



EUROBODALLA NATURAL HISTORY SOCIETY

Inc.

PO Box 888
MORUYA NSW 2537

www.enhs.org.au



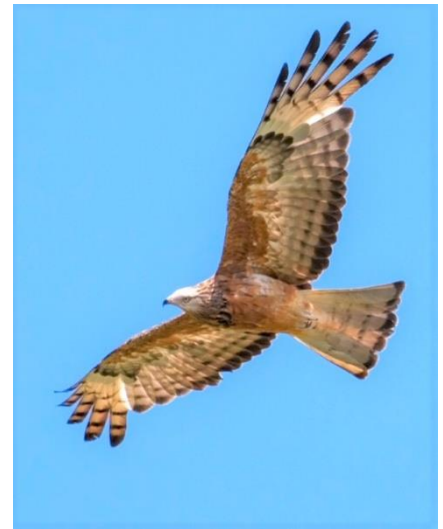
NEWSLETTER NUMBER 192

April 2022

Square-tailed Kite - *Lophoictinia isura* – (Gould 1838)

Endemic to mainland Australia, the Square-tailed Kite is found throughout Queensland and northern NSW, in most of the Northern Territory and in coastal areas of Western Australia. It is generally described as a summer breeding migrant to southeastern NSW and Victoria, however ENHS records over the past 20 years include sightings in every month.

By far the majority of sightings in the Eurobodalla have been of single birds from August to March, with the peak between December and January. Pairs have been reported in 10 of the 20 years and there has been one report of three birds together at Catalina in December 2010. There has been one report of breeding, with a chick in a nest in Mogo State Forest in October/November 2003, and two reports of nest building, at Bodalla State Forest in 2003 and Pedro Swamp in 2006. There have also been a few reports of juveniles.



Square-tailed Kite
Photo S Benjamin

The Square-tailed Kite is a medium-sized raptor, with a maximum wingspan of 130 cm and a maximum length of 145 cm, the female being larger than the male. It is most often seen gliding – usually singly – on very long, upswept wings, usually low over the tree canopy. When the bird is overhead in good light, you can see that the wing lining (or ‘leading edge’) and underparts of the body are rufous streaked with grey, darker than the tail and trailing edge of the wing. There is a pale cream/white area at the base of the primaries or ‘fingers’ and the rest of the wings and the primaries themselves are barred with dark grey. The head is white in adults, rufous in juveniles. The tail, as you might expect, has a square tip; it is grey and barred, with an obvious, dark ‘subterminal’ band (that is, a band almost at the end). When colour is hard to see – in poor light or when the bird is far off – the main features to look for are the square tail and the very long, upswept wings with long, splayed primaries.



Square-tailed Kite
Photo R Soroka

If you are lucky enough to see a perching bird, you will see the rufous crown and neck, dark grey/brown upper parts with a paler grey band across the wing and a grey, barred tail. The wingtips extend past the tail, the legs are short and mostly hidden by the russet ‘trousers’ and the feet are small.

Similar species include Red Goshawk, Black Kite and Black-breasted Buzzard, none of which occur in the Eurobodalla, and two ‘locals’, Whistling Kite and Little Eagle, both of which are of similar size to the Square-tailed Kite. The Whistling Kite has a long pale tail, rounded at the tip; it lacks the long, splayed primaries; it glides on bowed wings; it is more sandy than rufous; it has a distinctive pale underwing pattern that looks like the letter ‘M’ stretching from wing tip to wing tip.

The Little Eagle is a 'chunkier' looking bird; the tail does have a square tip, but it is shorter than that of the Square-tailed Kite; the primaries are shorter and less splayed; the bird glides on flattish wings with just the primaries upswept. The dark morph Little Eagle is much darker than a Square-tailed Kite and, while the light morph Little Eagle has rufous wing linings like the Square-tailed Kite, the trailing edge is darker in the Little Eagle.

The call of the Square-tailed Kite, heard rarely, is a harsh yelp. Vocalisations at the nest have been variously described as 'squealing' and 'chittering'.

In more arid parts of northwestern NSW, these raptors have been seen in areas with much lower growth, such as low eucalypt woodland, acacia scrub and even stony country with low ground cover. Here in the south of their range, they are found mainly in open eucalypt forests and woodlands, particularly where the canopy is broken, and along the edges of dense forest. They are often seen along watercourses bordered by trees.

Square-tailed Kite feed on small birds, especially honeyeaters, nestlings and eggs, but also on small mammals, reptiles and insects. They take most of their prey from the canopy edges, and cover large areas when hunting, more than 100 square km according to some sources.



Square-tailed Kite and Magpie
Photo P Gatenby

The breeding season depends on location: birds in tropical areas breed around April and those in temperate areas breed between July and February. Courtship flights involve the male chasing the female, both birds performing aerobatics including aerial rolls. Nests, built by both birds, are either bowl-shaped or large, loose structures of sticks, in tree forks or on large horizontal branches in tall, leafy trees, usually near watercourses, most commonly in eucalypts, surrounded by or close to large areas of woodland or forest. They make one attempt to breed each season. One to three eggs are laid. (These are described variously as dull white splotched with brown and lavender, and plain white.) The female does most of the incubating, which takes about 40 days. The young remain in the nest for around 60 days and then, once fledged, are dependent on their parents for another 60 days.

