismatic fish species whilst those that are 'always present' are not generally recorded in the logbook or here. However, there were very few fish records in 2021 reflecting the lack of activity by observers during Covid19 restrictions. In particular, it is worth noting that there were no recorded sightings of Basking Sharks (reflecting



*Rosie Ellis exploring the arch, Rat Island, 27<sup>th</sup> May (photo: Keith Hiscock).*

continued low numbers throughout south-west England) and no recorded sightings of Sunfish or Bluefin tuna.

## MARINE INVERTEBRATES

*Compiled by Keith Hiscock*

Records of marine invertebrates have been separated into 'Gelatinous plankton', 'Ocean surface drifters and strandings' and 'Shore and seabed'.

### GELATINOUS PLANKTON

Planktonic invertebrate species that are gelatinous are described colloquially as 'jellyfish'. They include species from the Classes Hydrozoa and Scyphozoa in the Phylum Cnidaria and from the Phylum Ctenophora. Gelatinous plankton may be abundant at Lundy and some sting. The larger jellyfish are seen frequently but Dean Jones recognises and recorded many of the smaller species and especially at times of snorkel safaris (so that their reporting does not necessarily identify the time of year or specific dates they are most abundant). However, many records are from late May and early June.

There were notably fewer sightings of scyphozoan ('true') jellyfish in 2021 compared to 2020 and only three records of barrel jellyfish (commonly reported through the year in 2018 and 2019 and frequently present during 2020 especially in April. Overall, it seems likely that the sparsity of records was because of lack of observing.

### CNIDARIA: HYDROZOA

**A siphonophore (string jelly)** *Nanomia cara*

2 Jul – present below the Jetty (Dean Jones & Zoë Barton).

**A hydrozoan** *Neoturris pileata*

2 Jul – two below the Jetty (Dean Jones & Zoë Barton).

### CNIDARIA: SCYPHOZOA

**Moon Jellyfish** *Aurelia aurita*

8 Aug – abundant below the Jetty (Dean Jones & Zoë Barton).

### **Blue Jellyfish** *Cyanea lamarckii*

4 Jun – two below the Jetty (Dean Jones & Zoë Barton).

### **Barrel Jellyfish** *Rhizostoma octopus*

4 Apr – five along the east coast (Dean Jones & Zoë Barton).

9 Apr – one offshore of White Beach (Dean Jones).

14 Apr – one offshore of Halfway Wall Bay (Dean Jones).

## **CTENOPHORA**

### **Melon Comb Jelly** *Beroë cucumis*

4 Jun – a few below the Jetty (Dean Jones & Zoë Barton).

2 Jul – one below the Jetty (Dean Jones & Zoë Barton).

### **Northern Comb Jelly** *Bolinopsis infundibulum*

4 Jun – abundant below the Jetty (Dean Jones & Zoë Barton).

2 Jul – small numbers below the Jetty (Dean Jones & Zoë Barton).

### **Sea Gooseberry** *Pleurobrachia pileus*

2 Jul – small numbers below the Jetty (Dean Jones & Zoë Barton).

## **OCEAN SURFACE DRIFTERS AND STRANDINGS**

*Compiled by Keith Hiscock and Dean Jones*

## **CNIDARIA: HYDROZOA**

### **Portuguese Man O' War** *Physalia physalis*

11 Sep – one in the Landing Bay (Rosie Ellis).

## **CRUSTACEA**

### **Common Goose Barnacle** *Lepas anatifera*

14 Sep – c.50 on an old fishing crate with other goose barnacles (Dean Jones).

### **A goose barnacle** *Lepas hillii*

14 Sep – c.15 on an old fishing crate with other goose barnacles (Dean Jones).

### **A goose barnacle** *Lepas pectinata*

14 Sep – two on an old fishing crate with other goose barnacles (Dean Jones).

### **Buoy Barnacle** *Dosima fascicularis*

30 Aug – 30 small colonies washed up with between 2-6 animals per colony (Dean Jones).

14 Sep – one on old fishing crate with other Lepadidae (Dean Jones).

21 Oct – seven washed-up in the Landing Bay (Dean Jones).

## **SEASHORE AND SEABED**

*Compiled by Keith Hiscock, with records from Dean Jones and Rosie Ellis*

Sightings reported here from seashores and the shallow subtidal are of unusual species or that indicate breeding times or variations in abundance. The 2018 Annual Report provides an account of species that are (and were in 2021) normally encountered during 'rockpool rambles' and 'snorkel safaris' and those that had been reported from subtidal habitats. Here, we feature only those records that are of unusual species, unusual abundances or of breeding and behaviour and not of commonly occurring species.

## **ALGAE**

### **Okamura's Pom-pom Weed** *Caulacanthus okamurae*

27 May – occasional at about mid tide level at Devil's Kitchen.

2021 seems to be the first year that this non-native species has been recorded at Lundy although it was likely present in some previous years. Widely scattered clumps on the shore to the south of Rat Island.



*Okamura's Pom-pom Weed, Devil's Kitchen, 27<sup>th</sup> May, (photo: Keith Hiscock).*

## **CNIDARIA: ANTHOZOA**

### **Scarlet and Gold Star Coral** *Balanophyllia regia*

Results from the 2021 survey of the two monitoring sites at Devil's Kitchen on 30<sup>th</sup> March showed a substantial increase in the number of Scarlet and Gold Star corals – with 33 more than in 2020. A total of 232 individuals were counted – the highest number of this species to be counted in both sites since the first surveys in 1984.

Again, the communities were made up of good numbers of large individuals, but this year there were also numerous small pin-head-sized corals, which weren't seen in 2020. This could mean that last year was good for recruitment of new, young corals to these sites – though perhaps the extent of algal growth and siltation could also have hidden a number of the smaller corals last year.

Two other sites containing small Scarlet and Gold Star Coral colonies were also counted and were found to be pretty much the same as last year: Site 3 was only down one coral and Site 4 (found by Rosie Ellis in 2020) was up by a single animal. Additionally, the Conservation Team also found some cup corals in one of the rockpool community sites (rockpool E) which are new to this pool; the first of these surveys was also carried out in 1984 (Dean Jones).

### **Devonshire Cup Coral** *Caryophyllia smithii*

The number of Devonshire Cup Corals at the two monitoring sites was much the same as in 2020 (nine individuals again) and have remained pretty stable over these sites since those first surveys.

## **CRUSTACEA: DECAPODA**

### **Spiny Spider Crab** *Maja brachydactyla*

25 & 27 Jul – aggregation in a bay north of Gannets' Rock. Up to four crabs deep in places and several had moulted (Mike Deaton & Mark Lavington).

Aggregations of this common species were reported from under the Jetty during 2020 when it was suggested that dense aggregations had been observed as far back as in 2017. That date can be 'pushed-back' to August 2010 when Chris Mandry reported (from the minutes of the Lundy Marine Protected Area Advisory Group) very large numbers north of the wreck of the *MV Robert*. The area they covered was approximately 4 m x 30 m. For the same year, Nicola Saunders [Warden] confirmed that large numbers of spider crabs had also been reported from the shallows of Devil's Kitchen and the Landing Beach.





*Grey Sea Slug, Devil's Kitchen, 30<sup>th</sup> March and (right) a berried female Montagu's Crab, Devil's Kitchen, 27<sup>th</sup> May (photo: Keith Hiscock).*

#### **Montagu's or Furrowed Crab *Xantho hydrophilus***

27 May – a berried female (Keith Hiscock). Although L.A. Harvey recorded the species as "not uncommon under stones all shores", it seems to be increasing in abundance in south-west England and is worth further monitoring.

#### **MOLLUSCA: BIVALVIA: OSTREIDAE**

##### **Pacific Oyster *Magallana gigas***

12 Apr – photograph of a Pacific Oyster in Hell's Gates (Dean Jones). The status of this species is discussed further in the LMPAAG report on p.22.

#### **MOLLUSCA: GASTROPODA: NUDIBRANCHIA**

##### **Grey Sea Slug *Jorunna tomentosa* agg.**

30 Mar – Photograph from the Landing Bay (Rosie Ellis). Not recorded by L.A. Harvey. Brown & Hunnam (1977) suggested that: "The ten species listed below [included *J. tomentosa*] are well known in recent years from nearby localities [but not Lundy] and could be expected in future collections from Lundy". [The genus needs more research, thus the 'agg.' following the species name (pers. comm. Bernard Picton).]

##### **Green moss snail *Palio nothus***

28 May – Devil's Kitchen (Dean Jones). Not Recorded by L.A. Harvey.

#### **PLATYHELMINTHES: POLYCLADIDA**

##### **A flatworm *Leptoplana tremellaris***

30 Apr – under a boulder (Dean Jones). Recorded by L.A. Harvey as "common under stones".

#### **BRYOZOA**

##### **Red Ripple Bryozoan *Watersipora subatra***

27 May – Several colonies at the back of a small cave at about lower mid-shore level on the north side of Rat Island. A non-native species and the first record for Lundy (Keith Hiscock).

#### **References**

Reference to observations by L.A. Harvey in the late 1940s and early 1950s were collated from record cards and logbook entries.

**Brown, G.H. and Hunnam, P.J. 1977.** Lundy Marine Fauna: Opisthobranchia. *Report of the Lundy Field Society for 1976*: 27, 37-47.

