

# SEGments

Journal of the Scientific Expedition Group Inc. Volume 39 No. 1 June 2023

# Scientific Expedition Group Inc.

#### Patron

Mr. Rod Bunten

#### President Emeritus

Dr. Richard L Willing OAM

#### **SEG Executive**

President Alun Thomas Chairman Dr Robert Sharrad AM Secretary Michael Brown Treasurer Peter Whitehead

#### **SEG Committee**

Duncan MacKenzie OAM Trent Porter John Love Jill Tugwell Helen Owens Peter Reuter (on leave)

#### Vulkathunha Gammon Ranges Scientific Project

Graham Blair Alex Cornish Minnawarra Biodiversity Project Janet Furler Mallee Fowl Project Helen Owens SEGments Editor Alun Thomas SEG Website Michelle Trethewey SEG Administrative Officer Alun Thomas alunulna@gmail.com SEG Treasurer Botor Whitehood

Peter Whitehead peter@withersadvisory.com.au

**Cover Photo**: The Nudibranch *Ceratosoma brevicaudatum* on Rolls Point Reef, Kingscote, Kangaroo Island. Photo Tony Robinson.

**Rear Cover Photo**: Sunset at Witchelina. Photo: Alun Thomas The Scientific Expedition Group is a not-for-profit organisation which began in 1984. SEG undertakes several expeditions each year to record scientific information on wildlife and the environment in many parts of South Australia.

A major expedition to conduct a biodiversity survey occurs each year over two weeks. Scientific experts lead volunteers in surveying mammals, reptiles, invertebrates, vegetation, birds and physical geography. The data collected on each survey are archived with the relevant State scientific institutions to ensure they are available to anyone interested in our State's environment.

In addition to the major expedition, a number of trips for the Vulkathunha-Gammon Ranges Scientific Project are organised annually. A long term study of rainfall on the ranges and of water flow in arid-zone creeks is undertaken. All data are supplied to the Department for Environment and Water and to the Bureau of Meteorology and are available for analysis.

SEG conducts four-day biodiversity surveys at eight different sites each autumn and spring in the Heritage Area of scrub on "Minnawarra" farm near Myponga. Data collected are entered into the Biological Data Base of SA. SEG also conducts mallee-fowl monitoring in the Murraylands.

#### ISSN 2208-7443

SEGments is the authorised journal publication of the Scientific Expedition Group Inc., 111 Franklin St, Adelaide, SA 5000. It is published four times a year to promote articles about biodiversity, scientific exploration and ecological research.

**Copyright 2023**, Scientific Expedition Group Inc. Permission will be considered for non-profit photocopying of material for personal use and teaching purposes. Written permission must be obtained from the Secretary of SEG.

#### Contacts:

SEG Secretary: Michael Brown michael.brown@sawater.com.au

SEG email: scientificexpeditiongroup@gmail.com

SEG website: http://www.scientificexpeditiongroup.org

Facebook Page: ScientificExpeditionGroup





# Volume 39 Number | June 2023

## CONTENTS

NATURAL HISTORY OBSE	RVATIONS OF THE
COAST AT KINGSCOTE, K	ANGAROO ISLAND
Tony Robinson	Page 2
MINNAWARRA SURVEY	SPRING 2023 DATE
	Page 12
WITCHELINA NATURE RE	SERVE – MY FIRST SEG
TRIP	
Rebecca Anderson	Page 13
V-GRaSP DATA RECOVER	Y TRIP 11 TO 13 APRIL
2023	
Garry Trethewey	Page 16

Garry Trethewey

# **EDITORIAL**

SEG has had a significant milestone with a resumption of major expeditioning following the disruptions of COVID. We have just completed a expedition to Witchelina. What was particularly important was that more than twenty five percent of the expeditioners were new SEG members. Major expeditions have been the lifeblood of SEG for many years so without them over the COVID period membership has had stagnated but with the Witchelina Expedition we hope that things will improve.

As we have done in the past, we asked Rebecca Anderson, one of the "newbies" as she refers to them, to provide an article for this SEG Journal and her article appears on page 13.