The bird's conservation status varies from state to state. It is listed overall as of least concern, because of its wide range and stable population. But it is listed as vulnerable in NSW, threatened in Victoria, endangered in South Australia and rare in Queensland. It is possible that it is under-reported, partly due to misidentification.

PS. Many thanks to all our wonderful photographers who submitted photos to accompany this article. I am only sorry that we could not include them all. Gillian Macnamara

A warm welcome to new members....

Keith Joliffe, Holt, ACT
Paul Keogh, Malua Bay
Helen Lilley and Doug Laing, Waramanga, ACT

Would you like to get more involved with ENHS?

Our AGM is coming up in May and we are looking for new volunteers to join the Committee and for someone to take on the role of Secretary. The Committee usually meets twice a year to organise the field meeting program and plan for the Annual General Meeting. The main roles of the Secretary are organising our AGM and Committee meetings and answering any enquiries that may come through our website. If you would like to help, please let us know; there will be plenty of support. If you'd like more information, please call Julie Morgan on 0457 637 227.

A reminder that 2022 membership fees are now overdue

If your membership hasn't been renewed for the current year, a renewal form has been included with this newsletter as a reminder. Single membership \$20, family \$30 and for under 18s \$5. There are some copies of the 35th edition of *Nature in Eurobodalla* still available - \$13 if collected at a field meeting or \$16 if posted.

What's coming up.....

Saturday 9 April, 2pm: Kianga Lake. (1-2km Grade 1) Meet at the old Narooma Visitors' Centre on the Princes Highway. Coastal forest and lake walk. White-bellied Sea-Eagle, many waterfowl including Black Swan, cormorants, ducks, grebes and coots, Yellow Thornbill and honeyeaters in the forest.

Sunday 24 April, 9am: Deua National Park. (2-3km Grade 2) Meet at the car park outside the Eurobodalla Shire Council and Library, off Vulcan Street, Moruya. The national park is home to Large-billed Scrubwren, Superb Lyrebird, Pilotbird, White-cheeked and Crescent Honeyeater, Red-browed Treecreeper, Common Wombat and Dingo.

Saturday 14 May, 2pm: Mynora, Moruya. (1-2km Grade 1) Meet at the car park outside the Eurobodalla Shire Council and Library, off Vulcan Street, Moruya. A walk through farmland on the Moruya River flats which has a large area of saltmarsh. Yellow-rumped Thornbill, Nankeen Kestrel, Black-shouldered Kite, White-necked Heron, Intermediate Egret, Tree Martin, Straw-necked Ibis.

Sunday 29 May, 11am: Annual General Meeting. Eurobodalla Botanic Gardens, Princes Highway Batemans Bay. The meeting will be in the Spotted Gum Pavilion, which overlooks the grassy area in front of the visitor centre, at 11am. This will be followed by lunch (there are BBQ facilities) and then a walk through the gardens. Sacred Kingfisher, White-throated Treecreeper, Spotted Pardalote, Golden Whistler, Eastern Shrike-tit, Rose Robin.

A nomination form is enclosed with this newsletter

Saturday 11 June, 2pm: Burrewarra Point. (2-3km Grade 1-2) Meet at the car park at the end of Burri Point Road, Guerilla Bay. Coastal and headland walk. Eastern Whipbird, Little and Red Wattlebird, honeyeaters, Australasian Gannet, albatross and whales.

Sunday 26 June, 9am: Wasp Head. (1-2km Grade 2) Meet at the entrance to Murramarang Resort, Banyandah St, South Durras. Wasp Head provides a great vantage point for a number of sea bird species, including albatross, White-fronted Tern, Southern Giant-Petrel.

Saturday 10 July, 2pm: Moruya Riverside. (2-3km Grade 2) Meet at the Moruya Swimming Pool car park, off Shore Street (east) Moruya. Walk through Riverside Park east towards the Moruya River. Yellow Thornbill, Whistling Kite, Striated Heron, cormorants and Australasian Darter.

Field meeting – Wallaga Lake and Long Swamp – 27 February 2022

The weather forecast for the day was grim, and clearly a lot of people put faith in the forecast as only seven turned up for the meeting, with members visiting from Canberra outnumbering the locals. However, we didn't get rained on and it turned out to be a pleasant sunny morning, though rather humid.

The tide was dropping as we assembled, with the sandbanks in the lake starting to emerge. These were providing feeding areas for several Pied Oystercatcher, a small flock of Bar-tailed Godwit and a couple of dozen Red-capped Plover (identified through Paul Gatenby's scope), as well roosting sites for Silver Gull and Great Crested Tern and a few cormorants. Surprisingly, no swans or pelicans in sight.

Along the track leading to the lake entrance and Murunna Point were a number of bush birds, including Little Wattlebird, Superb Fairy-wren, Eastern Yellow Robin, Red-browed Finch, Golden Whistler and New Holland Honeyeater. At the entrance to the lake, a group of 6 Far Eastern Curlew were seen roosting on the northern shoreline, but no sign of the Hooded Plover we saw on our last visit.

From Murunna Point, there was little to see – just a small number of Silver Gull and a few shearwaters way out to sea. The return walk to the car park however surprised with the sighting of a White-plumed Honeyeater and a White-headed Pigeon feeding and posing for photos.