## ATLANTIC GREY SEAL *HALICHOERUS GRYPUS* POPULATION AND PRODUCTIVITY STUDIES IN 2021

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Rosie Ellis, Lucy Mortlock, Chloe Woolfenden, Eleanor Grover and Dean Jones  
(warden@lundyisland.co.uk)

*A record-breaking year with 244 seals counted and 62 pups born with a minimum of six white coat fatalities, in line with last year's 10%. Entanglement was recorded in at least three instances, down from last year. Issues with disturbance were of increasing concern with vastly increased water sports as Covid-19 restrictions relaxed. Six instances of disturbance were witnessed during full island surveys with kayaks from 'Bluefin' flushing four sub-sites in one day, one unidentified boat disturbing but not flushing a pregnant female and a group of ten people causing flushing at Brazen Ward, presumably guests of the island itself. Any possible ill effects from this disturbance are not currently being seen in terms of overall numbers but could be causing a shift away from Brazen Ward, with reduced numbers hauled out here compared to lockdown years (24 in 2021 compared with 56 in 2020).*

The Atlantic Grey seal population has been monitored annually on Lundy since 2011 and to a varying degree beforehand. Previously, the surveys have been carried out by the Conservation Team throughout the breeding season in order to understand the distribution, population dynamics and productivity of this iconic Lundy mammal (Jones 2017). In 2016 the survey method was reviewed to enable the data collected at Lundy to contribute to wider seal population assessments, such as the Sea Mammal Research Unit (SMRU) national seal surveys.

The highest count of seals within the survey period was on the 11<sup>th</sup> August, 244 (124 females, 50 males, 31 Juveniles and 39 animals of undetermined sex). This constitutes the highest number of Atlantic Grey Seals to be recorded around Lundy's shores (the previous highest count was 239 animals in August 2011). This is 26 more animals than the highest count of 2020. The survey was conducted by Chloe Woolfenden, Dean Jones and Eleanor Grover, with three surveyors rather than the usual one or two possibly reducing the chance of seals being missed, and there may be an effect or increased survey effort. Even after taking this into account the population of Atlantic Grey seals on Lundy is thriving.

*Atlantic Grey Seals, Mousehole & Trap, 11<sup>th</sup> August (photo: Dean Jones).*





*The Seal Team. Left to right: Lucy Mortlock, Matt Stritch, Chloe Woolfenden, Adam Waters, Rosie Ellis, Dean Jones and Eleanor Grover.*

Similar to the surveys of 2017-2020, the majority of animals around the island within each survey were females, with some of those, from observational notes, showing obvious signs of pregnancy in some of the popular haul-out areas, especially at the start of the land-based surveys. After the largest initial counts at the start of the season, the number of female seals dropped slightly, possibly due to some of the pregnant females moving into the island's inaccessible coastal caves to pup or to other areas in the South West after conditioning themselves in Lundy waters. Unlike other years, there was no increase in males around the island by mid-September compared to the start of August. It had been hypothesised that males were possibly turning up later than females to patrol beaches and females in order to conceive next year's pups; however this year the highest male count was 50 on the record breaking 11<sup>th</sup> August count, with numbers falling throughout the year.

As stated in previous reports, the distribution of seals around Lundy is heavily influenced by both weather and sea state. From observations at times when the winds came directly from the east, animals seemed to move off from some of the more popular haul-outs, e.g. Rat and Mouse Islands, and numbers observed were lower with a total of 74 animals visible on the 25<sup>th</sup> August during easterly winds.

The highest number of animals hauled out in the 46 sub-sections (Jones 2017) within the survey period was again from Threewall Bay; here 55 individuals were counted hauled out on the rocks within the bay during a day of light WNW winds.

A record-breaking 62 pups were recorded this year; 12 more than in 2020. The first pup was sighted on White Beach on 21<sup>st</sup> August, just under a month later than the first pup of 2020 and 2019, and more in line with first sighting dates of 2018 (18<sup>th</sup> August from Ladies Beach) and 2017 (8<sup>th</sup> August at White Beach). Unfortunately there were at least six dead pups sighted, the majority spotted at the beginning and end of the season. This is one pup fatality sighting higher than last year but roughly in line percentage wise (9.68%).

This however is still an underestimate of the overall productivity for Lundy, as there would be many more pups present hidden within the island's inaccessible sea caves throughout the season. No boat survey was conducted this year, which enabled an extra four pups to be counted in 2019.

The last white-coat pup to be recorded was on 21<sup>st</sup> October from the Landing Bay, 24 days earlier than the last of 2019, 17 days earlier than the last of 2018 and two days later than that of 2017, giving a relatively short but productive pupping season this year.

At least three records of entanglement were recorded in 2021 (8 in 2020, 3 in 2019 and 6 in 2018), one particularly bad one involving a gill net. Unfortunately, despite the distress caused to seals, there is nothing the Conservation Team can do to free seals in these circumstances.

Issues with disturbance were of increasing concern, with vastly increased water sports as Covid-19 restrictions relaxed. Six instances of disturbance were witnessed during full island surveys, with kayaks from *Bluefin* flushing four sub-sites in one day; one unidentified boat disturbing but not flushing a pregnant female; and a group of ten people causing flushing at Brazen Ward, presumably guests of the island itself. Any possible ill effects from this disturbance is not currently being seen in terms of overall numbers but could be causing a shift away from Brazen Ward, with reduced numbers hauled out here compared to lockdown years (24 in 2021, compared with 56 in 2020).

The new accreditation scheme is now live and certification can be gained by completing training modules and associated quizzes on a Google Classroom. To enrol see [www.northdevonbiosphere.org.uk/accreditation-scheme](http://www.northdevonbiosphere.org.uk/accreditation-scheme).

## Photo identification

A total of ten Lundy animals were re-identified from photographs taken in the 2021 season (some 110 animals were photographed by the Conservation Team in 2020), including seven breeding females and one beach-master from previous surveys. Additionally, two tagged animals were released after rehabilitation). More re-sightings will be added to this year's list as photo albums are reviewed throughout the year. For details and methods on seal photo identification, please refer to the Cornwall Seal Group and Research Trust website (CSGRT 2019).

## Acknowledgements

A huge thank you to all who submitted seal counts and disturbance records in 2021. Special thanks to for all their hard work, determination and skill in finding every last pup.

Finally, a massive thank you to Sue Sayer, Kate Williams, Marion Beaulieu, Rob Wells and all of the volunteers from the Cornwall Seal Group and Research Trust for all their amazing work with regards to training volunteers, taking and processing masses of photographs for the island's identification catalogue and for their general and endless kindness and passion for these wonderful marine mammals.

## References

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- MacDonald, R. 2013.** Atlantic Grey Seals (*Halichoerus grypus*) at Lundy, 2006-2013. Report produced for Natural England.
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- Westcott, S. 2009.** The status of grey seals (*Halichoerus grypus*) at Lundy, 2008-2009. Report produced for Natural England.



## FRESHWATER FISHES

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Compiled by Jennifer George

Only two records of **Golden Orfe**, *Leuciscus idus*, in the Lundy Quarry pond were made in 2021. There were 17 Golden Orfe in July (Alan & Sandra Rowland) and 8 were seen there in October (Tim Davis & Tim Jones).

In the Rocket Pole Pond in early June, Dean Jones observed **Mirror Carp**, *Cyprinus carpio*, spawning amongst the water plants (see photo). The yellow fertilized eggs are attached to plants and they hatch in 3-6 days. Young fish, if they are not cannibalised by older fish, reach maturity in 3-5 years.

As stated previously, there has been no detailed population study of the fish in the Lundy ponds except for some monitoring of the Mirror Carp in the Rocket Pole Pond.

It would be helpful if visitors and staff would record numbers of fish seen in the LFS Logbook, particularly in Quarry Pond where Golden Orfe and **Crucian Carp**, *Carassius carassius*, occur, and in Rocket Pole Pond where an apparently large population of Mirror Carp exists.



Spawning Mirror Carp in  
Rocket Pole Pond, 5<sup>th</sup> June  
(photo: Dean Jones).

## REPTILES, LAND MAMMALS AND BATS

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Compiled by Chris Dee

### Introduced Reptiles

There are no native reptiles on Lundy but **Slow-worms** *Anguis fragilis* of uncertain origin are present. Previously thought to have been accidentally introduced in compost imported from the mainland in November 2010, new information has recently come to light to suggest that they were present as early as 2000. A search of records held by the National Biodiversity Network (NBN) has revealed that National Trust working parties reported Slow-worms on Lundy in 2000 and 2001. It has not been possible to track down the people who submitted these records, nor the precise dates or locations. The records are given the central grid reference of the island, which does not necessarily mean that they were found near Ponsbury. If any member of a National Trust party on Lundy between 30<sup>th</sup> April and 13<sup>th</sup> May 2000 or in May or September 2001, has further information, we would be delighted to hear from you.

In 2021, there were records between 30<sup>th</sup> April and 19<sup>th</sup> September and a further late record on 24 November. Most previous records have been confined to Millcombe and St John's Valley,



*Slow-worm, 30<sup>th</sup> July (photo: Richard Twitchett).*

where the initial introduction was thought to have occurred, but this year they were also reported from the Old Light, Pondsburry, the Upper East Side Path and the Terrace.

To help track the spread of this species across Lundy, members are encouraged to note all sightings in the LFS Logbook kept in the Marisco Tavern.

### **Native Land Mammals**

Lundy has just one native terrestrial mammal, the **Pygmy Shrew** *Sorex minutus* which is widely distributed across the island and can be found throughout the year. It is probably associated with most properties; this year it has been reported from the Castle properties, Bramble Villa East, Millcombe House, Hammers, Quarters, Big St Johns, The Old School and the Tavern. The species is also found away from human habitation and with visitor numbers returning to normal, there have been sightings at Aztec Bay on the west coast and Tibbetts Point and the Terrace on the east side.

