



EUROBODALLA NATURAL HISTORY SOCIETY

Inc.

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The White-headed Pigeon (*Columba leucomela*) – Temminck 1821

Taxonomy and distribution

The genus *Columba* includes roughly 45 species of medium to large pigeons. Only one of these reached Australia, the endemic White-headed Pigeon, and here it is largely restricted to the wetter forests of eastern Australia. Its closest relative is the White-throated Pigeon (*C. vitiensis*), a large pigeon of tropical rainforests that occurs across many islands just north of Australia. It is thought that the White-headed Pigeon evolved from White-throated Pigeons that colonised Australia in the distant past. The species is monotypic, meaning that no races are recognised.

Description and behaviour

The White-headed Pigeon is the second largest pigeon to be found in the Eurobodalla. It is only slightly smaller than the Topknot Pigeon (*Lopholaimus antarcticus*) and easily twice the size of its introduced cousin, the Rock Dove (*C. livia*).

The plumage of the species is nearly unmistakable: no other species sports white underparts, head and neck and faintly glossy green-blue back, wings and tail. Some domestic breeds of Rock Dove can look similar but the habitat, behaviour and size easily rule these out. Sexes are readily told apart: males sport pure white underparts and glossier greens and blues on the wings and lower back. Females have dirty white underparts and less gloss on the wings. Juveniles resemble adult females; however, male birds start moulting into pure white underparts at a young age. The soft parts are bright coral red with the tip of the beak being pure white; the eyes are a brilliant yellow-orange.



The species is largely silent and unobtrusive and can easily go unnoticed. In the breeding season, males coo deeply to attract females. Other vocalisations include a variety of grunts and coos, but the birds have to generally be very close for these to be heard. The wingbeats of the species are uncharacteristically quiet for a pigeon or dove. Away from human habitation, the species is generally shy and wary of humans. However, around human habitation, particularly where they are fed, they quickly lose their shyness.

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Though they can mingle with other pigeons and doves around food sources, they largely keep to themselves in pairs or small flocks. They are preyed upon by large birds of prey particularly Peregrines (*Falco peregrinus*) and Goshawks (*Accipiter sp.*). Owls also take them at night from roosts and if they can catch them so will pythons, cats and foxes.



Diet and breeding

White-headed Pigeons are not fussy eaters and eat a variety of introduced and native seeds and fruit. They have particularly benefited from the introduction of Camphor laurel (*Cinnamomum camphora*) and help disperse the seeds of this invasive species.

In temperate regions such as ours, breeding generally occurs in the warmer months and the species can raise multiple clutches in a season. Males display from treetops by performing elliptical display flights over the canopy before gliding to land where they started the flight. If they attract a female they will perform a vigorous head bowing display with their throat fully extended, cooing constantly.

Pairs build typically flimsy pigeon nests where the female lays two eggs and incubates these with the aid of her partner for about a month. Both sexes look after the chicks, which are covered in rust coloured down, for approximately another month. Pairing may persist between seasons and may form life long bonds as is common in pigeons. Interestingly, the species has been noted to occasionally hybridise with Topknot Pigeons in the wild.

Conservation and status in the Eurobodalla

Many pigeon species, including the White-headed Pigeon, suffered from extensive hunting when Europeans arrived. However, since the cessation of this activity the White-headed Pigeon has benefited from the changes brought to the landscape and new food sources. This has led to its numbers recovering and increasing and its range expanding. It colonised the Eurobodalla approximately 30 years ago and is now a fairly common species throughout the area. It is still expanding its range into Victoria. Given these population tendencies the species is listed as of Least Concern by the IUCN. Dimitris Bertzeletos

What's coming up.....

Saturday July 14, 2pm: Burrewarra Point. Meet at the car park at the end of Burri Point Road, Guerilla Bay. Coastal and headland walk. Whales should be moving north at this time. Eastern Whipbird, Little Wattlebird, Australasian Gannet, Pacific Gull.

Sunday July 29, 9am: Wallaga Lake, Long Swamp. Turn east off Princes Highway onto Bermagui Road south of Tilba, continue until the single lane bridge over the lake. Cross the bridge, and after 1km, turn left into Wallaga Street. Meet at the parking area at the end of the street. A beach, headland and swamp walk. Hooded, Double-banded and Red-capped Plover, Pied and Sooty Oystercatcher, Eastern Osprey, Black-shouldered Kite and White-bellied Sea-Eagle at Wallaga Lake. Australasian and Hoary-headed Grebe, Black Swan and Musk Duck at Long Swamp.

Saturday August 11, 2pm: Cullendulla Creek. Meet at the car park off Myamba Parade, which is almost opposite Wallarah Street, Surfside. A walk along the beach to the boardwalk that takes you through the mangroves along the creek. Pied and Sooty Oystercatcher, Gull-billed Tern, White-bellied Sea-Eagle, Southern Emu-wren, Mistletoebird.

Sunday August 26, 9am: Reedy Creek Road, Eurobodalla. Meet opposite the Bodalla Police Station, Princes Highway. A walk down a quiet road. Farmland and bush birds with the possibility of Flame and Scarlet Robins.

Saturday September 8, 2pm: Moruya Ramble. Meet at the Eurobodalla Shire Council car park, in front of the library, Vulcan Street Moruya. We will visit the Mogendoura Flats, and the cemetery at Glenduart estate and stop along Larry's Mountain and Hawdons Roads. A visit to a lightly wooded area off Princes Highway will complete the afternoon. Jacky Winter, Scarlet Honeyeater, Crested Shrike-tit.

Sunday September 23, 9am: Lower area of Gulaga. Meet at the car park at Pam's Store, Corkhill Drive, Tilba Tilba. Walk across farmland to the lower reaches of Gulaga. Noisy Pitta, Green Catbird, Yellow-throated and Large-billed Scrubwren, Pilotbird.