Long Swamp was, unsurprisingly, full to the brim with water but there were few birds around. Three Musk Duck and a similar number of Hoary-headed Grebe were the highlight. A couple of Black Swan and some Little Pied Cormorant were also seen and we finished the morning with a list of 35 species. David Kay

Field meeting – Meringo– 12 March 2022

Autumn is my favourite time of year, with the crisp clear days and the Goldilocks temperatures – not too hot, but just right for a birdwatching excursion.

Eighteen members and visitors obviously felt the same way for our visit to Meringo. It is a few years since we have had a field meeting here, and quite a while since weather and Covid allowed a gathering without uncertainty.

We assembled at the car park where Dave gave an outline of the proposed route – we would head north through the forest and proceed as far as the lagoon. Then if sufficient enthusiasm remained, we would take the southern track along the headland.

The state of the track was adversely affected by the recent “unprecedented” rains. The word “Unprecedented” has had plenty of use in recent years, and justifiably so. We picked our way carefully through the tyre tracks and entered a beautiful forest dominated by stately Bangalays - Swamp Mahogany trees, *Eucalyptus botryoides* - many of which had wonderful nesting hollows, which I hope were being used by birds and arboreal animals.

We have long acknowledged that birds can't be relied upon to cooperate just because we are in their territory armed with our binoculars. Such was the case at Meringo. Many birds on our list were identified by their call, not by a sighting. This is often the case of course. It came as a surprise to me that our list totalled 30 species at the end of the day. This included a number sighted in the paddocks and dams as we were departing.

For me the highlight of the day was a low fly-past by a mature, White-bellied Sea-Eagle, as it cruised along the headland. Many thanks to Dave for leading the excursion. Mandy Anderson

Bonnets and Tongues

Cryptostylis is a genus of ground orchid found in dry sclerophyll forest or heath in slightly sheltered positions on free-draining soils, mostly in coastal areas. The name is derived from the Greek ‘cryptos’ meaning hidden or concealed and ‘stylon’ meaning column or style. The column is the male and female parts of the flower fused together.

The flowers are on stems 20-40cm tall, but the most conspicuous part of these orchids is the large labellum. The flower is made up of small, narrow petals and sepals, except for the middle petal that is enlarged and is known as the labellum or lip. It is this feature resembling a bonnet or tongue that gives rise to their common names. Another interesting fact is that the flowers are upside down, that is, the labellum is at the top of the flower rather than forming a lower lip as in most other orchids. The prominent labellum aids in the pollination of the flower, as it fools the male ichneumon wasp (*Lissopimpla* sp.) into thinking it is mating with a female wasp.

This summer, in addition to the usual two species found in the Eurobodalla, two less common species were seen by ENHS members Amanda Marsh and Julie Morgan. Of the four species described here, three have leaves, which may assist in finding the plants when they are not flowering. Each plant has one to three leaves, which are erect, slightly leathery, green on the top side and green or purplish on the underside. *C. hunteriana* is leafless.



Cryptostylis erecta
Photo S Pearson

Cryptostylis erecta (Bonnet Orchid/Tartan Tongue Orchid): Lance-like leaves 8-15cm tall, green above, purplish below. The labellum is pale green with reddish veins in the shape of a hood or bonnet. Flowering occurs September to April. This is a relatively common orchid in its preferred location.

Cryptostylis subulata (Large Tongue Orchid): Lance-like leaves 8-15cm tall, green above and below. The labellum is yellowish-green becoming red towards the tip. This tip has its edges folded. Flowering is from October to March. This is a relatively common orchid in its preferred location.



Cryptostylis subulate
Photo S Pearson



Cryptostylis leptochila
Photo J Morgan

Cryptostylis leptochila (Small Tongue Orchid): Oval to lance-like leaves to 10cm tall, green above, purplish below. The labellum is about 20mm long, covered with dense, short, soft hairs; the edges are rolled backwards with the tip reflexed; the centre part has a row of short, raised black projections. Flowering occurs November to March. This is a less common species.



Cryptostylis hunteriana
Photo A Marsh

Cryptostylis hunteriana (Leafless Tongue Orchid): The labellum is about 30mm long, covered in short, dark red glandular hairs and dark red vertical marks: the edges are rolled upwards. Flowering is from December to February. This is a threatened species and is classed as vulnerable. Well done Amanda for spotting this one. Sharon Pearson

Gang-gang project in the Eurobodalla

In response to the email about this project that Julie Morgan sent to members in February, Bob Sneddon, one of our long-time members and a great admirer of the Gang-gang, sent us a poem which he thought might be of interest to our readers. The poem was written by a good friend of Bob's, the late James (Jim) Henry Sturgiss, and was published in his memoir "*The Man from the Misty Mountains*".

Jim spent all but five of his 93 years associated with Sassafras Mountain which is close to Fosters Hill Swamp. He had a great love of the area which he captured in his poems and prose, much of which is published in his memoir. One poem, "*The Red Headed Gang Gang of Fosters Hill Swamp*", conveys his appreciation of the Gang-Gang and his affinity with the land, but also says much about the man himself. It is reproduced below with the kind permission of his family, who are very pleased to have his poem shared with us. We hope you enjoy it.