Bats are occasionally observed on Lundy and are usually assumed to be one of the native pipistrelle species; **Common Pipistrelle** *Pipistrellus pipistrellus* or **Soprano Pipistrelle** *P. pygmaeus*. Single sightings of unidentified species were recorded on 16<sup>th</sup> May at Quarry Pond (B Arkless) and on 7<sup>th</sup> June in the village (Chris & Carol Baillie). Two Common Pipistrelles were also around the village on 3<sup>rd</sup> August on the evening of 9<sup>th</sup> September, four or five Common Pipistrelles were seen and identified by bat detector feeding in Millcombe (P Atkin & I Sterns).

### **Introduced Land Mammals**

The populations of feral ungulates continue to be monitored and numbers controlled according to the terrestrial management plan. Due to COVID-19 restrictions it was not possible to undertake the planned island-wide stock count in March, nor was the April cull possible. Estimates from the Conservation Team have been provided, but numbers of all species remain high due to the reduced control measures. Culls were carried out in September and October and it is hoped that the regular schedule can be restored in 2022. The early spring surveys normally provide the best estimation of numbers, but extra counts by visitors are useful for the record, particularly if some assessment of completeness of coverage is included.

The stock level of **Sika Deer** *Cervus nippon* was estimated at 150 in March (Dean Jones, Rosie Ellis). Double-figure counts of up to 49 were reported from the Tillage Field in May and there

were up to 42 on the East Side in November. A planned cull in April could not take place but four stags were culled in October.



The stock level of **Soay Sheep** *Ovis aries* in March was estimated at 320-350 individuals (Dean Jones, Rosie Ellis). The first lamb (photo by Dean Jones) was reported on 21<sup>st</sup> March and the only other count in the log-book was of 130 in Middle Park on 29<sup>th</sup> July. Thirty-six rams and 16 ewes were culled in September and a further nine rams and 16 ewes were removed in October.

**Goats** *Capra aegagrus* continue to be actively discouraged south of Quarter Wall to reduce grazing pressure on Lundy Cabbage and the slow-growing woody vegetation in Millcombe. Nevertheless, 31 were reported

in South West Field on 10<sup>th</sup> Oct (Alan & Sandra Rowland). The estimated population in March was 55-65 (Dean Jones, Rosie Ellis) and 42 were counted in Middle Park and the North End on 17<sup>th</sup> May (Alan & Sandra Rowland). The culls in September and October reduced the population by five billies and four nannies.

**Rabbit** *Oryctolagus cuniculus* numbers remain low as a result of disease (Rabbit Viral Haemorrhagic Disease or Myxomatosis) although there are signs of a slow recovery. Individuals or small groups were reported from seven locations across the island; the enclosed fields near the village, Pilot's Quay, Devil's Slide, Gannets' Coombe, St Mark's slope, South West Point and the Terrace. All records of this formerly common species would be welcome to allow its status to be assessed.

## FRESHWATER INVERTEBRATES

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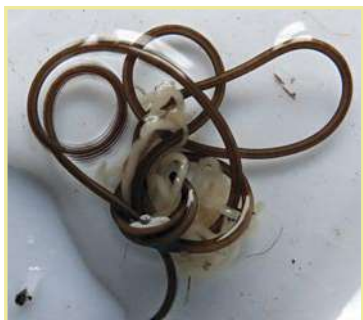
*Compiled by Jennifer George*

In 2021 all of the records of freshwater invertebrates, apart from one in the LFS Logbook, emanated from the research of Alan Rowland. He has been continuing his surveys of Brambles Pond, St John's Stream and the Millcombe streams, with also some recording from Pondsburry, Quarter Wall and Quarry Ponds. Thirty-five different species were identified from these freshwater habitats.

Brambles Pond which was excavated by the Lundy Conservation Team in October 2019 is beginning to develop a diverse community of organisms with worms, molluscs, crustaceans and insects all represented. The mollusc **Jenkins Spire Shell** *Potamopyrgus antipodarum* is the dominant organism present with over 300 being found in November. This species has obviously entered from St John's Stream where it is also very abundant. Three different **midge larvae**, the non-biting midge (Family Chironomidae), **Trickle Midge** (Family Thaumaleidae) and Meniscus midge (Family Dixidae) occur also in the pond. **Flatworms**, *Phagocata vitta*, and the small grey flatworm, *Bothriomesostoma personatum*, were also found.

St John's stream, Millcombe stream in the gardens, and the Millcombe cascade contained representatives from many different invertebrate groups. **Flatworms**, particularly *Phagocata vitta*, occurred in all three habitats, and the black *Polycelis nigra* and two very small Microturbellaria, *Microstomum* and *Rhynchomesostoma*, were found in St John's stream near Square Cottage.

**Horsehair** or **Hair worms**, Nematomorpha, were found in November in the cascade and Millcombe stream. One large individual was recorded on Millcombe path in January 2021 (LFS Logbook, Tess Footitt). These poorly known worms can reach up to 20cm in length but are often less than 1mm in



diameter. Adults enter shallow waters to breed. Females attach their eggs in strings of jelly to water plants (see photo) and their tiny larvae emerge and find their way into insect hosts which can be aquatic or terrestrial (often grasshoppers and beetles). The worms grow in the body of the host and when fully formed compel their host, if terrestrial, to seek out water (mechanism unknown). The adults then emerge, mate, females lay eggs and then they die.

*A female horsehair worm (Nematocera) with strings of jelly in which eggs are attached to water plants (photo: Alan Rowland).*

The segmented **Square-tailed Worm** *Eiseniella tetraedra* which occurred in the Millcombe stream and Cascade is a new record for Lundy. It lives in mud under plant roots or stones in fast flowing waters and has been found in Cornish rivers.

Other mollusc species besides the ubiquitous Jenkins Spire Shell, occur in the streams, e.g. the **Wandering Snail** *Lymnaea peregra* in the Millcombe cascade and Millcombe and St John's streams. The crustacean **Water Slater** *Proasellus meridianus* which is found in many of the Lundy freshwater habitats, occurred often in large numbers in the streams and Ostracod Seed Shrimps were found in St John's stream at Brambles and near Square Cottage.

Insect larvae were well represented in the streams and ponds in 2021. In July and early August there were several records in the Logbook of many adult dragon and damselflies flying around the ponds. The **Blue-tailed Damselfly** *Ischnura elegans* was seen at the Quarter Wall and Quarry Ponds and many at Pondsburry where its larvae (nymphs) were found in the water. At Quarter Wall Pond the **Emperor Dragonfly** *Anax imperator* was seen ovipositing in early July.

**Water Bugs**, Hemiptera, were not common in the streams, but the **Water Cricket** *Velia caprai* was found in the Millcombe cascade and St John's stream. However several water bugs were found in Pondsburry in July, for example the very small *Plea minutissima*, which swims on its back and is less powerful and more jerky than its smooth-swimming relative the **Water Boatman** *Notonecta glauca* that also was found.

A notable find by Alan Rowland in Pondsburry, and a new record for Lundy, was the **Water Stick Insect** *Ranatra linearis* (pictured below). This species, that can be 35 mm in length, has a long breathing tube and raptorial forelegs. It lurks motionless among water plants, waiting like a Praying Mantis, for its prey to swim by.

*Emperor Dragonfly ovipositing at Quarter Wall Pond and (right) Water Stick Insect Ranatra linearis showing the long breathing siphon and raptorial fore legs (photos: Alan Rowland).*





Caseless **caddis fly** larvae, *Diplectroma felix* and *Wormaldia occipitalis*, were found in the Millcombe cascade. Both larvae spin nets which they attach to stones to catch their food. St John's stream also harboured the net-spinning caddis *Plectrocnemia conspersa*.

A caddis larva with a case (Family Limnephilidae), *Micropterna sequax*, that had been recorded by Long in 1993, but not again until 2021, was found in the streams and cascade. This caddis normally constructs a curved case of small stones (see photo). However, one specimen had a case of plant material. The larvae graze on plants but some predation can occur. Adults can be seen from May to November and have been recorded on Lundy previously by Tony Parsons.



*The Caddis larva Micropterna sequax in its curved case of small stones (photo: Alan Rowland).*

**Beetles** (Coleoptera) of the diving beetle Dytiscidae family were found in larval form in St John's stream, whereas the adult Dytiscid, *Hydroporus*, were found in Brambles Pond. In July, the surface-dwelling Whirligig Beetle *Gyrinus* sp. was seen zooming around in circles on Quarter Wall Pond. They can dive in pursuit of prey and have their eyes divided into two parts, one for aerial and one for aquatic vision.

*A full list of all species can be found on the LFS website. Alan Rowland would like to record his thanks to Dr Ian Wallace who identified the Micropterna caddis larva and confirmed identification of the other caddis species found.*

## TERRESTRIAL INVERTEBRATES

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*Compiled by Alan Rowland, except where stated otherwise*

The number of records appears smaller than last year's list. The effects of Covid restrictions were compounded by the departure of our last Warden, Dean Jones. The combination of these two events has, and will no doubt, affect the breadth and quantity of invertebrate records.

The following records do however reflect those species seen regularly by those who visit Lundy, as well as including a few new records. Records are almost wholly from the LFS Logbook, but are supplemented by those entered online into iRecord which has 208 Lundy records from 2021.

### Slugs and Snails Gastropoda

Terrestrial slugs and snail were reported around the island but mainly in the village and Millcombe. No new species were reported but three species of snail: **Two-toothed Snail** *Clausilia bidentata*, **Garden Snail** *Cornu aspersum* and **Brown-lipped Snail** *Cepaea nemoralis* were reported together with four species of slug: **Black Slug** *Arion ater* agg., **Tree Slug** *Lehmanna marginata*, **Leopard Slug** *Limax maximus* (pictured opposite) and **Green Cellar Slug** *Limacus maculatus*.