Out of Shire Trip 2018 to Mallacoota and Croajingolong National Park **Dates: 12th to 20th November**

Croajingolong National Park is 280 kms south of Batemans Bay and is situated on the far north-east coast of Victoria. It is a spectacular national park, with habitats ranging from temperate rainforest and heathlands to wild coastlines. Accommodation is available in Mallacoota and the surrounding area.

We are likely to encounter many birds that are not as common in our area, such as Eastern Ground Parrot, Tawny-crowned Honeyeater and a variety of shorebirds. People can come for a few days or for the whole time. We may also arrange a day trip to Marlo and Cape Conran Coastal Park/ Cabbage Tree Creek on one of the days and there is a possibility of a cruise on the inlet.

Please contact Lyn Burden (0418 999 824 or lynburden60@gmail.com) if you are interested in finding out more information. An itinerary will be available closer to the time and if there are any special requests, please let Lyn know. An email list will be organised for all those who have expressed interest and all subsequent information on the trip will be communicated this way.



Eastern Ground Parrot

Photo: Paul Gatenby

A warm welcome to new members....

Margie Burk, South Durras
David and Merylyn Clark, Scullin
Vance Brown, Jamison

The Annual General Meeting

The Annual General Meeting of the Eurobodalla Natural History Society was held at the Eurobodalla Regional Botanic Gardens on Sunday 27th May 2018 with 17 members in attendance. The minutes from the 2017 AGM were circulated and taken as read.

Business Arising: A change of meeting times for field trips was trialled in 2016/2017. At last year's AGM there was clear preference for retaining the 9am start time for Sunday mornings but support was split for the alternative Saturday times of 2pm and 3pm. The matter was referred back to the committee which decided, with input from members, to revert to the original start time of 2pm.

Chair's Report: Julie Morgan expressed her pride in the on-going success of the society. She thanked the committee members for their work and willingness to stand again; the newsletter team whose work ensures the newsletter is published each season and David Kay for his continued work on the *Nature in Eurobodalla* publication. Julie also thanked members for suggesting and leading field meetings. Julie informed the meeting that she attended a conference on Key Biodiversity Areas and underlined the importance of our area for Swift Parrots. At this meeting, ENHS was invited to rejoin BIGnet.

Secretary's Report: Mandy read Lyn's report, in her absence. Lyn discussed the encouraging support that the membership continues to give to the field meetings programme. She commented on the 2017 Out of Shire trip to Leeton/Griffith, and on the endangered species surveys. Two visiting groups, one from the Manning Great Lakes area and one from the Southern Highlands, had appreciated the help and guidance provided by some of our members during their field trips, and they offered reciprocal hospitality. There have been 287,218 hits on our website, mostly from Australia and the U.S.

Treasurer's Report: Malcolm Griggs presented his report and indicated that there has been a small profit for the year of \$313.49. Income for the year was \$2587.81; expenditure \$2374.32; the bank balance was \$3707.87; and the ANZ term deposit \$7661.26.

Election of Office Bearers: The office bearers and committee positions were filled unopposed.

Chair: Julie Morgan, **Secretary:** Lyn Burden, **Treasurer:** Malcolm Griggs, **Recorder:** Julie Morgan, **Committee Members:** Mandy Anderson, Fran Anderson, David Kay, Gillian Macnamara, Lucy Gibson and Steven Benjamin.

General business:

David Kay moved the following motion, on behalf of the Committee which was passed unanimously:

“The meeting authorises the Committee to allocate up to \$600 in each of the calendar years 2018-2020 to reimburse members for the use of their vehicles for the conduct of threatened species surveys”.

Peter Haughton opened discussion on the issue of Eurobodalla Shire Council preparing to change the classification of the Broulee Bangalay Sand Forest which would make provision for the sale of areas of this ecological community. It was decided that the committee investigate and write a letter to council. Heather Haughton moved that the society consider donating to the Tathra fire appeal. After some discussion, it was concluded this was not consistent with the society's objectives and members were encouraged to donate individually. Julie Morgan reported that the society's computer was no longer working and that since it and the laser printer were now over 10 years old, the society would need to consider purchasing new equipment. The meeting supported the purchase of new equipment unanimously. Mandy Anderson outlined the plans for the 2018 Out of Shire Trip to Mallacoota and Croajingolong NP. Julie Morgan moved a vote of thanks to the Botanic Gardens for providing the venue.

Exciting Sightings of Pied Butcherbirds in Eurobodalla Shire

Imagine our excitement when, earlier this year, we saw 2 separate Pied Butcherbirds (*Cracticus nigrogularis*) in the Rosedale/Guerilla Bay area. We had never seen one before in Eurobodalla Shire.

The first bird was an immature one at South Rosedale on Friday 30 March 2018. We initially saw it in the trees at the edge of the beach at the end of the walking track which goes down to Rosedale Beach from the north side of Cooks Crescent, South Rosedale. It then moved down into the scrub near the start of the beach where we had close up views of it. It was a large, stocky bird, brown on the head and back and a paler fawn colour underneath. It had white markings in the wing. We judged it to be an immature Pied Butcherbird - adult, 32-36 cm, rather than the more common, smaller Grey Butcherbird (*Cracticus torquatus*) – adult, 24-30 cm. We are very familiar with the Grey Butcherbird which is



Immature Pied Butcherbird

Photo: Steve Benjamin

a regular visitor to our Canberra garden and is recorded most weeks on our Garden Bird Chart. It appeared much larger and darker than the immature Grey Butcherbirds that we also see regularly in Canberra. It showed little sign of a white collar, which is very pronounced in immature Grey Butcherbirds. Its beak was very large and heavy. Its tentative call sounded more like a Pied Butcherbird.