On this trip, too, it was apparent that Andrew Sinel of Ecosphere Solutions was impressed with SEG's understanding of biosurveys and our hard work ethic. As this survey was in arid lands and double lines were needed, we actually installed sixteen pitfall lines in two days which is the number we would normally install over two weeks of a normal survey. We hope this may lead to more survey work with him.

I hope to be able to include a full biological report on the expedition in the next issue.

Much of this issue, and, I should say, much more space than we usually give to a single article, is an excellent set of natural history observations on what would often be viewed as a mundane area in front of Tony Robinson's residence on the sea front in Kingscote, Kangaroo Island. Tony has notionally divided up the seafront area into seven coastal and marine communities being mallee, clifftop heathland, coastal dunes, bare sand, limestone reef platform, patch reefs with sponges, and seagrass meadows. Each of these are discussed in detail and profusely illustrated. I was quite pleased to see that one of the references he used was one that was co-edited by my father. It is what is known as a small world.

The SEG committee at the moment is short by several committee members and I encourage members to consider if they would like to become more deeply involved with SEG on its committee. Committee work is relatively straightforward with one meeting a month most of the time. The annual general meeting is coming up in October and this will be a good chance for potential members to nominate. Please contact me or one of the other committee members if you want to consider nominating.

Alun Thomas

alunulna@gmail.com



Ctenophorus fordi Mallee dragon at Witchelina. Photo Alun Thomas.

# NATURAL HISTORY OBSERVATIONS OF THE COAST AT KINGSCOTE, KANGAROO ISLAND

### **Tony Robinson**

#### INTRODUCTION

You can be a naturalist almost anywhere once you begin to look at the natural world around you. In July 2022 my wife Julia and I moved to a rental house at 39 Chapman Terrace on the foreshore at Kingscote on Kangaroo Island. The view through the front window of the house (Fig. 1) was of a narrow strip of relatively natural vegetation in the John Downing Reserve and then southwards across Nepean Bay. This reserve, managed by the Kangaroo Island Council, stretches from the sea swimming pool to the sandy Yacht Club Beach a distance of 650 metres (Fig. 2). Outside of the reserve, this strip of natural vegetation continues SW along the State Coastal Reserve for 4.5 km through the township of Brownlow to the estuary of the Cygnet River and the Cygnet River Estuary Conservation Park. The coast of John Downing Reserve is bounded by low limestone cliffs on either side of Rolls Point and these extend seawards in a flat reef platform, about half of which is exposed at low tide. On the outer edge of this reef are a series of patch reefs in an area of seagrass meadow and these eventually give way to a pure seagrass meadow. The 3.5km stretch of the sandy Yacht Club Beach extends SW from the end of the John Downing Reserve and would have originally been backed by a coastal dune system with stands of Nitre Bush Shrubland where there was outcropping limestone, but only degraded areas of these systems remain. Offshore from the beach are extensive sand flats which are exposed for several hundred metres at the lowest tides and these are then bounded by seagrass meadows. The distribution of this interconnected range of terrestrial and marine vegetation communities is mapped in Figure 3.

Clearly no one can hope to come to grips with all the species of plants and animals that will be a part of such a range of ecosystems, so I made some choices. In the terrestrial part of the area, I would observe and identify the vascular plants, fungi, lichens, mammals, birds, reptiles, butterflies and any other interesting larger invertebrates. In the marine area I would look at seagrass, macroalgae, fish, sponges, echinoderms, crustaceans and molluscs. I began on land as the sea off Kangaroo Island is too cold to snorkel in when we arrived in July. I walked the clifftop path through John Downing Reserve several times a week recording plants as they came into flower and making notes on which of the major vegetation communities that they were a part of, their relative abundance and how many months they were in flower. I recorded the mammals (often by signs such as diggings and runways), birds, reptiles, and invertebrates. I also took a lot of photographs, particularly of the plants. After winter storms I walked along the Yacht Club Beach to record animals washed up, mostly molluscs, but also occasional crabs and sponges. I

hoped to find at least some of these species as living animals once I got into the water to record which part of the ecosystem they lived in and some details of their natural history. I did my first snorkelling trip on the Rolls Point Reef in early November and, when seas are calm, I have now done at least some snorkelling along the entire length of the reef either entering from the sea swimming pool end or from the Yacht Club Beach. I have been photographing everything I find using an Olympus F2.0 'Tough' camera which is waterproof to 15m, much deeper than I will ever take it! I also have a small aquarium where I can take more detailed photographs, particularly of living molluscs.