Clockwise from top left: Leopard Slug (photo: Richard Breese), Garden Spiderlings, Field Grasshopper and Pill Woodlouse (photos: Alan Rowland).

### Spiders, Harvestmen and Mites Arachnidae

The usual species were reported during the year including a typical spiderling aggregation of immature **Garden Spiders** *Araneus diadematus* (pictured above) as well as adult **Cellar Spider** *Pholcus phalangioides* and **Nursery Web Spider** *Pisaura mirabilis*. Not so usual were the **Common Sun Jumper** *Heliophanus cupreus* and the second record of the **Two-clawed Hunting Spider** *Cheiracanthium erraticum* – the first record was by C A Howe in 1996.

### Woodlice, Millipedes and Centipedes Myriapoda

Woodlice and centipedes reported have all been previously recorded on the island and comprised; **Ant Woodlouse**, *Platyarthus hofmanseggii*, **Shiny Woodlouse**, *Oniscus asellus*, and **Pill Woodlouse** *Armadillidium vulgare* (pictured above), and three centipedes Western Yellow Centipede, *Haplophilus subterraneus*, *Cryptops hortensis* and **Banded Centipede**, *Lithobius variegatus* from various locations between May and October. Professor Twitchett and his son spent the 30<sup>th</sup> and 31<sup>st</sup> July on the island looking for centipedes and made a useful list of five species.

### Grasshoppers and Crickets Orthoptera

Compiled by Malcom Lee

Three species have been reported this year:

**Speckled Bush Cricket**, *Leptophyes punctatissima*. Steve Banner reported the following locations: Millcombe Valley, path down to Quarry Beach, and below Timekeeper's Hut, all on 9<sup>th</sup> August; Alan & Sandra Rowland reported one in Millcombe in July and another in October near Government House.

**Field Grasshopper** *Chorthippus brunneus* (pictured above). Steve Banner found large numbers by Quarter Wall Cottages, one at Threequarter Wall, and two at the Campsite, all on 9<sup>th</sup> August. Alan & Sandra Rowland also recorded this species on the Upper East Side Path on 25<sup>th</sup> August, as did Paul Holt by the letterbox above Quarry Pond on 11<sup>th</sup> October.



*Parallel-sided Beetle, Abax parallelepipedus* (photo: Kit & Jonny) and (right) the Carrion beetle *Silpha tristis* (photo: Alan Rowland).

**Common Earwig**, *Forficula auricularia*. Alan & Sandra Rowland reported this species from Jenny's Cove on 7<sup>th</sup> May.

#### True Bugs Hemiptera

The common **Gorse Shieldbug** *Piezodorus lituratus* was recorded throughout the year as well as two occurrences of the less common (on Lundy at least) **Red-legged Shieldbug** *Pentatoma rufipes*. A **Meadow Froghopper** *Philaenus spumarius* was recorded again and a second recording of *Evacanthus interruptus*, a leafhopper only recorded before in 1993. This is a striking leafhopper which was unfortunately too quick for a photograph.

Other Hemiptera are reported under Freshwater Invertebrates, including one species new to Lundy, bringing the total up to 122 species.

#### Beetles Coleoptera (see also under *Freshwater Invertebrates*)

Many of the usual species have been seen and recorded this year but two species new to Lundy have been identified.

Ground beetles were represented by **Green Tiger Beetle** *Cicindela campestris* (quite a few sightings) and a single **Parallel-sided Beetle** *Abax parallelepipedus* (pictured above) by "Kit & Jonny" (surname not provided). Amongst the Carrion beetles, Dean Jones, again, recorded the **Shore Sexton Beetle** *Necrodes littoralis* twice; others were the usual **Black Snail Beetle** *Silpha atrata* and a new species for Lundy *S. tristis*. This was a sighting of a larva predating a Common Garden Snail (pictured above). The larva is uniquely identifiable. *Silpha* species larvae are entirely black except in the case of *S. tristis* which, as can be seen in the photo, has brown edges. Other Carrion beetles were mothtrap intruders *Nicrophorus humator* and *N. investigator*, both Sexton beetles.

Rove beetles were represented by a single sighting of one species, *Staphylinus erythropterus*.

The biggest group of sightings were the Dung or Dor beetles, a few **Minotaur Beetles** *Typhaeus typhoeus* in May and October with a single *Geotrupes spiniger* and many **Dor Beetles** *G. stercorarius* – totalling 30 entries throughout the year.

The Scarab beetles were, once again, comprised of twenty sightings of the charismatic **Rosechafer**, *Cetonia aurata*, between May and August and a single **Brown Chafer**, *Serica brunnea*.



*Psilothrix viridicoeruleus* (photo: Lisa Leaver), Wasp Beetle and (right) St Mark's Fly (photos: Alan Rowland).

The Exeter University field trip in May recorded *Psilothrix viridicoeruleus* (pictured above), a soft-winged flower beetle not sighted since 1961.

There was only one sighting of a Click beetle, one of our regulars, *Athous haemorrhoidalis*. In July the **Common Red Soldier Beetles** *Rhagonycha fulva* were out in force as were **Sulphur Beetles** *Cteniopos sulphureus*.

**Black Oil Beetles** *Meloe proscarabaeus* were seen again along the south coast from the Castle to Benjamin's Chair in April and May.

A few Weevils were recorded, both the **Vine Weevil** *Otiorhynchus sulcatus* and the endemic **Lundy Cabbage Leaf Weevil** *Ceutorhynchus contractus* var. *pallipes* during the Cabbage Count.

Seed and leaf beetles recorded were *Chrysolina banksii* and the star of the year the first ever Longhorn beetle, the **Wasp Beetle** *Clytus arietis*, not previously recorded on Lundy (see photo). This beetle lives for a couple of years as a larva in wood so may have been transported here in imported timber.

The sightings of two new species of beetle increased the total number of species recorded on Lundy to 425 and also increases the number of beetle families by one to 38.

## True Flies Diptera

Compiled by Sam Bosanquet

Again, no specialist dipterists recorded on Lundy in 2021, and 38 records of 19 species (plus a couple of flies only identified to genus) was a drop after the nearly 40 species recorded in 2020. **Hoverflies** (Syrphidae) led the way with eight species recorded and included *Meliscaeva auricollis* and *Paragus haemorrhous* which were last recorded on the island in 1997 and 1986 respectively. After 2020's bumper year for **Craneflies** (Tipulidae), just three species were recorded in 2021. As in 2020 there was a new **Soldier Fly** (Stratiomyidae) among the three species noted. **St Mark's Fly** *Bibio marci* (pictured above), which is so familiar on the mainland, appears to be new for Lundy, with sightings by two different recorders on 14<sup>th</sup> May. Two species of **Parasite Fly** (Tachinidae) included three sightings of the regular *Tachina grossa*, and the first Lundy record of *Epicampocera succincta*. New species for the island, including one late addition from 2020, were:

\**Bibio marci* (Bibionidae): Millcombe 14<sup>th</sup> May (AR).

\**Epicampocera succincta* (Tachinidae): collected near Brambles 29<sup>th</sup> June (SB).

\**Microchrysa flavicornis* (Stratiomyidae): swept from vegetation in Millcombe 27<sup>th</sup> June (SB).



\**Stenopteryx hirundinis* (Hippoboscidae): two from House Martin (different birds), Lundy Island, 8<sup>th</sup> October 2020, Nik Ward (det. Denise Wawman).

The island Diptera total now stands at 475 species.

### Bees, Wasps & Ants Hymenoptera

Compiled by Sam Bosanquet

The majority of the 29 records of Hymenoptera from Lundy in 2021 were of **Bumblebees** (Apidae), as was the case in 2020. Alan Rowland collected some wasp cocoons in October and sent them to Mark Shaw for identification; *Cotesia tibialis* (Braconidae) new for Lundy and *Lysibia nanus* (Ichneumonidae) emerged. Two **Sawflies** (Cimbicidae & Tenthredinidae) appear to be new for Lundy according to LFS records, although at least one of them is shown as present on the island on the NBN. After a blank year for Ants (Formicidae) in 2020, Sam Bosanquet collected a few during a visit in June resulting in records of four species of which two were new for the island. New species for the island were:

\**Abia fasciata* (Cimbicidae): Brambles 29<sup>th</sup> June (SB).

\**Cotesia tibialis* (Braconidae): emerged from cocoon collected at Quarterwall Pond 8<sup>th</sup> October (AR).

\**Fenusa dohrnii* (Tenthredinidae): mines on Alder in Secret Garden 30<sup>th</sup> July (DJ).

\**Lasius psammophilus* (Formicidae): collected from Beach Road 27<sup>th</sup> June (SB).

\**Myrmica rubra* (Formicidae): collected near Forgotten Heinkel 26<sup>th</sup> June (SB).

\**Odynerus spinipes* (Vespidae): Three Quarter Wall 7<sup>th</sup> June (C&CB)

The island Hymenoptera total now stands at 258 species.

### Dragonflies & Damselflies Odonata

Compiled by Tim Davis

Six species, including one new to Lundy, were recorded in 2021.

**Common Blue Damselfly** *Enallagma cyathigerum* – six records between 15<sup>th</sup> June and 2<sup>nd</sup> August, at Pondsburry (max 15 on 7<sup>th</sup> July), Quarter Wall Pond and Rocket Pole Pond.