The second bird was an adult at Guerilla Bay, observed on Saturday 31 March 2018, perched in a Spotted Gum near the beach in front of Beach Parade. It was the unusual, mellow call which attracted our attention. We clearly saw the distinctive black hood, white breast and broad collar and black back of the Pied Butcherbird. We stayed in Guerilla Bay for several days, but did not see or hear it again.



Adult Pied Butcherbird

Photo: Dimitris Bertzeletos



Grey Butcherbird

Photo: Geoff McVeigh

The range of the Pied Butcherbird is quite widespread and is described, in part, as ‘Sydney and south coast NSW’¹. Eurobodalla Natural History Society has no records of it and does not list it. Similarly, it does not appear on the bird list of the Far South Coast Birdwatchers. E-bird records show sightings around Jervis Bay and Shoalhaven, four records for the Narooma area (26-29 January 2012), and one for Tathra Beach (6 April 2017). The Narooma and Tathra Beach records contain descriptions consistent with the birds being Pied Butcherbirds. Given these records, it would not be surprising if the Pied Butcherbird was at least occasionally present in both Eurobodalla Shire and the area covered by the Far South Coast Birdwatchers.

It is possible to speculate that the range of the Pied Butcherbird is expanding southwards. The area included in Canberra Ornithologists Group’s (COG) Area of Interest for bird records is near the south eastern limit of the range for Pied Butcherbirds. COG has an extensive data base of bird sightings back to 1984. Its annual reports go back to 1964-65, if those from its precursor, RAOU ACT sub-branch, are included. A quick glance through these and the 1990 Atlas of the Birds of the ACT show relatively few records of the Pied Butcherbird until fairly recently. For example, over a 3-year period from 1986 to 1989, when the field work for the Atlas was undertaken, there were only 4 records. It was then classified as a *rare vagrant*. Increasingly frequent sightings have resulted in it currently being classified as an *uncommon breeding visitor*, uprated in 2015-16 from *rare non-breeding visitor*. In 2016-17, there were 42 records of 1-3 birds, from 21 widely-spread sites, compared with 32 the previous year and the ten-year average of 14¹.

Increased records can be the result of greater observer effort/reporting. This effect may be relevant to the Pied Butcherbird as the 2016-17 reporting rate² of 0.3% is the same as the 10-year rate. Nevertheless, there has been a long-term trend for this species to be increasing its presence in the ACT’s Area of Interest. Will this trend appear in Eurobodalla and surrounding areas? Joan & Trevor Lipscombe

Territory Sizes: The surprising answer

The average territory areas, ranked from the highest to the lowest, are given in the Table below. We knew that, unlike the other species, individual Variegated Fairy-wrens were seen all over large areas of the site during the breeding season, and we knew that individual pairs or families nested over a large area as well. So the rankings in this respect did not surprise us. We have thought about this species a lot over the years, and cannot come up with a reason why territory sizes are so different from the similar (size, feeding habits, nest etc) Superb Fairy-wren. In fact, in the literature, there are data from a completely different habitat in western NSW, in which the territory sizes of these two species are similar. So it looks like it is something that is peculiar to this habitat.

We then tried to make some sense of the rest of the rankings. Perhaps the more individuals of a species there were on the site, the smaller the territory size. This certainly seemed to work for the Yellow-faced Honeyeater, but overall the correlation was weak.

¹ Canberra Bird Notes, Vol 43, No 1 May 2018 Canberra Ornithologists Group Inc, p74
² The percentage of all record sheets in a specific year which contain a Pied Butcherbird record

We then did what we should have done in the first place, and did a statistical test that compared the average territory size of each species with that of every other species. The result was unexpected. The only species that was different, was the Variegated Fairy-wren; its average territory size is different (larger) than all the others. There were no differences between any of the other species, and there were no differences (including for the Variegated Fairy-wren) between the average territory size for the males and females of each species.

We realise that readers will find this hard to believe, looking at the numbers in the Table; for instance the average territory size of the Yellow-faced Honeyeater is only a third of that of the White-throated Treecreeper! But the results of this analysis are instructive for two reasons. First, there are no differences between most of the averages because the variation in the data that is used to calculate the average, is very large, in all cases. This shows how misleading averages can be if they are not statistically analysed. Second, this result tells us something that we, at least, did not expect. There is no such thing as a territory size for a Brown Thornbill, or for a Superb Fairy-wren; the territory sizes for different individuals of the same species vary so much as to render such a concept nonsense. So territory size is determined by the character of the individual, or the group. Perhaps a more dominant male has a larger territory, or an older male has a larger territory? This should have been obvious, but as we all know, our minds get stuck in misleading ruts.

We only received one entry, from Lyn Burden (apologies if there were more and they never got to us). It was on the right track in some respects, but off the track in others. But well done for giving it a go, and we were as misled as you were. Sarah and Michael Guppy

Species	Average Calculated Area for male (ha)	Number of Individuals	Average number of sightings per individual
Variegated Fairy-wren	2.9	9	14
White-throated Treecreeper	1.9	4	20
Golden Whistler	1.5	8	11
Lewin's Honeyeater	1.5	5	8
White-browed Scrubwren	1.2	18	12
Rufous Whistler	1.1	16	9
Eastern Yellow Robin	0.9	36	17
Superb Fairy-wren	0.9	64	12
Brown Thornbill	0.7	69	14
Eastern Spinebill	0.6	8	6.8
Yellow-faced Honeyeater	0.5	50	7

Saving Our Species Program and *Eucalyptus kartzoffiana*

The NSW Department of Environment and Heritage has introduced a statewide conservation program aimed at securing threatened plants and animals in the wild. This is known as the Saving Our Species Program, where threatened species are to be managed in different ways depending on their ecology and the threats to their survival. Almost half are or will be managed by locating them at different sites and taking steps to improve their survival. There are 1569 management sites and 434 species. In the Eurobodalla, there are 2 plant species listed as vulnerable:

Persicaria elatior Tall Knotweed and its Management Site is Bevia Swamp

Eucalyptus kartzoffiana Araluen Gum and its site includes Bendethera and Majors Creek State Conservation Area.