#### RESULTS

Although this is clearly very much a 'work in progress' I have managed to record nearly 250 species of native plants and animals from this relatively small and far from pristine natural area and these are shown in Table 1.

#### Table 1

TERRESTRIAL		
GROUP	No.	No.
	(Native spp.)	(Intro. spp.)
Vascular Plants	64	57
Fungi	4	
Lichens	5	
Mammals	2	2
Birds	37	4
Reptiles	4	
Butterflies	5	1
Other invertebrates	7	
TOTAL SPECIES	128	64
MARINE		
Seagrass	4	
Macroalgae	18	
Mammals	1	
Fish	15	
Sponges	7	
Echinoderms	8	
Crustaceans	7	
Molluscs	61	1
TOTAL SPECIES	121	1



Figure 1 The view of the John Downing Reserve and Nepean Bay from the front window of our house at 39 Chapman Terrace Kingscote.

To give readers more of a taste of the natural history of this small area of Kangaroo Island, I will describe in more detail each of the vegetation communities mapped in Fig. 3 beginning on Chapman Terrace and heading seawards.

#### Mallee (Fig. 4A)

The predominant trees are 5m tall Kangaroo Island Narrow-leaved Mallee which are replaced by lower windblown Coastal White Mallee (Fig. 4D) nearer to the sea. These mallees have a mixed understorey of 1-2m high shrubs such as Seaberry Saltbush, Native Juniper, Dryland Teatree, Coast Pomaderris and Coastal Bearded-heath (Fig. 4E). A number of plants climb over these shrubs including Downy Dodder-laurel, Sweet Apple-berry, Twining Fringe Lily, and Old Man's Beard (Fig. 4C) which was spectacularly covered in a dense mass of



Figure 2 An image of the Kingscote study area showing the extent of the John Downing Reserve and location of our house at 39 Chapman Terrace. (Based on most recent Google image from 16 July 2020 compiled by CNES/Airbus 2023).

creamy-white flowers from July to September followed by the fluffy seed pods that give it the Old Man's Beard common name. On the ground beneath the shrubs are patches of Coast Tussock Grass and clumps of Black-anther Flax-lily with its bright blue flowers appearing in October and November. Some of the more unusual plants found here include Oyster Bay Pine which is represented by a patch of four trees and is 'not common on Kangaroo Island'. There are five plants of Sticky Boobialla which flowered in September and October and is more common in the wetter western end of the island.

The small numbers of Tammar Wallabies that live in this narrow strip of coastal vegetation spend the days in the



Figure 3. A map of the coastal and marine vegetation communities in the Kingscote study area. Key to colours: **Black**. Mallee, **Blue**. Clifftop Heathland, **Pink**. Coastal Dunes. **Yellow**. Bare Sand, **Grey**. Limestone Reef Platform. **Light Green**. Patch Reefs with Sponges, **Dark Green**. Seagrass Meadow. (Based on April 2009 Google Image where underwater features were most visible.)



Figure 4. A. Mallee vegetation community in the John Downing Reserve showing tall Kangaroo Island Narrow-leaved Mallee (*Eucalyptus cneorifolia*) with understorey shrubs of Seaberry Saltbush (*Rhagodia candolleana*). B. Fruits of Oyster Bay Pine (*Callitris rhomboidea*) an uncommon plant on Kangaroo Island. C. Old Man's Beard (*Clematis microphylla*). D. Coastal White Mallee (*Eucalyptus diversifolia*). E. Coastal Bearded-heath (*Leucopogon parviflorus*). F. The Kangaroo Island Grey Currawong (*Strepera versicolor halmaturina*). G. The Caper White Butterfly (*Blenois java teutonia*).

densest patches of understorey shrubs emerging at night to cross Chapman Terrace and feed on the lush green Kikuyu Grass lawns of the houses. Sometimes they pay the ultimate price as there have been two road killed wallabies since we have been living here.