The Red-Headed Gang-Gang of Fosters Hill Swamp

The bold red-headed gang-gang that lives in a tree
sat and scratched his red top knot and said this to me,
"I just crack up the gum-nuts wherever I go,
and I cling to the branches when the westerlies blow.
There are gumnuts in plenty, a-waiting and free
for a smart bird that cracks them as easy as me.

When the southerly blows up the mist and the fog
and the nights are that cold that they'd perish a frog,
When the mopoke gets chilblains and kicks in his bed
and the wombat goes down with a cold in the head,
Then I cuddle up snug in my mountain ash tree
so the red-headed gang-gang said smiling at me.

When the spring-blossoms bloom at the gum-bushes feet
and the swamps are as green as a paddock of wheat,
When the emu-wren flits where the Xmas bells nod
then I perch mid the gum-nuts as full as a pod.
And I chuckle with glee whilst the wallabies romp
said the red-headed gang-gang of Fosters Hill Swamp.

From a tree by the side of the Gilberts Gap Track
I keep watch o'er the country away to the back.
Three slouch hatted horsemen beneath me I spy
and I watch those bold riders go galloping by
and the yells they let out are the wildest I've heard
they're a bright bunch of boys said the red-headed bird.

In the winter or summer, in sunshine or snow
When the spring breezes murmur or westerlies blow,
When the fog billows up in a southerly change
or when bush fire smoke smothers the scrub and the range
I sit here secure in my mountain ash tree
and the world and its worries means nothing to me.”

J.H. Sturgiss

Wolf Spiders

While he was digging in the garden a few weeks ago, Dave found a very unusual spider and called me outside to take a look. I immediately grabbed my phone and took a photo of a large and hairy spider, with grey markings and a lumpy back.

Julie Morgan was able to identify it as a female wolf spider and the lumps on its back were actually hundreds of spiderlings. I had never come across this species before, so decided to research these unusual creatures.

Wolf spiders are members of the family Lycosidea, from the ancient Greek *lukos* or wolf. They get their name from their hunting preference of stalking down their prey, much like a wolf does. They are solitary creatures that hunt at night. Because they depend on camouflage, their body colours are typically drab with most having variegated patterns in brown and grey. The sides of their jaws may have a small, raised orange spot or “boss”.



Female Wolf Spider
Photo H Kay

Wolf spiders are found all over the world, but there are several species found only in Australia. They are robust and agile hunters and feed on crickets, flies, other spiders and even cane toads. In Queensland, two wolf spider species have been observed taking down fully grown toads. According to spider expert Dr Robert Raven from the Queensland Museum, there are three families of spider – wolf spiders, Australian tarantulas and racing stripe spiders – which may be helping to keep northern Queensland cane toad numbers in check. “That spiders eat cane toads is not uncommon or unknown,” says Dr Raven. “The interesting thing is the size of the toads they are able to take. In one instance, the toad was bigger than the opening of the spider’s burrow.”

Unlike many spiders that rely on their webs and the vibrations given off by animals to catch their prey, wolf spiders rely almost entirely on their eyesight. Wolf spiders have eight eyes, with four smaller eyes in a row in front and the four largest arranged in a square on top of the high, convex head. This gives them the sharpest eyesight of all spiders.



Wolf Spider burrow
Photo H Kay

Mating occurs at night, just outside the female's burrow. Prior to mating, the males perform a complex courtship ritual, by rhythmically waving their long mouthparts or drumming them on leaves. Once mated, the female spins a round egg sac and carries it around with her.

Female wolf spiders have two unusual features. The first is the way they carry their eggs. The egg sac, a round, silken globe, is attached to the spinnerets at the end of the abdomen, allowing the spider to carry her unhatched young with her. The abdomen is held in a raised position to keep the egg case from dragging on the ground. Despite this, they are still able to hunt for food.

Another unusual feature is their method of care of young. Immediately after the spiderlings emerge from their protective silken case, they clamber up their mother's legs and crowd onto the dorsal side of her abdomen. The mother carries the spiderlings for several weeks before they are large enough to disperse and fend for themselves. No other spiders are currently known to carry their young on their backs for any period of time. This means we were lucky to see the female carrying her spiderlings (pictured).

So next time you are digging in your garden, keep a look out for the fascinating wolf spider. Helen Kay

Leeches

One of the less enjoyable aspects of recent very wet weather has been the increase in leech numbers. Between two humans and one canine in our household, we have picked up about twenty of the little suckers in our garden in a few days. I thought I might feel differently about them if I researched a little, so here are a few facts that might be of interest.

Leeches are annelids or segmented worms (Phylum *Annelida* Class *Clitellata* Subclass *Hirudinea*) closely related to earthworms. They are usually ectoparasitic, which means that they feed externally on their hosts, most sucking blood. (Some leech species eat tiny prey whole.) Most species have their own preferred hosts, from mammals to fish, turtles, frogs and birds.

There are around 500 species of leech worldwide. Most live in fresh water but there are also marine and land species. Over 90 species have been reported in and around Australia, about 20 of these in NSW. There are marine and estuarine species in Australian waters that feed on marine life, but most Australian leeches live on land. Species identification usually requires dissection.



Leech
Photo G Macnamara

Leeches have muscular bodies that taper towards the head. Shape varies between species, and individuals can also change shape, contracting and lengthening, expanding after feeding and shrinking when hungry or dry. Marine species have one large oral sucker, whereas other species have a sucker at each end. Most leeches worldwide have three jaws, but Australian land leeches have only two. Most leeches breathe through the body wall.