For more information on this program see: www.environment.nsw.gov.au

Eucalyptus kartzoffiana is a medium to tall tree growing to 30m. It is endemic to areas around Majors Creek, Bendethera and Araluen. It grows on dry, steep valley slopes, sometimes in the valley floor in grassy or shrubby woodlands and sclerophyll forests in sandy soil on granite. It was first collected by L.A.S. Johnson in 1968, 6.5km north of Araluen on the Braidwood Road. The species name is from Michael Kartzoff, a Russian gold prospector in the Araluen district, who became a seed collector with the Forestry Department and, in 1973-4, was the Mayor of Kur-ring-gai Council. Its ROTAP (Rare Or Threatened Australian Plants) rating is **2VCI**: where 2 = a restricted distribution (a range less than 200km); V = vulnerable (at risk over a



Eucalyptus kartzoffiana

Photo: Fran Anderson

period of 10-50 years); C = known to occur within a proclaimed reserve and i = less than 1,000 plants. Vulnerable is one level below Endangered. Threatened includes both these categories. Threats relating to *Eucalyptus kartzoffiana* include: the small number of populations, the low number of plants in these populations, browsing and destruction of saplings by deer, destruction of habitat by 4WDs and other recreational uses as well as collection of firewood.

The most outstanding feature of this tree is the juvenile leaves. These are covered with a waxy bloom, giving them a bluish lustre (a feature referred to as glaucous). They are opposite, sessile (no petiole), heart shaped and 3-8cm x 2-4cm with a short apical point. Adult leaves are alternate with a flattened petiole 1-4cm long. They are narrow lanceolate (lance shaped), 8-20cm long and 1-2cm wide with a vein around the margin 1mm from the edge. Colour is a dull green to blue-grey on both upper and lower surfaces. The crown usually consists of a mixture of broad lanceolate intermediate leaves, which are usually glaucous and the narrower adult leaves. There is a short stocking at the base of the trunk of hard, fibrous pale brown to grey and sometimes furrowed bark. Above, the bark is usually smooth and white to grey due to the shedding of long ribbons which tend to collect in the crown. Each inflorescence is in threes. Flowers are white, 1cm across and

usually appear in late summer and autumn. Buds are parallel sided, small (5mm long), sessile, green to yellow and often glaucous. Fruit is bell shaped, 5-7mm in diameter, glaucous when young and sessile or almost so. The disc is raised and there are 3-4 prominent, projecting valves.

This species appears to have been untried in cultivation. However, it has potential for windbreaks on farms and, as it has attractive foliage and tolerates most frosts, could be used as an ornamental tree. The oil contains 48 different chemicals (about average for Eucalypts), is produced in large amounts and has a very strong aroma. However, at this stage, it is not used for commercial oil production. There is an impressive example of this species in the Arboretum at the ERBG. It was planted in



Juvenile leaves

Photo: Fran Anderson

2014 and is now about 20 m high and still has some juvenile leaves. Fran Anderson

Field Trip to Bumbo Road, April 2018

Again, I have been forced to write a field trip report. This may be to see if I can finally get it right. It was mentioned to me that some people are of the view that when they read my reports they wonder if they had been on the same trip. Given my expertise in bird knowledge I was able to add a Bassian Thrush, two Yellow Robins and a Brown Falcon to the list, but only after everyone else had gone home. Fortunately, I do have photos with times and GPS records.

We met at the Bumbo Road turn-off, near the old hall. On the flat below, which usually has water but this time did not, we saw Ibis, Royal Spoonbills, Pelicans and White-faced Herons. Welcome Swallows flew in plague proportions around the hall and obviously nested/roosted in the hall, or else the decorators had splashed white paint everywhere. A Sea-Eagle cruised overhead as did the Pelicans. Nineteen people attended the trip and heard/saw 62 species of birds and some butterflies.

On previous field trips Julie Morgan has claimed to hear Rose Robins but we never see them. All you doubting Thomases take note because we have photos to prove Julie's hearing is accurate. I of course never doubted her.



Rose Robin

Photo: Roman Soroka

The weather was perfect after a cool start. Lyn Burden led the trip and did not lose anyone although one person who can never stay with the group kept darting off as usual. We observed a large gum tree whose two trunks had fused into each other in two places. Perhaps for stability. There were large flocks of Red Wattlebirds and Musk Lorikeets flying overhead. Lyn led the convoy up Bumbo Road and into Mirror Lane (named by Don McGregor) where we walked to the old dam (very black water) associated with the timber mill that used to be there. We saw a half completed Lyrebird's nest, some large termite nests and several Wonga Pigeons.

Lunch was at a lovely spot near the river and the noisy wooden bridge. The two Peters were our technical team who checked out the bridge to ensure that it was safe. Some people saw an Azure Kingfisher.

It was an enjoyable and successful trip and all of our thanks to Lyn Burden who led the trip and to Don McGregor for his local knowledge. Geoff McVeigh

Oh The Webs They Weave!

Since the beginning of summer, we have been watching the unceasing efforts of at least a dozen Golden Orb Spiders building and then rebuilding their webs all over our property. Given that we had never seen this many before, I wondered why they were so abundant this year. When my grandchildren visited they had many questions about the spiders that I wasn't able to answer, including why the female was so much larger than the male, so I was inspired to embark on some research.