The birds are dominated by warring groups of New Holland Honeyeaters and Red Wattlebirds, but there are many other common bush birds such as Superb Blue Wrens, Brown Thornbills, White-browed Scrub-wrens and Spotted Pardalotes. Often at night we hear a Boobook Owl calling and occasionally we hear the characteristic calls of the Bush Stone Curlew for which, Kangaroo Island, with its absence of foxes, remains as the last stronghold in South Australia for this charismatic bird. Some of the more unusual birds that we have seen include a group of four endangered Glossy Black Cockatoos flying over in December and a Peaceful Dove first at Brownlow in October and then in the reserve here in December. Our resident pair of the Kangaroo Island Grey Currawongs first tried to nest in a tall mallee in the reserve but their single young was blown from the nest on a wet and stormy night and was found dead on the ground the next morning. They then built a new nest in a very large old Lemonscented Gum in our back yard and had more luck, successfully raising a single young and they are still (February 2022) feeding it almost exclusively on the wide variety of berries that plants such as the Sea Box, Native Juniper, Pale Turpentine Bush and Nitre Bush produce in abundance at this time of the year.

There are no doubt lots of different insects living in the mallee, a couple of those worth looking out for live in raised pebble mounds with quite large and irregular-shaped openings. These are the two large and genuinely aggressive towards people, species of Inch Ants or Bull Ants. We have two species, the largely nocturnal all black Myrmecia nigriscapa and the more day active orange and black Myrmecia pyriformis. Perhaps the most notable insect event so far was the arrival in October of dozens of Caper White Butterflies (Fig. 4G). This butterfly is a migrant to South Australia. Every few years there are immense migratory flights of adult butterflies sometimes with thousands of individuals, commencing in the north of the state and moving south to Adelaide, Mount Gambier and Kangaroo Island. In October it was noticeable that, among the Cabbage White butterflies flitting round the flowers in the reserve, there were numbers of larger white butterflies with more colourful underwings. We were seeing the end of this year's migration from western Queensland where their larval food trees, the Native Orange, are reasonably common. By January they had all disappeared and we were left with only boring Cabbage Whites, which were accidentally introduced into South Australia in the 1920's.

#### Clifftop Heathland (Fig 5A)

This vegetation community is much more diverse than the Mallee and during the Spring it becomes a mass of flowers

as successive species come into bloom. All the shrubs are bent inland by the frequent strong winds off Nepean Bay. The dominant species include Sea Box (Fig. 5B), Pale Turpentine Bush (Fig. 5C), Shiny Ground-berry, Kangaroo Thorn, Coast Velvet Bush. Lower shrubs included Salmon Correa, Thyme Rice-flower and Mallee Bush-pea. When we arrived in June the Salmon Correa (Fig.5D) was flowering abundantly and it continued until October, then came the brilliant yellow wattle flowers of the Kangaroo Thorn between September and October. The rather more unobtrusive yellow flowers of the Pale Turpentine Bush (Fig. 5C) which has separate male and female plants flowered from September to December, while the small white star-shaped flowers of the Sea Box (Fig. 5B) brightened the landscape from October to January, Twining through the shrubs and flowering very briefly in September was the Climbing Sundew, while the bright blue flowers of the Love Creeper were out between October and January. There was a succession of terrestrial orchids in sheltered mossy places beneath the heath with patches of Gnat Orchids with their distinctive green heart-shaped leaves and unobtrusive pale brown flowers were out from July to September. Pink Fairiy orchids (Caladenia latifolia) (Fig 5E) and Blue Fairy orchids (Cyanicula deformis) are found. A single Blue Fairy was found in September and, unlike the flowers normally found, this was a very pale blue almost white coloured form. Also, in September there was a single Pink Fairy briefly in flower. The final orchid to appear were patches of the Common Onionorchid which flowered from November to December. Apart from the orchids, other ground flora included mats of the pink flowered Karkalla from September to January, the blue flowers of the Morning Flag from September to November, the yellow Yam Daisy from October to January and finally the cheerful white flowers of the Coast Everlasting which actually lasted from November to January. Unusual plants in this community included four twisted small trees of the Swamp Paper-bark growing right in the most exposed part of the cliff edge at Point Rolls. This species usually grows around inland salt lakes, but these four trees would get all the salt they need in this position. They were briefly covered in white flowers in October.