Australian leeches occur in damp areas and watercourses but not in permanently arid areas. Some species of leech are amphibious, but most land leeches cannot swim, although they can survive brief periods under water. Land leeches are most often found in wet forest, either on the ground or in low foliage, but they also occur in drier forest in moist, shady places. (References do not mention my back garden.) Some species survive months without water by burrowing into the soil. They dry out, but recover once in contact with water.

Land leeches use their suckers and their strong muscles to move, first anchoring their posterior end, then extending the body forward and attaching the anterior end before releasing the posterior end, drawing it forward and reattaching. I find that they can perform this manoeuvre surprisingly quickly.

Leeches have many sensory organs, including chemical receptors on their heads that detect smell, and receptors on their heads and bodies that are sensitive to changes in light, temperature and vibration. Some also have eyes. When a leech detects disturbance, it moves towards the source until the anterior sucker touches the host. Once it attaches, in order to feed, it secretes a substance that prevents the blood from clotting; in the most common land leeches, this anti-clotting substance is hirudin. A leech can take in several times its own weight in blood at one time, swelling dramatically. Digestion is slow, which means that the leech can survive for months between feeds.

Leech bites may bleed for a while after the leech has detached. They are often itchy and may become infected due to the presence of bacteria in the leech's gut, but there is no evidence that leeches transmit disease to humans, although allergy to bites has been reported.

Leeches are eaten by some fish and birds and by other invertebrates.

Like earthworms, leeches are hermaphroditic, that is, each leech has both male and female sex organs. They belong to the class Clitellata because, like earthworms, their gonads are near their heads, in a swelling known as a clitellum. When mating, two leeches twine their bodies together and deposit sperm into each other's clitellar area. The sperm travel to the ovaries where fertilisation occurs, then they are placed in a jelly-like cocoon which the leech seals and ejects, either burying it or attaching it to vegetation. The young emerge weeks later. Leeches die after one or two bouts of reproduction.

For millennia, leeches have been used medicinally, though mostly without benefit. By the mid-nineteenth century, so many had been collected in Europe that they were in short supply. Today they are used to encourage blood flow after microsurgery, and research continues into the use of hirudin as an anticoagulant. And I still don't like them. Gillian Macnamara

Leaf miners

Have you ever wondered what makes the track-like marks on the leaves of native trees and shrubs? I recently received an email from a PhD student, Ying Luo, on this question. Apparently, there are a number of insects that make these marks and Ying is looking for leaves with particular types of marks.

The marks, called 'leaf mines', are made by the larvae of a number of insects including moths, sawflies, beetles and flies. The larvae that create these marks are called 'leaf miners'. Leaf mines can look quite different to each other depending on the insect group and species. The female insect lays her eggs on the surface of the leaf and when they hatch, the larvae burrow (or mine) into the leaf and feed below the surface. When they are ready, they will pupate by spinning a cocoon and eventually emerge as an adult insect. When you look at a leaf mine what you are seeing is the evidence of the path the insect larva has taken and the darker areas are the excretions (frass) left by the larva. If you look very closely, you may also see the larva itself but they may be difficult to see as they can be half the size of a grain of rice.

Ying is studying a particular group of leaf miners, the moth group *Gracillariidae*. The adults are referred to as micro-moths as they are smaller than a grain of rice. She has put a call out for people to send her leaves that have a particular pattern of mine on them (see the poster below for what to look out for). The mines should be visible through autumn and again in spring. Ying says "If you are curious about whether something is a leaf mine or not, I'm happy for you to send me pictures and I can tell you whether they are. There are many markings made by other insects that I initially thought were leaf mines."

For more details on the project and information on the different types of leaf mines, see Ying's blog <https://antomology.wordpress.com/2021/09/22/what-is-a-leaf-miner/>, the iNaturalist project page she's created <https://www.inaturalist.org/projects/australian-leaf-miners> or email her at Ying.Luo@csiro.au Julie Morgan

Gracillariidae Leaf Mines

Get in contact with Ying Luo (ying.luo@csiro.au) if you find a leaf mine you are curious about, particular ones that look like this:



Serpentine mine (with leaf edge folded over – see arrow)



Tentiform mine (two sides of the leaf brought together)