What are golden orb spiders?

After some research, we identified our residents as *Nephila plumipes* or Eastern Golden Orb-weaving Spider. The name refers to the golden colour of its silk, not the colour of the spider. The genus was formerly classified in the family Araneidae, but is now usually classified in a separate family, Nephilidae. The name is derived from Greek, *Nephila* meaning 'fond of spinning' and *plumipes* refers to the tufted hairs on the spiders' legs. Eastern Golden Orb-weaving Spiders are large spiders, with silvery-grey to plum coloured bodies and brown-black, often yellow banded legs. The males are tiny and red-brown to brown in colour. The main differences between the coastal species, *Nephila plumipes* and *N. edulis* (which is more common in inland regions) is the height and size of the web and the presence of gold/yellow bands on the legs of the *Nephila plumipes*. The female of both species is between 2 – 4cm in length and the male is around 5mm.

Why are we seeing so many this year?

Eastern Golden Orb-weaving Spiders are widespread in warmer regions throughout the world and prefer a warm and reasonably wet climate, which aids spiderling hatching. I can only surmise that our unusually wet start to 2018 encouraged the spiders to set up in profusion throughout the area.

How long do they live?

The lifespan of a female Golden Orb-weaver is about twelve months. Females lay their eggs in late summer to autumn. The eggs are encased in a fluffy silken cocoon and attached to foliage. During autumn, the spiderlings hatch and disperse by ballooning (floating on the breeze using small silk strands as 'balloons'), and build their own tiny orb webs among vegetation, and wait out the winter. During spring the spiderlings start to develop more quickly and they mature in summer. The cycle then begins again, the adult females mate and lay their eggs. Adult females usually die off in autumn - early winter, which is probably why we haven't seen our spiders around much lately. We are hoping though that when the babies hatch we will see them again once the weather gets warmer.

How do they mate?

Given that the female is at least ten times the size of the male, mating can be tricky. The male, once fully mature cautiously approaches the female, and only if the female is receptive, the male will move to a position on the female's ventral abdomen, facing forwards, and begin mating. If the female reacts aggressively the male first become motionless, often for 10 to 15 minutes, and will only continue if the



Male and female Golden Orb

Photo: Roman Soroka

female is amenable. This is more likely when the female is immobile after moulting or inactive due to feeding.

How do they build their amazing webs?

Nephila produce large asymmetric orb webs up to one and a half metres in diameter with struts or stay-lines reaching up to 6m across. The hub of the web is positioned centrally in the upper section and most of the sticky capture strands are found in the lower section of the web. They tend to remain in their webs permanently. Orb webs have developed as an efficient means of capturing flying insects. Their structure provides a unique combination of large capture area with near invisibility, making detection and avoidance difficult, especially at night.

It takes an orb weaver about 30 to 45 minutes to make its web. Air currents are used to waft the initial silk line extruded from the silk spinning organs (spinnerets) across a gap in the foliage to entangle in leaves or twigs on the other side. The spider moves back and forth across this bridge line, strengthening it by laying down more silk. It then drops from the bridge-line's centre to attach a vertical line to the ground. This provides the basic Y shaped framework to which are then added supporting outer frame-lines, and the radial lines (the 'spokes') on which

the spiral lines are laid. A non-sticky, temporary spiral line is laid down first, starting from the centre and running outwards. This temporary spiral gives the spider a scaffolding from which it then lays down the more closely spaced, permanent, sticky spiral, starting from the periphery toward the centre or hub. The spider removes and rolls up the temporary spiral as it lays down the sticky spiral. The excess silk is eaten and recycled. Having seen it in action I can tell you it is structurally very impressive and able to withstand quite strong winds.

Sometimes the spiders aggregate in loose colonies. The large females stay upside more or less at the centre of the orb web, often nearby a messy looking chain of partly consumed food parcels. Much smaller males are often found on the outskirts of the web, as many as 6 or more, waiting for the opportunity to mate. The female has been known to kill and eat the male after mating. If the web is damaged it is usually repaired within an hour or so, except when pregnant females are about to lay eggs.

What do they eat?

Golden Orb-weaving Spiders eat flies, beetles, locusts, wood moths and cicadas and on occasions larger prey such as small birds and bats who were unfortunate enough to be trapped in their webs. Butterflies and day-active moths are sometimes caught but are partially protected by the presence of scales on their wings, which can be shed, allowing the insect to free itself. The spiders establish their webs in sheltered spaces between trees and shrubs where insects and other prey are likely to fly. When an insect flies into the web, the spider senses the vibration, rushes out from the web centre and rapidly wraps the victim in silk, rotating it with its shorter middle legs. When the prey is secure the orb-weaver administers a bite and sits back to allow the deadly venom to do its job. Once all movement has stopped, the spider takes the meal to the centre of the web and eats it or hangs it up for later. When food is plentiful these spiders will release large prey rather than risk a fight that may damage their web. Flying insects such as flies, beetles and bugs (including large prey like cicadas), are common prey. Our Golden Orb-weavers built a large network of webs (around 2 metres by 1 metre) across the front of our porch, which allowed us to watch them as they wrapped the victims that were unlucky enough to get caught in their web. Fortunately, there were no birds trapped though, otherwise we might have had to intervene!