**Blue-tailed Damselfly** *Ischnura elegans* – records on eight dates between 15<sup>th</sup> June and 2<sup>nd</sup> August, at Pondsburry, Quarter Wall Pond and Rocket Pole Pond, with 20 adults and 20 nymphs at Pondsburry on 9<sup>th</sup> July, and a max of 78 adults there on 7<sup>th</sup> July.

*Male Emperor Dragonfly, Quarter Wall Pond, 30<sup>th</sup> June (photo: Dean Jones).*



**Migrant Hawker** *Aeshna mixta* – two records: one at Quarter Wall on 1<sup>st</sup> August and one quartering in upper Millcombe on 5<sup>th</sup> September.

**Emperor Dragonfly** *Anax imperator* – recorded on Lundy with increasing frequency; noted on 16 days between 15<sup>th</sup> June (one at Threequarter Wall) and 26<sup>th</sup> August (singles at Quarter Wall Pond and Rocket Pole Pond), with a max daily count of three on 7<sup>th</sup> July and 10<sup>th</sup> August. Other locations where seen were Pondsburry, Barton Pond, Quarters Pond, Quarry Pond, Brick Field Pond, Middle Park (presumably around the pond) and along the Terrace, the Upper East Side Path and the main track close to the Village. Females were ovipositing at Quarter Wall Pond on 8<sup>th</sup> July (one) and 4<sup>th</sup> August (two).

**Common Darter** *Sympetrum striolatum* – records on four dates: one at Pondsburry, 9<sup>th</sup> July; singles along the Upper East Side Path and near Pondsburry, 26<sup>th</sup> July; two at Pondsburry, 2<sup>nd</sup> August; and a male over Brick Field Pond, 10<sup>th</sup> August.

**Black-tailed Skimmer** *Orthetrum cancellatum* – Lundy's first records involved single males at Pondsburry on 5<sup>th</sup> July (Dean Jones) and 2<sup>nd</sup> August (Paul Holt).

### Caddis Flies Trichoptera

Four aquatic larvae of Trichoptera are reported in the *Freshwater Invertebrates* section (pp.114-115). Three of them are caseless caddis, Hydropsychidae, *Diplectrona felix*: no adults have been identified so far; Philopotamidae, *Wormaldia occipitalis*: adult recorded in 1986; Polycentropodidae, *Plectrocnemia conspersa*: no adults recorded so far, and one cased caddis, a Limnephilid, *Micropterna sequax*: an adult recorded in 1987. We depend on our moth recorders for 'moth trap intruders' to add to the paucity of adult caddis recorded on Lundy.

*Thanks are due to the people listed below who have submitted records in the logbook which have been extracted for this report and submitted to iRecord. Kit & Jonny, Jay Ashford, Chris & Carol Baillie, Steve Banner, Sam Bosanquet, D, H & N Boyer, Richard Breese, J Cayford, Katy Chapman, Tim Davis & Tim Jones, Mandy Dee, Rosie Ellis, Jade Angeles Fitton, Tess Fotitt, Andrew Higginson, Kay Chapman & Lisa Leaver, Jacki, Nicole & Paul Holt, Dean Woodfin Jones & Zoe Barton, Zena Lyner, Stephen O'Donnell, Alan & Sandra Rowland, Richard & Rachel Taylor, Tony Taylor, Prof R J & K W Twitchett, and Carol Waring.*

*Male Black-tailed Skimmer, Pondsburry, 5<sup>th</sup> July (photo: Dean Jones).*





*Copulating Small Heath butterflies, Grayling and Common Blue (photos: Dean Jones).*

## Butterflies Lepidoptera

*Compiled by Anthony John*

2021 was a poor year for butterflies on Lundy. Although **Small Heath** and **Common Blue** were seen in better numbers compared with 2020, numbers of most other species were yet again down. It was another very poor year for **Small White**, **Peacock** and **Small Tortoiseshell**. There were no early butterfly records; the first was a Peacock seen on 17<sup>th</sup> March, and the last was a Small Tortoiseshell seen on 24<sup>th</sup> November. Just three species of scarcer butterflies were noted in 2021. **Grayling** were recorded on 14 days between 4<sup>th</sup> July and 10<sup>th</sup> August, maximum 15 on 14<sup>th</sup> July; single **Gatekeepers** were recorded on 3<sup>rd</sup> & 25<sup>th</sup> August; and **Holly Blues** were seen on two dates in April, one on 13<sup>th</sup>, and two on 16<sup>th</sup>. However, there were no records of Orange-tip, Clouded Yellow, Wall Brown, Speckled Wood or Comma in 2021.

**First & last dates, maxima and number of butterfly-days for common butterflies in 2021**

Species	First date	Last date	Maximum count & date	Butterfly-days 2021	Butterfly-days 2020
Large White	18 Apr	20 Sep	20 on 9 Sep	97	116
Small White	13 Apr	15 Oct	8 on 2 Aug	32	182
Green-veined White	16 Apr	11 Oct	12 on 6 Aug	158	214
Small Heath	16 May	20 Sep	75 on 4 Jun	408	237
Ringlet	5 Jul	4 Aug	2 on 16 Jul	8	21
Meadow Brown	12 Jun	3 Sep	79 on 29 Jul	954	1,243
Red Admiral	31 Mar	17 Nov	40 on 20 Sep & 14 Oct	812	801
Painted Lady	24 May	17 Oct	7 on 15 Oct	52	27
Peacock	17 Mar	14 Oct	2 on 3 dates	14	32
Small Tortoiseshell	31 Mar	24 Nov	5 on 4 Aug	31	104
Small Copper	12 May	17 Oct	4 on 15 Oct	22	30
Common Blue	30 Apr	12 Sep	10 on 7 Jun	97	48

## Moths Lepidoptera

Compiled by Anthony John

In 2021, 208 different species of moths were recorded on Lundy (cf. 227 in 2020), 71 'micro' moths and 137 'macro' moths. Twelve species and one genus were new for the island, seven micro-moths and six macro-moths (see below). The Heath trap was deployed on 24 dates in Millcombe, three in May, nine in June, four in both July and August, one in September and three in October; it was also used once in June in Paradise Row. Elsewhere traps were deployed occasionally at Old Light and Square Cottage.

Species new to Lundy in 2021 were (in checklist order) seven micro-moths: *Incurvaria oehlmanniella*, *Bryotropha terrella*, *Pseudargyrotoza conwagana*, Willow Tortrix *Epinotia cruciana*, *Gypsonoma dealbana*, *Donacaula forficella*, *Amphipoea* sp; six macro-moths: **Privet Hawkmoth** *Sphinx ligustri* (three records), **Small Dusty Wave** *Idaea seriata*, **Great Prominent** *Peridea anceps*, **Slender Brindle** *Apamea scolopacina*, **Purple Clay** *Diarsia brunnea* and **Double Square-spot** *Xestia triangulum*.

The following moths were recorded for only the second time on Lundy (in checklist order). Micro-moths: *Anacampsis populella* (first recorded in 2020), *Teleiopsis diffinis* (2011), *Batrachedra praeangusta* (2020), *Elachista atricomella* (2018), *Acleris hastiana* (2011), *Notocelia roborana* (1995) and **Garden Pebble** *Evergestis forficalis* (2018). Macro-moths: **Lunar Hornet Moth** *Sesia bembeciformis* (2020), **Red-green Carpet** *Chloroclysta siterata* (2006), **Tawny Speckled Pug** *Eupithecia icterata* (2018), **Grass Emerald** *Pseudoterpna pruinata* (2018), **Pinion-streaked Snout** *Schranksia costaeistrigalis* (2020); **Dark Spectacle** *Abrostola triplasia* (2020), **Burnished Brass** *Diachrysis chrysis* (first recorded by Carpenter in 1943!), **Beautiful Golden Y** *Autographa pulchrina* (2010), **Red-line Quaker** *Agrochola lota* (2006) and **Tawny Shears** *Hadena perplexa* (2012).

On 16<sup>th</sup> May a **Great Prominent** (new for Lundy) was trapped at Old Light Lower. A **Bordered Straw** *Heliethris peltigera*, an immigrant moth, was seen at Brazen Ward on 3<sup>rd</sup> June. Seven **Thrift Clearwing** moths *Synansphecia muscaeformis* were noted near North Light on 12<sup>th</sup> June. On 16<sup>th</sup> June a **Mullein Moth** *Cucullia verbasci* caterpillar was observed feeding on figwort in Millcombe. After the first island record on 16<sup>th</sup> June, a second **Privet Hawkmoth** was in the Millcombe Heath Trap (MHT) on 21<sup>st</sup>, together with 14 **Barrett's Marbled Coronet** *Hadena luteago*; this latter species is confined to the north and south coasts of Devon and Cornwall, coastal west Wales, the south coast of Ireland and the Channel Isles. Three Nationally Rare/scarcely species were recorded in the MHT in June: **Thyme Pug** *Eupithecia distinctaria*, **Devonshire Wainscot** *Leucania putrescens* and *Nothris congressariella*. It was a very poor year for **Humming-bird Hawk-moths** *Macroglossum stellatarum*, with only two singles in June. Two species caught in the MHT on 29<sup>th</sup> June – **Grass Emerald** and **Beautiful Golden Y** – were second records for Lundy.