The supremely adaptable Echidna lives in these clifftop heathlands and its characteristic diggings in search of ants and other insects can be found here. The birds are shared with the adjacent mallee, but the species seen most often here include the Welcome Swallow, New Holland Honeyeater and Silvereye. A pair of Australian Shelducks were regularly flushed from the cliffs or seen out on the sea. The are known to make their nests in coastal cliffs, but this pair did not produce any young this year.

One insect that regularly fed on the flowers of the Clifftop Heath was the spectacular Yellow Admiral butterfly (Fig. 5G). They are normally hard to photograph with their wings extended but here they seemed to spend a lot of their



Figure 5. **A**. Clifftop Heath vegetation community with wind-pruned shrubs of Sea Box (*Alyxia buxifo-lia*), Pale Turpentine Bush (*Beyeria lechenaultii*), Shiny Ground-berry (*Acrotriche patula*) and Coast Velvetbush (*Lasiopetalum discolor*). B. Sea Box (*Alyxia buxifolia*). **C**. Pale Turpentine Bush (*Beyeria lechenaultii*). **D**. Salmon Correa (*Correa pulchella*). **E**. Pink Fairies (*Caladenia latifolia*). **F**. Blue Fairies (*Cyanicula deformis*). **G**. The Yellow Admiral Butterfly (*Vanessa itea*). time sunning themselves on warm sunny areas of flat limestone.

#### Limestone Reef Platform (Fig. 6A)

As is characteristic of intertidal rocky reefs all over the world there is a strong zonation of the plant and animal communities as you head from the beach to the sub-tidal reef edge. The general features of this transition from the splash zone above the high tide mark out to the edge of the reef is very well described and illustrated by Baldock (2015), so I will not repeat the details here. The predominant vegetation community on the intertidal part of the reef flat is dominated by the tough brown alga Neptune's Necklace (Fig. 6A) which can tolerate almost daily exposure at low tide. Black Periwinkles (Fig. 6A) and Coniwinks scrape microalgae from the rocks. The small territorial fish the Sculptured Goby (Fig. 7B) is commonly seen here. Further out the diversity of algal species begins to increase with the red algae Hypnea charoides replacing the Neptune's Necklace. Although a red alga, the plants growing in the shallow water of the reef platform are completely bleached to a light brown colour, as are other species which grow nearer to the outer edge of the reef platform such as Mychodea sp. and Gigartina brachiata. Just under the outer reef edge in more sheltered places the fan-leaf red alga Sonderopelta coriacea (Fig. 6B) can be found. There are many invertebrate species on and around the reef edge and living beneath loose rocks on the reef surface. The large orange Nudibranch (Ceratosoma brevicaudatum) (Front Cover) is seen on most dives, while other smaller species such as the smaller Doriopsilla carneola (Fig. 6C) are rarer here. The Biscuit Star (Fig. 6F) are also very commonly seen. Most are bright orange but occasionally different colour forms are also found. A number of chiton species live under loose rocks and most have the typical eight interlocking valves held together by a leathery girdle. One species, the Striate Leathery Chiton (Fig. 6E) has very reduced valves and is almost all girdle. Fish are more commonly seen here with typical species being Zebra Fish, Moonlighters (Figs 6G and 7A), Magpie Perch and Sea Sweep. One exciting find (made by my snorkelling mate Colin and not by me) was the bright yellow limpet-like animal shown in Figure 6F. With help from Malacologist Peter Hunt, it was identified as an Umbrella Shell (Tylodina corticalis). Related to the Nudibranchs, this species is mostly seen by divers although Peter has also found it washed up by storms at the case. Closer examination of the sand surface reveals a Normanville and Browns Beach on Yorke Peninsula. The Atlas of Living Australia has seven South Australian records all from diver's photographs. These records are from Eyre and Yorke Peninsulas and the Fleurieu coast and so our record seems to be the first from Kangaroo Island.