Through the course of this research, I discovered there is much we still don't know about spiders in general and, compared with field guides on birds, much of the information is inconsistent and patchy. I look forward to learning more about these fascinating creatures. Helen Kay



ENHS members have many stories to tell about their observations of nature. 'My Patch' is a forum where these stories can be shared with others and will be published both in the newsletter and on the website. Photos are welcome. Please send your contributions to mypatch@enhs.org.au

Logo design by Trevor King

It's a Case of Hanging out in Moruya

While walking in Queen Street, Moruya recently I came upon a large moth case hanging from a metal handrail. Now I have seen a number of moth cases in the past but this one was unusually large, measuring 160mm from end to end and some 20mm in diameter. It turned out that this was a specimen of Saunders' Case Moth (*Metura elongatus*) from the family Psychidae.

Males have a wingspan of 40-50mm and fly from the case when they hatch. The females are wingless and spend their lives within their case. Consequently, mating it seems is a fairly tricky affair. However, this has been adequately provided for since the male has an abdomen which is described as 'long and telescopic', thus, enabling it to reach into the case of a female for mating. Females lay eggs within their case and then die. After hatching from the egg the larvae leave the case and begin to create their own silken home. As the case grows the caterpillar chews off small twigs and attaches them to the exterior. The one I found had twigs from 10 to 50mm in length attached. Eventually the caterpillar pupates within its case.



Saunders Case Moth case
Photo: Roman Soroka

Only the front 2 to 3cm of the caterpillar comes out of the case and they then drag their case around with them. Not only are they capable of moving on the ground or in vegetation but the one I found had attached its case to a shiny tubular metal railing with silken thread, either for a period of rest or it had sensed danger and retreated into the safety of the case. Malcolm Fyfe

Setting up a camera trap



Members who follow our closed Facebook page, Eurobodalla Natural History, will be familiar with the postings from Roman Soroka showing the birds and animals that visit his bird baths in Surfside. He was asked to provide instructions on how to go about this and Roman has provided a very detailed article that is now posted on the 'Articles' page of the ENHS website. This is a photo from his camera trap that captured three Bar-shouldered Doves at the bird bath in Surfside.

Highlights from ENHS records for Autumn 2018

Avian species	Number	Place	Observer	Comments
Emu	3	T'bella	MA	And tracks at Brou L (FM)
Stubble Quail	Up to 20	Com	JC	Young in March
Brown Quail	4, 2	Montagu Is/ Com	DHK/JC	
Australian Shelduck	Up to 3	Com	JC	
Australasian Shoveler	6, 5, 2	Com/MYA/MO	JC/NM	

Hardhead	10, 7	Com/MO	JC/NM	
Hoary-headed Grebe	Up to 11	MO	NM	Not many reports this season
White-headed Pigeon	Up to 20	TS	GM	
Brown Cuckoo-Dove	4, 3	Lilli Pilli/MKS	IAG/SMG	
Peaceful Dove	3	Com	JC	
Bar-shouldered Dove	10	Surfside	R Soroka	Captured on a camera trap
White-throated Nightjar	1	PS	JM	Last record 22 nd March
Aust Owllet-nightjar	1	Com	JC	
White-throated Needletail	4, 3	Monga NP/Deua R	FM/RS/AR	Last record 25 th March
Shy Albatross	2	Montagu Is	DHK	
Wedge-tailed Shearwater		Montagu Is	DHK	
Short-tailed Shearwater	Hundreds	Montagu Is	DHK	
Fluttering Shearwater	1	MHS	JM	Beach cast
Australasian Gannet	100	Wasp Head	DB	In April
Australasian Darter	2, 1	MO/Bumbo Rd /Com	NM/FM/JC	First records of the year in April
Intermediate Egret	6	Com	JC	
Cattle Egret	106	BI	MA	At a swamp in Nth BI
Eastern Reef Egret	7	MO	NM	Flock flying north
Straw-necked Ibis	Up to 250	Com	JC	
Royal Spoonbill	18	Bumbo Rd	FM	
Yellow-billed Spoonbill	1	Com	JC	April
Eastern Osprey	Up to 3	BB	NC/ R Soroka/ JS	Nest on Budd Island being refurbished. Pair on Bengello Beach.
Square-tailed Kite	1	Monga NP	FM	Last record of season
Whistling Kite	6	PS	JM/NC	Over the swamp in April
Little Eagle	1	MO	NM	April
Black Falcon	1	MO	NM	April
Peregrine Falcon	2, 1	Wasp Head/ Com	DB/JC	
Buff-banded Rail	3, 1	TS/Montagu Is/Com	GM/DHK/ Com	
Eurasian Coot	More than 150	Bingie	DHK	Kelly's L
Aust Pied Oystercatcher	5, 4	Sth DS/MB	J Coffey/ MA	
Sooty Oystercatcher	20	MB	MA	In March and April
Red-capped Plover	20	Brou Lake	FM	March
Double-banded Plover	6, 3, 2	MHS/Sth DS/ Brou L	JM/ J Coffey/ FM	
Black-fronted Dotterel	3, 2, 1	Com/Bingie/ MO	JC/DHK/ NM	
Bar-tailed Godwit	25	NA	MA	
Eastern Curlew	2, 1	NA/MO	MA/NM	
Red-necked Stint	3	Brou Lake	FM	
Skua sp	1	Wasp Head	DB	April
Pomarine Jaegar	1	Broulee Is	HR/P Gatenby	In March and May
Little Tern	5	MB	MA	Very late record of species
White-fronted Tern	2	Bingie Pt	DHK	First of season May 22 nd
Glossy Black Cockatoo	3, 2	MKS/Deua R/ PS/Bergalia/ Com	SMG/RS/ AR/JM/ DHK/JC	
Gang-Gang Cockatoo	Up to 12	Cool	DO	
Rainbow Lorikeet	Up to 2000	Sth DS	J Coffey	
Musk Lorikeet	200, 50	Bumbo Rd/Sth	FM/J	Moving north