An adult **Lunar Hornet Moth** was seen in 'Rüppell's Quarry' on 5<sup>th</sup> July (empty pupal cases were found nearby in 2020). Two days later c.50 *Glyphipterix thrasonella* were abundant along the edge of Pondsburry, together with three **Willow Tortrix** (new for Lundy), one of which was a rare unicolour form. Four **Brown China-marks** *Elophila nymphaeata* were noted at Pondsburry on 9<sup>th</sup> July. On 11<sup>th</sup> July the MHT caught *Bryotropha terrella* and **Double Square-spot**, both new for Lundy. The next day in 'Rüppell's

First & last dates & maxima for selected day-flying moths in 2021

Day-flying moths	Recorded on	First date	Last date	Maximum count & date
Emperor Moth	7 days	16 Apr	6 Jun	3 on 17 Apr
Humming-bird Hawk-moth	2 days	7 Jun	15 Jun	1 on 7 & 15 Jun
Silver Y	28 days	30 Mar	17 Oct	7 on 15 & 16 Sep
Fox Moth (caterpillars)	33 days	3 Jun	25 Nov	25 on 14 Oct



Quarry' *Pseudargyrotoza conwagana* and *Gypsonoma dealbana* were observed, as well as *Incurvaria oehlmanniella* on the Upper East Side Path; all three micros are new to Lundy. A **White Plume Moth** *Pterophorus pentadactyla* observed in the Marisco Tavern on 28<sup>th</sup> July was only the third Lundy record.

**Six-spot Burnet Moths** *Zygaena filipendulae* were only recorded from 26-30<sup>th</sup> July, maximum 35 on 29<sup>th</sup> July; just two single **Five-spot Burnet Moths** *Zygaena trifolii* were seen in Millcombe and at Ackland's Moor in July. There were two very late records of **Mottled Beauty** *Alcis repandata* and **Buff Ermine** *Spilosoma luteum*, as well as the second island record of **Tawny Speckled Pug**, in the MHT on 6<sup>th</sup> September. There were second island records for two moths in mid-October in Millcombe – **Red-green Carpet** and **Red-line Quaker**.

Only seven species of migrant moths were recorded in 2021 (cf. 10 in 2020): **Diamond-back Moth** *Plutella xylostella*, **Rusty-dot Pearl** *Udea ferrugalis*, **Rush Veneer** *Nomophila noctuella*, **Humming-bird Hawk-moth**, **Silver Y** *Autographa gamma*, **Bordered Straw** and **Dark Sword-grass** *Agrotis ipsilon*.

Thanks to the following observers who recorded butterflies and/or moths in 2021: Dean Jones, Ben Arkless, Andrew Cleave, Andrew & Nicola Cornick, Tim Davis & Tim Jones, Mandy Dee, Bart Donato, Stephen O'Donnell, David Price, David Rowe, Alan & Sandra Rowland, and Alice Waterfield. Thanks are due to Dean Woodfin Jones for his tireless efforts to record every moth that moves on Lundy!

### Reference

Carpenter, G. D. H. 1943. New records of insects and woodlice from Lundy Island. *Entomologist's Monthly Magazine* 79, 121-123.

Clockwise from top left: Mullein Moth caterpillar, Privet Hawk-moth, Grass Emerald, Burnished Brass (the first record since 1943), Brown China-mark (photos: Dean Jones) and Knot Grass (photo: Steve O'Donnell).





*The western slopes awash with sea pinks, 29<sup>th</sup> May (photo: Dean Jones).*

## FLOWERING PLANTS AND FERNS

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*Compiled by Andrew Cleave*

In another year of partial restrictions, visitor numbers were a bit patchy early in the season, but a number of interesting botanical records were entered in the LFS Logbook or sent to the Warden.

Records were submitted of all the common and showy species on the island, with the first **Lundy Cabbage** *Coincya wrightii* flowers noted in early May. However, there were also records submitted of what was called Lundy Cabbage spotted flowering in odd places and at the wrong time of year. These turned out to be records of **Perennial Wall-rocket** *Diplotaxis tenuifolia*, presumably a garden escape or perhaps a bird-seed alien. These plants have now been removed to prevent further spread.

An exploration of Montagu Steps produced some good records of coastal species tolerant of exposed conditions, such as **Common Scurvy-grass** *Cochlearia officinalis*, **Thrift** *Armeria maritima* **Buck's-horn Plantain** *Plantago coronopus*, **Rock Sea-spurrey** *Spergularia rupicola* and **English Stonecrop** *Sedum anglicum*. A combination of shallow soils, exposure and grazing produce the conditions in which these species can flourish; they also occur all along the exposed West Side, but are only recorded from accessible sites such as the Battery. Another species of this habitat which is frequently reported is **Sheep's-bit** *Jasione montana* which sometimes grows in a very stunted form, looking unlike the illustrations in most floras. This was also reported from a number of locations, including Benjamin's Chair and the slopes above Pilot's Quay. The South Light compound was also very colourful with excellent displays of **Thyme** *Thymus polytrichus* and several species of clover, including **Knotted**





### Grasses Poaceae

Heath Grass	<i>Danthonia decumbens</i>
Crested Dog's-tail	<i>Cynosurus cristatus</i>
Tufted Hair-grass	<i>Deschampsia cespitosa</i>
Common Bent	<i>Agrostis capillaris</i>
Creeping Bent	<i>A. stolonifera</i>
Brown Bent	<i>A. vinealis</i>
Silver Hair-grass,	<i>Aira caryophylla</i>
Early Hair-grass	<i>A. praecox</i>
Marsh Foxtail	<i>Alopecurus geniculatus</i>
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>
False Oat-grass	<i>Arrhenatherum elatius</i>
Squirrel-tail Fescue	<i>Vulpia bromoides</i>
Common Meadow-grass	<i>Poa pratensis</i>
Annual Meadow-grass	<i>Poa annua</i>
Rough Meadow-grass	<i>Poa trivialis</i>
Timothy Grass	<i>Phleum pratense</i>
Mat Grass	<i>Nardus stricta</i>
Common Cotton-grass	<i>Eriophorum angustifolium</i>
Purple Moor-grass	<i>Molinia caerulea</i>
Perennial Rye-grass	<i>Lolium perenne</i>
Yorkshire Fog	<i>Holcus lanatus</i>
Red Fescue	<i>Festuca rubra</i>
Common Couch	<i>Elytrigia repens</i>
Sea Fern-grass	<i>Catapodium maritimum</i>
Wood Small-reed	<i>Calamagrostis epigejos</i>
Soft Brome	<i>Bromus hordeaceus</i>
	ssp. <i>feronii</i>
False Brome	<i>Brachypodium sylvaticum</i>

### Rushes Juncaceae

Sharp-flowered Rush	<i>Juncus acutiflorus</i>
Jointed Rush	<i>Juncus articulatus</i>
Toad Rush	<i>Juncus bufonius</i>
Compact Rush	<i>Juncus conglomeratus</i>
Soft Rush	<i>Juncus effusus</i>

### Wood-rushes Luzula

Field Wood-rush	<i>Luzula campestris</i>
Heath Wood-rush	<i>Luzula multiflora</i>

### Sedges Cyperaceae

Sand Sedge	<i>Carex arenaria</i>
Green-ribbed Sedge	<i>Carex binervis</i>
Spring Sedge	<i>Carex caryophylla</i>
Common Yellow Sedge	<i>Carex demissa</i>
Star Sedge	<i>Carex echinata</i>
Glaucous Sedge	<i>Carex flacca</i>
Oval Sedge	<i>Carex leporina</i>
Prickly Sedge	<i>Carex muricata</i>
Common Sedge	<i>Carex nigra</i>
Carnation Sedge	<i>Carex panicea</i>
Greater Tussock Sedge	<i>Carex paniculata</i>
Pill Sedge	<i>Carex pilulifera</i>

### Spike-rushes and Club-rushes

Many-stalked Spike-rush	<i>Eleocharis multicaulis</i>
Common Spike-rush	<i>Eleocharis palustris</i>
Floating Club-rush	<i>Eleogiton fluitans</i>
Bristle Club-rush	<i>Isoplepis setacea</i>

*English Stonecrop (top) and Perennial Wall Rocket (photos: Alan Rowland).*



**Clover** *Trifolium striatum* which seems to be becoming scarce elsewhere on the island. Usually overlooked, two species of Mouse-ear were seen in abundance in the grassy areas at the South End and in the South Light compound: **Common Mouse-ear** *Cerastium fontanum* and **Sea Mouse-ear** *C. diffusum* were flowering well in mid-June.

Two new species of flowering plant were recorded for the island in June. A single plant of **Mugwort** *Artemisia vulgaris* was found near the church steps, and it is possible that this species may have previously occurred elsewhere on the island, such as on the grass verge near the covered yard. Also found near the church steps was one plant of **Fig-leaved Goosefoot** *Chenopodium ficifolium*. Sadly, both of these plants disappeared during a tidying-up session around the church late in the summer, but it is hoped that they may reappear close by. A management plan has been drawn up to care for the grassland surrounding the church which it is hoped will enhance the flora of this area.

Thanks to visits by Phil Collier and two Naturetrek groups, we were provided with quite detailed lists this year of grasses, sedges and rushes – see facing page.

*Small Adder's-tongue Fern*  
(photo: Andrew Cleave).



Records of ferns included a colony of **Small Adder's-tongue Fern** *Ophioglossum azoricum* in short turf opposite the path to Tibbett's and other colonies near the Rocket Pole and in the usual sites in Middle Park. The colony of **Rusty-back Fern** *Asplenium ceterach* on the wall between the Blue Bung and St John's numbered 274 plants this year, although the small colony near Stoneycroft did not fare so well, having to compete with Brambles, Fuchsia and nettles. This species enjoys an open aspect and full sun, so any competition will harm it. The first unfurling fronds of **Royal Fern** *Osmunda regalis* were spotted in mid-May, and by June there were some splendid plants in the quarries. Lundy's rarest fern, **Wall Rue** *Asplenium ruta-muraria* is also still present with the newest colony on the wall opposite Barton Cottages increasing slightly. **Hard Fern** *Blechnum spicant* is also scarce on Lundy but two colonies persist, with the one in the quarries seemingly free from grazing pressure. **Hay-scented Buckler Fern** *Dryopteris aemula* did very well in 2021 with the small colonies near Jenny's Cove increasing slightly; the plants on the East Side always do well and are larger in stature, forming extensive colonies.