Serpentine mine with dark central frass line

Images taken by Ying Luo

Highlights from ENHS records - Summer 2021

| Avian species | Number | Place | Observer | Comments |
|----------------------------|----------------|-------------------------|-------------------|--|
| Brown Quail | 2 | Com | JC | |
| Blue-billed Duck | 4 to 11 | Barlings Swamp | JM/NC | With at least 3 young |
| Musk Duck | 3 | PS/Long Swamp | JM/FM | Immatures at PS |
| Australasian Grebe | 4, 1 | MB/PS | MA/JM | |
| Hoary-headed Grebe | 3 | Long Swamp | FM | |
| Brown Cuckoo-Dove | 6 | MKS | SMG | |
| Peaceful Dove | 1 | MO/Surf Bch | NM/NC | Unusual locations |
| Bar-shouldered Dove | 3, 1 | Bingie/Broulee/NA | PG/DHK/GLM/MA | Range expanding |
| Topknot Pigeon | 30, 20, 18, 12 | MKS/MO/PS/Bingie/MB | SMG/NM/DHK/JM/MA | Widespread this summer |
| White-throated Nightjar | 4 or calls | PS/MKS | JM/SMG | |
| White-throated Needle-tail | Up to 3000 | Surfside | DB | Fewer elsewhere |
| Fork-tailed Swift | 2 | Surfside | DB | |
| Channel-billed Cuckoo | 1 or 2 | Widespread | JM | 1 dy at PS |
| Brush Cuckoo | 1 or call | MKS/PS/MO/Com/Tilba | SMG/JM/NM/JC/MA | Only in December/January Fewer than usual |
| Buff-banded Rail | 2 | MO | NM | |
| Wedge-tailed Shearwater | 12 | Off MHS | NC | |
| Short-tailed Shearwater | 8 | Off MB | MA | |
| Striated Heron | 1 | NA | MA | |
| Eastern Reef Egret | 4, 2, 1 | NA/Broulee/Bingie/MO/MB | MA/GLM/DHK/NM | |
| Great Pied Cormorant | 1 | Broulee/TS/NA | GLM/MA | |
| Aust Pied Oystercatcher | Up to 34 | WL | FM/MA | |
| Sooty Oystercatcher | 8, 5, 2, 1 | MB/Broulee/NA/DS | MA/HR/GLM/MA/JCof | |
| Pacific Golden Plover | 3 | MB | MA | |
| Red-capped Plover | 30, 29 | Brou L/DS | MA/JCof/SMG | Nesting at MHN |
| Hooded Plover | 3, 2 | Bingie Pt/MB/Brou L | DHK/PG/MA/DB | Young at Bingie Pt and MB |

| | | | | |
|------------------------------|------------------|--|---------------------------|---|
| Black-fronted Dotterel | 3, 2 | MO/Com | NM/JC | |
| Whimbrel | 1 | NA | MA | |
| Far Eastern Curlew | 6, 5, 3, 2, 1 | WL/Brou L/NA/ TS/Surfside | FM/DB/MA/RSor | |
| Bar-tailed Godwit | 30, 20, 12, 6 | TS/WL/Broulee/ NA | MA/FM/PG/GLM /DB | |
| Red-necked Stint | 2 | Sth DS | JCof | |
| Latham's Snipe | 1 | MO | NM | |
| Painted Button-quail | 1 | Brou L | DB | |
| Pacific Gull | 1 | TS | M Craig | Immature |
| Little Tern | 120+, 4 | Brou L/TS | DB/MA | Nesting at TS in Dec. |
| Common Tern | 1 | Brou L | DB | |
| Caspian Tern | 5, 2 | Sth DS/WL | JCof/MA | |
| Greater Crested Tern | 399 | Brou L | DB | |
| Greater Sooty Owl | Call | MB | MA | |
| Powerful Owl | 1 or call | MO/PS/TS | NM/JM/GM | |
| Southern Boobook | 2, 1 or call | MO/Mossy Pt/ MKS/Bergalia | NM/HR/SMG/ DHK | |
| Square-tailed Kite | 2, 1 | Broulee/PS/MO/ MB/MKS | GLM/JM/NM/ MA/SMG | Immatures at Broulee and Sunshine Bay (L Hansch) |
| Pacific Baza | 2 | Nth DS | M Burk | In February. |
| Swamp Harrier | 1 | MB | MA | |
| Grey Goshawk | 1 | PS/Bergalia/NA/ Coila Ck | JM/DHK/MA/ M Craig | |
| Brown Goshawk | 1 | MKS/Bergalia/ MB | SMG/DHK/ A Christensen | |
| Collared Sparrowhawk | 1 | PS/MB | JM/M Mason | |
| Oriental Dollarbird | 4, 3, 2 | Com/MB/MO/ Bergalia/Broulee | JC/MA/DHK/ GLM | Calls elsewhere. |
| Azure Kingfisher | 1 | Com | JC | |
| Sacred Kingfisher | 4, 2 | PS/Com/MO/ Bergalia | JM/JC/NM/DHK | Nesting at PS and Com. One or call at other locations. |
| Peregrine Falcon | 1 | MKS/Com | SMG/JC | |
| Glossy Black-Cockatoo | 6, 4 | PS/Broulee/DY/ MB | JM/GLM/MA | |
| Yellow-tailed Black-Cockatoo | Up to 50 | MB | MA | |
| Gang-gang Cockatoo | 15, 6, 5, 4 | Broulee/Com/ MKS/Mossy Pt/ MB/Cool | GLM/JC/SMG/ HR/DO/MA | |
| Eastern Rosella | 8, 4, 2 | Com/MO/ Bergalia/Cool | JC/NM/DHK/DO | |
| Musk Lorikeet | 12, 10, 4, 2 | MO/PS/Sth DS/ Broulee | NM/JM/JCof/ GLM | |
| Little Lorikeet | 6 | PS | JM | At flowering Red Ironbark |
| Superb Lyrebird | 1 or calls | MKS/NA/Cool/ Corunna L | SMG/ DO/MA | |
| Green Catbird | 2 | Tilba/Corunna L | MA | |
| Southern Emu-wren | 14 | Broulee | GLM | |
| White-cheeked Honeyeater | 8, 2, 1 | Broulee/PS/DS | GLM/JM/JCof | |
| Brown-headed Honeyeater | 10 or call | Com/PS | JC/JM | |
| Noisy Friarbird | 20, 18, 6, 5 | PS/Bergalia/ MKS/Com | JM/DHK/SMG/ JC | Breeding at PS; singles elsewhere. |
| Scarlet Honeyeater | 15, 6, 5 | PS/MB/MO/ Com/Barlings S | JM/MA/NM/JC/ M Burk | |
| White-plumed Honeyeater | 1 | WL | FM | Unusual on the coast |