		DS	Coffey	
Little Lorikeet	20, 16	MB/PS	MA/JM	
Australian King Parrot	40	Com	JC	March and May
Crimson Rosella	More than 33	Cool	DO	May
Swift Parrot	Up to 30 4	PS/ Monga NP	JM FM	April March
Eastern Koel	1	TS/Surfside	GM/R Soroka	In March. Young at TS.
Horsfield's Bronze-Cuckoo	1	PS	JM	Immature in March
Brush Cuckoo	1	PS/MO	JM/NM	April
Powerful Owl	Calls	PS	JM	
Sooty Owl	Calls	PS/Pedro	JM/S Doyle	In March and April
Dollarbird	2	PS	JM	Last record March 27 th
Red-browed Treecreeper	2, 1	Monga NP/MO	FM/NM	
Southern Emu-wren	8, 5	CullendullaCk/ Candlagan Ck	DB/GLM	
Pilotbird	4	Monga NP	FM	
Large-billed Scrubwren	Call	Monga NP	FM	
Striated Pardalote	1 or 2	Sth DS/Mogo SF/ PS/MO/MB	J Coffey JM/DB/ NM/MA	Moving through with Silvereyes.
Yellow-faced Honeyeater	50, 20	Mogo SF/Com	DB/JM/JC	Smaller migration on the coast this year.
White-eared Honeyeater	4, 1	PS/Bergalia/MO /MB	JM/DHK/ NM/MA	
Yellow-tufted Honeyeater	20, 1	Monga NP/NA	FM/NC	At Ringlands in NA
Red Wattlebird	More than 300	Com	JC	Migrating
Scarlet Honeyeater	1	NA	NC	Ringlands in April
Crescent Honeyeater	1	Mogo SF	DB/JM	April
White-cheeked Honeyeater	6	Mogo SF	DB/JM	
Noisy Friarbird	12, 2	Surfside/Mogo SF/PS/MB	DB/JM/ MA	Through autumn
Spotted Quail-thrush	1	Cool/Belowra Rd	DO/JC	
Varied Sittella	7, 7	Com/PS/MO	JC/JM/NM	
Cicadabird	4 or calls	PS/MKS	JM/SMG	Last record March 20 th
Crested Shrike-tit	3, 1	ERBG/Sth DS/Deua R/ Bumbo Rd	FM/RS/AR /J Coffey/ NM	
Rufous Whistler	1	PS	JM	Last record April 15 th
White-breasted Woodswallow	Up to 10	PS	JM	March/April
Dusky Woodswallow	20	Mogo SF	DB/JM	Including a number of juveniles
Pied Butcherbird	1	Rosedale/ Guerilla Bay	J&T Lipscombe	Immature at Rosedale, adult at Guerilla Bay. March 30 and 31.
Grey Currawong	1	Monga NP	LB	March
Spangled Drongo	2, 1	Surfside/PS/MB	DB/JM/ MA	Throughout autumn
Rufous Fantail	1 or 2	Widespread	various	March/April
Little Raven	Call	MO	NM	April
Leaden Flycatcher	2	PS	JM	Still present through March
White-winged Chough	16, 15	Com/PS	JC/JM	
Scarlet Robin	1 to 3	MongaNP/MYA /PS/Bergalia	FM/JC/JM/ DHK	

Flame Robin	1	Monga NP	FM	
Rose Robin	3, 1	Bumbo Rd/PS/ Surfside/Deua R /Com	FM/JM/R Soroka/RS/ AR/JC	
Golden-headed Cisticola	Up to 20, 2	Com/MYA	JC	At Mynora in MYA
Australian Reed- Warbler	2 to 4	Com	JC	March - April
Little Grassbird	2	Com	JC	March - April
Silvereeye	Hundreds	Mogo SF/ PS/ Surfside/Com	DB/JM/JC	Migration strongest in April
Bassian Thrush	10, 2, 1	ERBG/Bergalia/ Bumbo Rd	FM/DB/NC /DHK	Adults feeding 2 chicks in a nest on April 30
Mistletoebird	1 or 2	PS/Com/ERBG/ Deua R/Mogo SF/Bumbo Rd	JM/JC/RS/ AR/DB/FM	
Australasian Pipit	12	MYA	JC	At Mynora

Non-avian species	Number	Place	Observer	Comments
Short-beaked Echidna	1	PS/MB	JM/MA	April
Common Wombat	1 or 2, signs	Cool/Bumbo Rd/Deua R	DO/FM/RS /AR	First record at Deua R since last Sept/October 2017
Brown Antechinus	1	Lilli Pilli	IAG	
Long-nosed Bandicoot	Signs	Deua R	RS/AR	And alarm calls at night
Sugar Glider	2, calls	PS/Com	JM/JC	
Greater Glider	1	Malua Bay	G Stevens	Tree felled and adult emerged.
Common Ringtail Possum	1	Lilli Pilli/ Broulee	IAG/GLM	
Common Brushtail Possum	6, 2, 1	Com/Cool/ Lilli Pilli/PS/ Deua R	JC/DO/JM/ IAG/RS/ AR	
Eastern Grey Kangaroo	Up to 59	Cool	DO	
Red-necked Wallaby	Up to 8, 3	Cool/Deua R	DO/RS/AR	
Grey-headed Flying Fox	Colony, 2	NA/PS	FM/JM	In Ringlands at NA
Black Rat	1	Cool	DO	
Red Fox	1	PS/Com/Cool	JM/JC/DO	
Bottlenose Dolphin	8	Sth DS	J Coffey	
Aust Fur Seal		NA	R Soroka	
Snake-necked Turtle	10, 1	Com/ERBG	JC/FM	
Yellow-bellied Water Skink	3	Com	JC	March - April
Eastern Water- Skink	1	Lilli Pilli	IAG	March - April
Dark-flecked Sunskink		Broulee	MF	March - April
Eastern Blue-tongue	2	Com	JC	
Gippsland Water Dragon	6 to 10	Com	JC	March - April
Jacky Lizard	1 to 3	Broulee/ PS/Cool	MF/JM/ DO	March - April
Lace Monitor	1	Lilli Pilli/Deua R/PS/Com/ Cool	IAG/RS/A R/JM/JC/ DO	Last seen out on April 14 th at Cool
Copperhead Snake	1	Monga NP	FM	