The problems with the invasive **Alexanders** *Smyrnium olustatum* in Millcombe continued as the plant was found in a few new locations, but the volunteer working parties continue to tackle some of the worst patches by cutting down the flowering stems early in the season. This is a very common species in coastal locations on the mainland and becomes dominant if not controlled. Lundy Cabbage would not compete well with this vigorous species if it were to spread beyond its current location under the trees in Millcombe and in Smelly Gully.

Thanks to the following who contributed records in the LFS Logbook: Zoë Barton, Phil Collier, Dean Jones, Alan & Sandra Rowland, and Michael Williams.



## BRYOPHYTES (MOSSES, LIVERWORTS & HORNWORTS)

Compiled by Sam Bosanquet

Peter Martin visited Lundy in April 2021 and recorded 59 species of bryophyte over four days. The Nationally Scarce *Cephaloziella turneri* was a new species for the island, but even more remarkable was his collection of a *Didymodon* from the wall around Government House. He identified this as *D. tophaceus* subsp. *sicculus* (Martin 2021): an identification subsequently confirmed by European expert Jan Kucera. This was the first British record of this taxon, which is sometimes regarded as a distinct species, although there are 14 previous Lundy records of *D. tophaceus* and some of these may also represent subsp. *sicculus*. He also identified two new species for the island from specimens he collected in 2006: *Didymodon australasiae* and *Tortula atrovirens*. Sam Bosanquet's visit in June was focused on invertebrates, and only 13 bryophytes were recorded. However, these included *Bryum pallescens* new for the island, along with a second colony of *T. atrovirens*. The island's tally of bryophytes now stands at 226 taxa (2 hornworts, 64 liverworts and 160 mosses).

The list below covers the notable bryophytes recorded in 2021. The \* symbol indicates new taxa for Lundy.

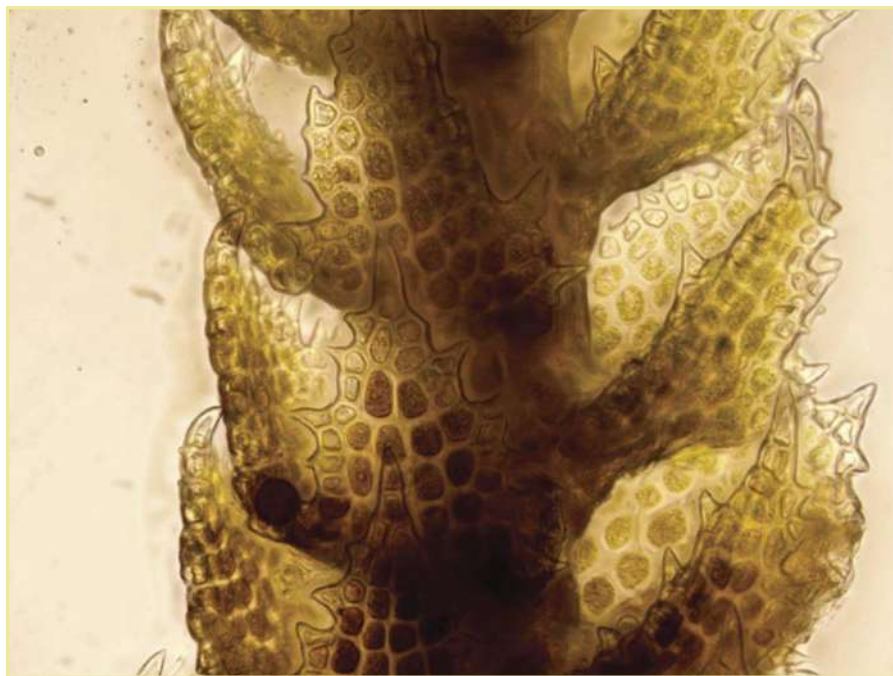
### Liverworts

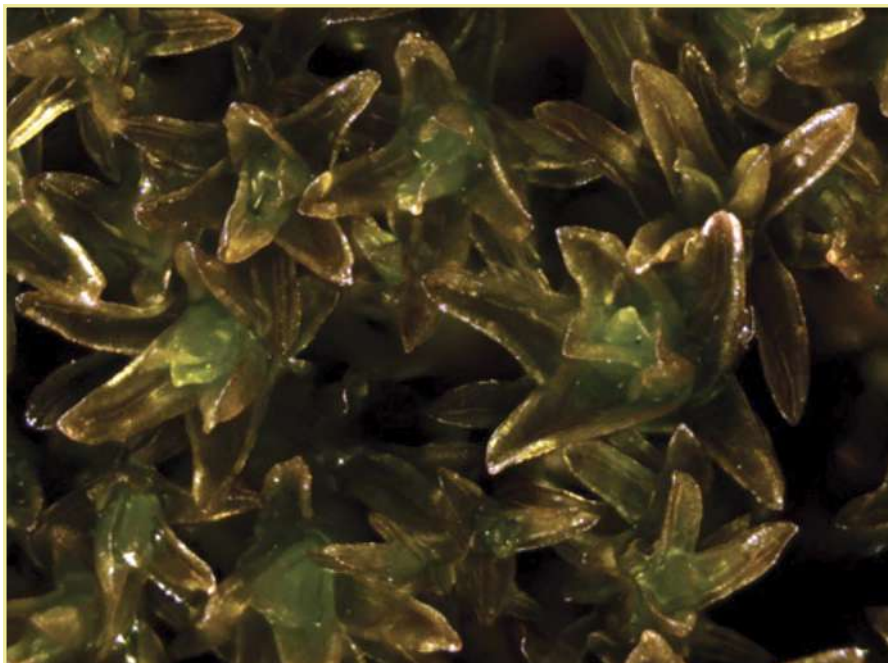
\**Cephaloziella turneri*: collected from a sheltered rockface above Quarry Pond by Peter Martin. Most of the <15 British sites are on south-facing coasts in Cornwall and Pembrokeshire, although there is a population near Bude.

*Nardia scalaris*: noted on the bank of Punchbowl Stream: the 7<sup>th</sup> site for this liverwort on Lundy.

*Plagiochila punctata*: seen in Earthquake, its only Lundy site, in 2006 – predating its addition to the island list in 2020 – as well as in 2021.

*Cephaloziella turneri* (photo: Peter Martin).





*Didymodon tophaceus* ssp. *sicculus* (photo: Peter Martin).

## Mosses

*Barbula convoluta* var. *commutata*: noted in St John's Valley and by the Church, representing the 5<sup>th</sup> and 6<sup>th</sup> Lundy records.

\**Bryum pallescens*: material with old sporophytes was collected by Sam Bosanquet from damp ground at South Light and identified microscopically. This is a widely scattered moss that is often associated with metal-rich ground.

*Dicranum scottianum*: the Earthquake colony, close to the *Plagiochila punctata*, was noted again.

\**Didymodon australasiae*: collected from a crevice in the wall of Old Light by Peter Martin in 2006, but not found during subsequent recording. This non-native moss is widespread in south-western Britain.

\**Didymodon tophaceus* subsp. *sicculus*: discovered new to Britain by Peter Martin on mortar gaps in the wall around Government House. Four previous Lundy records of *D. tophaceus* are from wall mortar, and these may also be subsp. *sicculus*, but five colonies on saline-influenced soil are more likely to be the widespread subsp. *tophaceus*.

*Didymodon vinealis*: seen at Government House and the Quarries: the 3<sup>rd</sup> and 4<sup>th</sup> island records.

*Entosthodon obtusus*: the sole known Lundy colony, found by Punchbowl Stream in 2017, was seen again in 2021.

*Pseudocrossidium revolutum*: colonies at the Old Hospital and the wall around Government House are the 3<sup>rd</sup> and 4<sup>th</sup> Lundy records.

\**Tortula atrovirens*: collected from near the Castle by Peter Martin in 2006 and found with sporophytes on a south-facing slope near South Light by Sam Bosanquet in 2021. Although Nationally Scarce, this species is locally frequent on the coast of Devon, Cornwall and Pembrokeshire.

## Reference

**Martin, P. 2021.** *Didymodon tophaceus* subsp. *sicculus* on Lundy, new to Britain. *Field Bryology* 126: 27-29.

## LICHENS

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Compiled by Sam Bosanquet

The only known colony of *Roccella fuciformis*, on the north side of the Mousehole & Trap tor was noted during a letterboxing visit by Sam Bosanquet. **Golden Hair Lichen** *Teloschistes flavicans* was seen by the Battery and elsewhere on the West Side. Records of distinctive rarities, such as these, and of commoner lichens, would be very welcome.



*Roccella fuciformis*, Mousehole & Trap  
(photo: Sam Bosanquet).

## FUNGI AND SLIME MOULDS

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Compiled by Mandy Dee and John Hedger

In spite of the problems of lockdown, 2021 actually proved to be a bumper year for fungi on Lundy, with 626 records made of 290 species of which 102 appear to be new to Lundy, so the current species total for fungi and slime moulds is 755. The 2021 list can be found on the Lundy Field Society website. The numbers were partly a reflection of the abundance of the larger fungi during our November survey, probably related to a decent dry summer followed by stimulating autumn rains and falling temperatures. However, the total is also there because we were able to beat lockdown by working remotely, like many others in the country in 2021! How it was done is explained later.