#### Patch Reefs with Sponges (Fig. 7A)

Covered by 1-3m, depending on the state of the tide, this is the most structurally complex community with overhangs and caves set among areas of seagrass meadow. I have yet to even begin to come to grips with the algae that live here but I

am expecting lots of species I have not yet seen. The main thing that strikes you when you swim into this area is the number and variety of shapes and colours of the sponges (Figs 7D, 7E, 7F). The larger molluscs live here such as the Australian Horse Conch or Tulip Shell, the Spindle Welk and the Cart Rut Shell. All these species are carnivorous, feeding on other molluscs. The Tulip Shell and the Spindle Welk also seem to provide favoured homes for the Common Hermit Crab (Fig. 7C). There will probably be a variety of Ascidians found on the rock walls in this habitat but to date only the solitary species Ascidia sydneyensis (Fig. 7G) has been found. A second species of sea star, the Naked Seastar, is common here. It is endemic to South Australia with the N coast of Kangaroo Island being one of its strongholds. Lots of fish also use this habitat with Truncate Coralfish (Fig. 6G) and Old Wives being typical.

#### Seagrass Meadow (Fig.8A)

There are at least four species of the flowering plants collectively known as 'seagrasses' found growing in the sandy sediments of the sub-tidal areas of Nepean Bay. Most of the seagrass off the Rolls Point Reef consists of pure stands of dense Tapeweed (Posidonia australis) (Fig. 8A). It is quite difficult to find other plants and animals in the dense mass of these seagrass meadows, but the 50cm high sponges shown in Fig. 8B are pretty hard to miss. On sandy patches you can find the sharp edges of Razor shells just protruding above the surface while Queen Scallops (Fig. 8E) are also found there. Blue Swimmer Crabs (Fig. 8E) also live in the seagrass as do the beautiful Pheasant Shells (Fig. 8F) where every shell seems to have a different colour pattern. Several species of Holothurians or 'sea cucumbers' also live here with the most spectacular being the 20cm long spotted one (Fig. 7G) which has yet to be identified. One of the prettiest animals yet found was the tiny pink jellyfish (Fig. 8C) which was drifting in among a raft of floating tapeweed left by stormy weather. A variety of fish live in the seagrass, including commercially important species such as King George Whiting, but the most commonly seen are the large Dusky Morwong, also known as the Strongfish in South Australia and small schools of a brown leatherjacket with spiny skin that I have yet to identify.

#### Bare Sand (Fig. 9A)

Although you might think that nothing lives in the extensive sand flats offshore from the Yacht Club Beach, the variety of shells found washed up indicate that this is far from maze of tracks and burrows where living animals are going about their living beneath the surface. At least eight sanddwelling bivalves have been found dead on the beach and the Clam (Fig. 9C) and the Venus Cockle (Fig. 9D) are two that have been found alive in this area to date. The Sand Snail (Fig. 9E) and its egg mass (Fig. 9G) have also been found together with lots of attached egg capsules probably belonging to another as yet unidentified mollusc. One of the other big thrills of the snorkelling to date was being quickly checked out by a female Australian Sea-Lion (Fig. 9B). These are one of the rarest seals



Figure 6. A. Limestone Reef Platform exposed on most low tides and dominated by the tough brown algae Neptune's Necklace (*Hormosira banksii*) and the Periwinkle (*Nerita atramentosa*). B. The Red Algae (*Sonderopelta coriacea*). C. The small orange Nudibranch (*Doriopsilla carneola*). D. The Umbrella Shell (*Tylodina corticalis*). E. The Striate Leathery Chiton (*Cryptoplax striata*). F. The Southern Biscuit Star (*Tosia australis*). G. A Moonlighter (*Tilodon sexfasciata*) and a Truncate Coralfish (*Chelmanops curiosus*).



Figure 7. **A**. Patch Reefs with Sponges community showing several as yet unidentified sponge species and a Moonlighter (*Tilodon sexfasciatus*) swimming by. **B**. The Sculptured Goby (*Callogobius muscosus*). **C**. The Common Hermit Crab (*Paguristes frontalis*). **D**. A white unidentified sponge. **E**. A red unidentified sponge. **F**. A yellow unidentified sponge. **G**. An Ascidian (*Ascidia sydneyensis*).