Frogs JC/MF/JM/DO/ FM	Common Eastern Froglet, Brown Striped Frog, Haswell's Froglet, Brown and Tyler's Toadlet; tree frogs: Brown, Eastern Sedgefrog, Jervis Bay, Keferstein's, Peron's, Southern Leaf-green, Tyler's, Verreaux's
Moths JC/MF/JM	Saunders' Case Moth, Asian Corn Borer, Meal, Cabbage Centre Grub, Beet Webworm, Eggfruit Caterpillar, Black Geometrid, Clara Satin, Neat Epidesmia, Red-lined Geometrid,

	Cream Wave, Plantain, Mecynata, Sodaliata, Dark-patch Carpet, Common Anthelid, Banded, Spotted and Lydia Lichen, White-stemmed Wattle and Gum, Variable Halone, Lichen-eating Caterpillar, Heliotrope, Tiger, Crimson and Dark-spotted Tiger, Magpie, Donovan's Day, Double-lined Snout, Green-blotched, Variable Cutworm, Native Budworm.
Butterflies DB/NC/JC/MF/ GLM/JM/FM	Splendid Ochre, White-brand Grass Skipper, Narrow-brand Grass-dart, Macleay's Swallowtail, Orchard Swallowtail, Dainty Swallowtail, Imperial and Black Jezebel, Cabbage White, Dusky Knight, Brown Ringlet, Varied Sword-grass Brown, Marbled Xenica, Common, Spotted, Bank's and Wonder Brown, Tailed Emperor, Meadow Argus, Australian Painted Lady, Yellow Admiral, Common Crow, Monarch, Cycad Blue, Common Grass Blue.
Dragon and Damsel flies JC/MF/JM/FM	Red and Blue Damsel, Common Bluetail, Wandering, Black-faced and Scarlet Percher, Blue Skimmer, Australian and Tau Emerald, Common Glider.
Beetles JC/MF/JM	Acacia Leaf, Green Scarab, Three-lined Potato, Dung, Honeybrown, Plague Soldier, Elm Leaf, Tortoise, Net Winged, Metallic Green Acacia, Belid Weevil Ladybirds: Twenty-six and Twenty-eight Spotted, Striped, Fungus-eating, Yellow-shouldered, Transverse, White-collared, Variable, Steelblue.
Bugs JC/MF/JM	Bronze Orange, Harlequin, Gum Tree Shield, Water Strider, Water Boatman. Cicada: Double-spotted, Razor Grinder and White Dummer.
Bees/Wasps JC/JM/MF	Bees: Blue-banded, Teddy Bear, Masked. Wasps: Mud-dauber, Common Paper, Blue Flower, Mason, Orange Caterpillar Parasite, White-faced Brown Paper.
Spiders JC/MF/JM	Golden Orb, Leaf-curling, Daddy Long-legs, Black House, White-tailed, Huntsman, Ludicra Jumping, House Hopper, White-spotted Swift, Wheel-weaving Garden, St Andrew's Cross, Two-tailed, White Porch, Flat Rock.
Other MF/JC	Meat Ant, Wood Scorpion, Fruit Fly, Green Long-legged Fly, Boatman Fly, False Garden Mantis, Mole Cricket, Yellow-winged Locust.

RAINFALL (mm). March: 29 at Lilli Pilli, 46 at MKS, 18 at Com, 21 at Cool. **April:** 5 at Lilli Pilli, 1.5 at Com, 2 at MB, 0.75 at Cool. **May:** 10 at Lilli Pilli, 17 at Bergalia, 21.5 at Com, 33 at Cool.

Contributors

MA	M Anderson, MB	DHK	D&H Kay, Bergalia	RS/AR	R Stacey & A Rees, MYA
DB	D Bertzeletos, Surfside	GM	G Macnamara, TS	FM	Field Meeting
LB	L Burden, MYA	GLM	G&L McVeigh, Broulee		J Coffey, Sth DS
NC	N Clark, SB	NM	N Montgomery, MO		S Doyle, Pedro
JC	J&P Collett, Com	JM	J Morgan, PS		P Gatenby, Broulee
MF	M Fyfe, Broulee	DO	D Ondinea, Cool		J&T Lipscombe, Guerilla Bay
IAG	I&A Grant, Lilli Pilli	HR	H Ransom, Mossy Pt		R Soroka, Surfside
SMG	S&M Guppy, MKS	JS	J Sagar, Pedro		G Stevens, Malua Bay
Places					
BB	Batemans Bay	ERBG	Eurobodalla Botanic Gardens	NR	Nature Reserve
BBWG	Batemans Bay Water Gardens	MKS	Maulbrooks Rd S, MYA	PS	Pedro Swamp
BI	Bermagui	MO	Meringo	PP	Potato Point
BP	Burrewarra Point	MYA	Moruya	SB	Surf Beach
CO	Congo	MH	Moruya Heads, N&S	SF	State Forest
Com	Comerang	MB	Mystery Bay	T`bella	Trunketabella
Cool	Coolagolite	NA	Narooma	TS	Tuross
DS	Durras	NP	National Park	WL	Wallaga Lake

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