### Field collections

Records from the Island for the first half of 2021 were non-existent, as the ongoing effects of Covid meant many cancelled visits. On 25<sup>th</sup> August Alan Rowland recorded the annual fruiting of the large red and yellow mushroom *Tricholomopsis rutilans* (aptly named “**Plums and Custard**”) on the timber edging of the ‘Steps of Doom’ from Millcombe down to the East Side path. The first record of the impressive **Parasols** of *Macrolepiota procera* was on 3<sup>rd</sup> September by V & E Crane. A dry spell in late summer meant a late start to the grassland fungus season, with no waxcaps present on Mandy Dee’s early autumn survey in mid-September. There were plenty of **Pinkgills** around, and one new species, *Entoloma poliopus* var. *poliopus* which was recorded in long grass near Pondsbury. Poking around in the damp understorey of the wooded copses yielded three more new species for the island: **Beechmast Candlesnuff** *Xylaria carpophila*, **Roundspored Oysterling** *Crepidotus cesatii*, and **Bulbous Bonnet** *Mycena stylobates*. Chris Dee recorded **Coral Spot** *Nectria cinnabarina* on dead wood in St John’s Valley on 14<sup>th</sup> September, and Louise Bartlett found **Heath Navel** *Lichenomphalia umbellifera* on peaty soil on the Terraces on 16<sup>th</sup> September.

On an October visit, Alan Rowland spotted tiny black dots on a dead gorse branch, which John Hedger identified as a new record, *Menispora ciliata*. Much easier to identify was the second ever fruiting on Lundy of the **Giant Puffball** *Calvatia gigantea* (not seen on Lundy since 1970) growing in the nitrogen-rich ex-pig paddock next to the beer garden and identified by island staff. Alan also recorded the **Mealy Pinkgill** *Entoloma prunuloides* at the North End, and the **Coral Brittlegill** *Russula velenovskyi* growing

with Creeping Willow north of Quarter Wall. On 29<sup>th</sup> October, V & E Crane found one of the colourful **Parrot Waxcaps** *Gliophorus psittacinus* on the Terrace, and spotted the annual fruiting of the elegant translucent **Porcelain Fungus** *Mucidula mucida* (pictured on the back cover) which forms impressive clusters on the trunk of a tree in Millcombe every year.

By the start of John Hedger and Mandy Dee's usual early November recording visit, the rains had come and the island was covered with the bright colours of waxcaps and other grassland species, which were enjoyed by an enthusiastic foray group of LFS members and visitors (pictured below). An incredible 27 species of waxcap were recorded, including a possible first record for **Nitrous Waxcap** *Hygrocybe nitrata* near Pondsburry (awaiting DNA confirmation) and the second record for **Pink Waxcap**. An unusual orange waxcap was found which defied identification and is awaiting DNA sequencing by the Aberystwyth University mycologists. Five species of **Earthtongue** included a first record of *Geoglossum staerbeckii*, found near the Old Hospital. Along with the species seen in September, a total of 22 species of pinkgill included three new records: **Mousepee Pinkgill** *Entoloma incanum*, found on the Airfield; *Entoloma langei*, growing in the centre of South West Field; and *Entoloma mougeotii* in Punchbowl Valley. As well as the common **Yellow** and **Apricot Clubs**, there was a first record for **Straw Club** *Clavaria flavipes*, by Rocket Pole. Finally, a beautiful **Ivory Coral** *Ramariopsis kunzei* (pictured on p.134) was found growing near the Old Hospital.

The most exciting record of the entire year was the discovery of a group of medium-sized fruit bodies of a cream-coloured gill fungus with pointed caps growing on the Airfield. Superficially similar to waxcaps, they were markedly different in several ways and caused much head scratching. A sample was taken back and microscopy confirmed that they were not waxcaps but in fact an extremely rare upland grass species called *Porpoloma pes-caprae* (pictured on p.134). This will hopefully be confirmed later by DNA analysis by the University of Aberystwyth. Not only a first for Lundy, this species has not even been recorded in England, with just a few records from Wales and Scotland, and is therefore (in birding terms) a 'Mega'!

In total in 2021, 63 species of grassland fungi were recorded which count towards the island's high **CHEGD** score, a measure of assessing the conservation quality of unimproved grasslands. It is derived from species numbers of **Clavariaceae** (Club Fungi), **Hygrocybe** and related genera (Waxcaps), **Entolomaceae** (Pink Gills), **Geoglossaceae** (Earthtongues and *Dermoloma* species (Crazed Caps)).

Away from the grasslands there were plenty of other new records. Growing with the Creeping Willow in Punchbowl Valley were **Silky Webcap** *Cortinarius evermius* and a new species of the **Poisonpie** genus *Hebeloma*, *H. nigellum*. An unusual place to find new records was on top of an old silage bale

*Participants on the Fungus Foray held on 21<sup>st</sup> November grouped on the Airfield  
(thanks to an unknown photographer).*







*A solitary Earthtongue (*Geoglossum staerbeckii*) in short turf near the Old Hospital in November (photo: Mandy Dee).*

in the farmyard, where our lovely stonemasons Charlie Smith and Rachel Thompson found not one, but two! – **Grey Inkcap** *Coprinopsis cinerea* and **Blueleg Brownie** *Psilocybe cyanescens*.

Another interesting Lundy habitat is the Maritime Heath at the North End. A large colony of the rare **Grey Waxcap** *Cuphophyllus lacmus* is found there, centred around John O'Groats House, and this year's annual survey in the second week in November by Alan & Sandra Rowland and John Hedger counted 981 individual fruit bodies. The survey also turned up the first record of **Rooting Bonnet** *Mycena megalospora*, a fungus of wet peat which has a northern distribution in the UK.

There were even new records on dead wood. **Bleeding Conifer Crust** *Stereum sanguinolentum* was growing on rhododendron logs near the Quarries. *Nectria purtonii* and *Grandinia stenospora* were both found on dead gorse near the Quarry Cottages.

On a more unusual substrate, Sandra Rowland found a second record of the insect pathogen *Beauveria bassiana* on a dead Gorse Shield Bug in Millcombe. Even stranger were first records of fungi on fungi, for example the minute black dots of *Hansfordia pulvinata* (pictured on p.134) covering old fruit bodies of the **Field Puffball** *Lycoperdon pratense* near Quarter Wall gate on the West Side path.



*Blueleg Brownie (Psilocybe cyanescens) fruiting on an old silage bale near the Dairy in November (photo: Mandy Dee).*

John Hedger continued his recording into the second week of November, concentrating on fungi on dead leaves and stems of herbaceous plants and grasses. Most of the 17 new records were fruit bodies of minute cup and flask fungi needing a hand lens and microscope to spot them, the exception being the small hair-like **Redleg Club** *Typhula erythropus* found growing out of the stem bases of dead Cocksfoot grass in the field below the Tavern.

### Remote working

For this we used the postal service, but we obviously needed willing helpers on Lundy to collect samples and dispatch them to us: step in Rosie Ellis and Alan & Sandra Rowland. Seven new to Lundy microfungi were found on samples of wood and of Lundy Cabbage, collected under license by Alan and Sandra, sent by post to John Hedger, and kept in petri dishes lined with damp paper to promote fruiting. They also collected and sent samples of Rabbit bones, which on incubation produced six new records of 'bone-loving' fungi and one record of a **Slime Mould** (Myxomycete) *Didymium squamulosum*. The same technique was also used in early 2021 to record the microfungi on dung of Soay, domestic sheep, goat and deer, although this time the service was provided by Rosie Ellis, who kindly collected and posted the samples. The idea was the subject of a short article on 'Beating lockdown by using

Puffin Post' in the LFS Bulletin, with an account also posted on the LFS website (<http://www.lundy.org.uk/dung-fungi-on-lundy-during-lockdown>). The exercise was well worthwhile: 38 species of fungi were found, of which 26 were new records. Rosie also sent one sample of feathers (possibly from a corvid) which yielded Lundy's first record of a keratinophilic (hair and feather-loving) fungus!

### Foam samples from streams

More new records were also made in the year from an unexpected source, Lundy's streams. Many of the freshwater fungi which commonly grow on leaves and twigs in freshwater throughout the UK form very characteristic spores which can be branched, often with four branches (tetra- or eel-shaped (anguilliform)). Fortunately, the spores get trapped in foam clots on the water surface so samples give a good idea of the species of fungi present in the stream by using a microscope and an excellent key produced for the Freshwater Biological Association in the 1970s by the late Professor C.T. Ingold. We took advantage of some good flow in the streams along the West Side and East Side in November to find foam clots and preserve samples in 50% alcohol for microscopy, both on the island and on return to the mainland. The photograph (bottom left) shows an example of spores from foam in the Quarter Wall Copse stream. Fifteen species were found in this preliminary survey, of which eleven were new records for Lundy. The aim is to extend the search to more streams on the island in 2022, in cooperation with our freshwater experts Alan Rowland and Jenny George.

*Grateful thanks to those visitors and LFS members who entered records in the LFS Logbook and to the islanders who spotted fungi on their daily rounds. Please keep it up in 2022!*

*Clockwise from top left: *Hansfordia pulvinata* on an old fruit body of a Field Puffball; *Porpoloma pes-caprae* found on the Airfield; *Ramariopsis kunzei* in grass by the Old Hospital; photomicrograph (x400 magnification) of spores of aquatic fungi (and one Alder pollen grain) in foam from the stream at Quarter Wall Copse (photos: Mandy Dee and John Hedger).*