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| Striated Pardalote | 2 or call | Com/Broulee | JC/MA | Breeding at Com |
| Varied Sittella | 4 | PS | JM | |
| Rufous Whistler | 5, 4, 2, 1 | Broulee/PS/MKS /Com/MO/Cool | JC/JM/NM/SMG/ DO/GLM | Young at Com. Fewer reports this year. |
| White-bellied Cuckoo-shrike | 2, 1 | PS/MB/Com | JM/MA/JC | |
| Common Cicadabird | 15, call | PS/MKS | JM/SMG | Juveniles at PS |
| Dusky Woodswallow | 6 | Cool | DO | |
| Rufous Fantail | 1 to 2 | MKS/Sth DS/ PS/NA | SMG/ JCof/JM/ MA | Breeding at MKS |
| Leaden Flycatcher | 4, 1, call | PS/MO/MKS | JM/NM/SMG | Fewer reports than usual |
| Restless Flycatcher | 1 | Com | JC | |
| Black-faced Monarch | 3, 2, 1 | MO/Com/PS/ MKS/Cool/Coru nna L/Barlings S | NM/JC/JM/SMG/ DO/MA/M Burk | Immature at Cool. Eating frogs at Barlings. |
| Little Raven | 40, 3 | Com/NA | JC/MA | In February |
| White-winged Chough | 7, 6, 4 | PS/Com/MKS | JM/JC/SMG | |
| Rose Robin | 1 | NA | MA | |
| Aust Reed Warbler | 2 or call | MO/MB | NM/MA | |
| Little Grassbird | 2 | Com | JC | |
| Bassian Thrush | 1 | Sth DS/MB | JCof/MA | |
| Mistletoebird | 1 or 2 | PS/MYA/MO/ Com | JM/NM/JC | |
| Australasian Pipit | 4, 1 | Com/Bingie/MO | JC/DHK/NM | |

| Non-avian species | Number | Place | Observer | Comments |
|----------------------------|-----------|-------------------------|---------------|----------------------|
| Common Wombat | Signs | Cool/Com | DO/JC | |
| Short-beaked Echidna | 1 or 2 | PS/Broulee/MB | JM/GLM/MA | |
| Long-nosed Bandicoot | Signs | Mossy Pt | HR | |
| Sugar Glider | Calls | Mossy Pt/PS/ Cool | HR/JM/DO | |
| Common Ringtail Possum | 1 | Mossy Pt | HR | |
| Feathertail Glider | 1 | LP | J Mather | |
| Dingo | Call | Com | JC | |
| Eastern Grey Kangaroo | 53, 30 | Cool/PS | DO/JM | |
| Red-necked Wallaby | 4, 2, 1 | Cool/PS/MB | DO/JM/MA | |
| Grey-headed Flying Fox | Up to 100 | MHS/PS | JM/S Heyward | Camp returned to MHS |
| Snake-necked Turtle | 10, 5, 2 | Com/PS/Mossy Pt | JC/JM/HR | |
| Yellow-bellied Water-skink | 4 | Com | JC | |
| Weasel Skink | 2 | Mossy Pt/PS | HR/JM | |
| Bar-sided Skink | 1 | Mossy Pt | HR | |
| Eastern Blue-tongue | 2, 1 | Com/Broulee/ Cool | JC/GLM/DO | |
| Jacky Lizard | 3, 2, 1 | DS/Mossy Pt/ PS/Cool | JCof/HR/JM/DO | |
| Gippsland Water Dragon | 5 | Com | JC | |
| Lace Monitor | 2, 1 | PS/Cool/Com | JM/JC/DO | |
| Diamond Python | 1 | Com | JC | |
| Red-bellied Black Snake | 2, 1 | PS/Com/MB/ Cool | JM/JC/MA/DO | |
| Death Adder | 1 | Mogo SF | W Platts | |

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| Frogs JC/JM/HR/DO | Common Eastern Froglet, Brown Striped and Spotted Grass Frog, Haswell's Froglet, Brown, Smooth, Dendy's and Tyler's Toadlet; tree frogs: Eastern Sedgefrog, Jervis Bay, Brown, Keferstein's, Peron's, Tyler's, Verreaux's. |
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| Moths GC/JC/GLM/JM/ HR/T&A Ross/ RSor | Plume, Saunder's Case Moth larva, Meal, Eggfruit Caterpillar, Black Geometrid, Fallen Bark Looper, Neat Epidesmia, Cream Wave, Plantain, Mecynata, White-stemmed Gum Moth larva, Emperor Gum Moth and larva, Convolvulus and Coprosma Hawk, Spotted & Lydia Lichen, Variable Halone, Lichen-eating Caterpillar, Heliotrope, Magpie, Granny's Cloak Moth, Tobacco Looper, Mistletoe, Black Noctuid, Green-blotched, Native Budworm. |
| Butterflies MA/JC/GLM/ GM/JM/DO/HR/ FM | Splendid Ochre, Lilac Grass-skipper, Narrow-brand Grass-dart, Blue Triangle, Orchard Swallowtail, Black and Spotted Jezebel, Cabbage White, Dusky Knight, Brown Ringlet, Varied Sword-grass Brown, Wonder, Bank's & Common Brown, Meadow Argus, Australian Painted Lady, Yellow Admiral, Monarch, Moonlight Jewel, Common Grass Blue. |
| Dragon & Damselflies JC/JM | Red and Blue Damsel, Common Bluetail, Blue-spotted Hawker, Wandering & Scarlet Percher, Blue Skimmer, Tau & Australian Emerald, Blue Ringtail, Common Glider, Graphic Flutterer. |
| Beetles JC/JM | Net-winged, White Christmas, Fiddler, Small Blue Leaf, Acacia Leaf, Argentinian & Green Scarab, Banded Pumpkin, Cowboy, Metallic Green Acacia, Three-lined Potato, Pittosporum, Honeybrown, Dung, Elephant Weevil, Tricolor Soldier, Pintailed, Whirligig; Ladybirds: Transverse, 26 and Common Spotted, White collared, Striped, Variable, Fungus-eating, Steel Blue. |
| Bugs JC/JM/AM | Bronze Orange, Assassin. Cicadas: Greengrocer, Razor Grinder, Redeye, Double-spotted. |
| Other insects JC/AM/JM/HR/ DO/S Pearson | Bee: Blue Banded. Wasps: Common Paper, Blue Flower, Mason, Orange Caterpillar Parasite, Mud Dauber, Yellow Flank Braconid, Orchid Dupe. Fly: Hover and Native Drone. |
| Spiders MA/JC/JM | Spiny, White-spotted Swift, Black House, Leaf-curling, Jumping, Ludicra Jumping, Huntsman, Water, Giant Water, Daddy Long Legs, Golden Orb, Two-tailed, White-tailed, St Andrew's Cross, Flat Rock, Garden Orb Weaving. |

RAINFALL (mm). December: 156 at MKS, 139 at Bergalia, 128 at Com, 78.5 at MB, 112.75 at Cool.
January: 209 at MKS, 213 at Bergalia, 197 at Com, 137.75 at Cool. **February:** 166.5 at MKS, 156 at Bergalia, 155 at Com, 114 at MB, 112.5 at Cool.

Contributors

| | | | | | |
|---------------|----------------------------|------|-----------------------------|-----|------------------------|
| MA | M Anderson, MB | GLM | G&L McVeigh, Broulee | | M Burk, DS |
| DB | D Bertzeletos, Surfside | AM | A March, Bingie | | A Christensen, MB |
| GC | G Clark, ACT | GM | G Macnamara, TS | | M Craig, TS |
| NC | N Clark, Surfbeach | NM | N Montgomery, MO | | L Hansch, Sunshine Bay |
| JCof | J Coffey, Sth DS | JM | J Morgan, PS | | S Heyward, MHS |
| JC | J&P Collett, Com | DO | D Ondinea, Cool | | J Mather, LP |
| PG | P Gatenby, Broulee | HR | H Ransom, Mossy Pt | | S Pearson, NA |
| SMG | S&M Guppy, MKS | RSor | R Soroka, Surfside | | W Platts, Broulee |
| DHK | D&H Kay, Bergalia | FM | Field Meeting | | T&A Ross, NA |
| | | | | | |
| Places | | DY | Dalmeny | NP | National Park |
| BB | Batemans Bay | ERBG | Eurobodalla Botanic Gardens | PDD | Percy Davis Drive, MYA |
| BBWG | Batemans Bay Water Gardens | LP | Lilli Pilli | PS | Pedro Swamp |
| BI | Bermagui | MKS | Maulbrooks Rd S, MYA | PP | Potato Point |
| BP | Burrewarra Point | MO | Meringo | SB | Surf Beach |
| Cool | Coolagolite | MYA | Moruya | SF | State Forest |
| Com | Comerang | MH | Moruya Heads, N&S | TN | Tomakin |
| CO | Congo | MB | Mystery Bay | TS | Tuross |
| DS | Durras | NA | Narooma | WL | Wallaga Lake |

ENHS Committee and Contact Details

| | | | |
|-------------------------------|--|--------------|-----------------------|
| Chair/Recorder | Julie Morgan | 0457 637 227 | chair@enhs.org.au |
| Secretary | David Kay | 4474 5619 | secretary@enhs.org.au |
| Treasurer | Malcolm Griggs | 4472 4150 | treasurer@enhs.org.au |
| Committee | Fran Anderson, Mandy Anderson, Steven Benjamin, Nicola Clark, Amanda Marsh | | |
| Public Officer and Membership | Malcolm Griggs | 4472 4150 | treasurer@enhs.org.au |
| Minutes Secretary | Mandy Anderson | 4473 7651 | |
| Editorial Team | Mandy Anderson, Susan Heyward, David Kay, Helen Kay, Gillian Macnamara, Julie Morgan | | |
| Website Team | Amanda Marsh, Julie Morgan, Roman Soroka | | |

All mail correspondence to P.O. Box 888, Moruya, NSW, 2537.

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