Figure 8. **A**. Seagrass Meadow with a pure stand of Tapeweed (*Posidonia australis*) with some epiphytic red algae growing on the seagrass leaves. **B**. A large solitary sponge as yet unidentified. **C**. A spectacular small pink jellyfish as yet unidentified. **D**. The Blue Swimmer Crab (*Portunus pelagicus*). **E**. A Queen Scallop (*Equichlamys bifrons*). **F**. The Pheasant Shell (*Phasianella australis*). **G**. A large Holothurion yet to be identified.



Figure 9. **A**. Bare Sand flats off Yacht Club Beach which are exposed at very low tides. The water is stained by tannin from the small creek that flows into this bay. **B**. Australian Sea-Lion (*Neophoca cinerea*). **C**. The Clam (*Mactra pura*). **D**. The Venus Cockle (*Tawera lagopus*). **E**. The Sand Snail (*Conuber conicum*). **F**. An attached egg capsule probably from a mollusc. **G**. The moon-shaped egg capsule of the Sand Snail (*Conuber conicum*).

in the world with an estimated population in the SW of WA and SA of only 11 000 spread across 67 breeding colonies of which the breeding colony on Seal Bay Conservation Park on Kangaroo Island is the best known but not the largest colony.

Yacht Club Beach also supports a number of coastal bird species including Australian Pelicans, Black Swans, Silver Gulls, Pacific Gulls, Crested Terns, Masked Lapwings, Red-capped Plovers and Pied Oystercatchers.

DISCUSSION

It sounds from the discussion above that I have been wandering and swimming in a range of pristine natural habitats, but you can see from Table 1 that this is far from the case with half the terrestrial species recorded to date being those introduced to Australia. I am sure that as I become more index.shtml familiar with the marine environment I will begin to find introduced species there too. The major bushland weeds in the John Downing Reserve, in no particular order, include: Bridal Creeper, Stattice, Freesias, various clover species, False Caper, Sea Spurge, Cape Weed, Pink Diosma, Pussy-tail Grass, Wild Oats, Barley Grass, Kikuyu Grass, Sweet Pittosporum, Mirror Bush and Cottoneaster. There are also many that have just a few plants and clearly derive from the dumping of garden rubbish or being washed in through the several storm water drains that cross the reserve and flow into the sea. It is much more difficult for me to assess the state of the marine environment, but after windy weather there is considerable silt stirred up in the water which takes a few days to clear.

The only management that has happened in the reserve since we have been here has been cutting back overhanging vegetation on the very popular bitumen walking running and cycling trail through the reserve and on to Brownlow and some minor spraying on the edge of this path. They have also done the same vegetation cutting along the edge of Chapman Terrace. There seems to be an opportunity here to do some targeted weed control actually within the bush in the reserve and perhaps some replanting of appropriate native species in the worst weed-infested areas.

Having said this, it still remains pretty special that the residents of and visitors to Kingscote can get such easy access

to a still relatively diverse natural area both on the land and in the adjacent sea. It is one of the many small things that makes Kangaroo Island one of Australia's special places and we really need to look after what we have here.

The references below list some of the more accessible books and one web-site that can assist with the task of identification of all these plants and animals.

#### REFERENCES

Baldock, R.N. (2015). Marine indicator species of reefs: I. Calcareous flat reefs in temperate waters of moderate wave action. *Algae Revealed*. 3pp Adelaide: State Herbarium of South Australia. http://flora.sa.gov.au/algae\_revealed/ index.shtml

Baxter, C. (2015). Birds of Kangaroo Island, a Photographic Field Guide. ATF Press,

Hindmarsh, South Australia.

Gowlett-Holmes, K. (2008) *A Field Guide to the Marine Invertebrates of South Australia.* Notomares, Sandy Bay, Tasmania.

Gross, G.F., Lee, D.C. and Zeidler, W. (1979). 'Invertebrates' pp 129–137 In: *The Natural History of Kangaroo Island*. Tyler, M.J., Twidale, C.R. and J.K. Ling (eds). Royal Society of South Australia Inc.

Edgar, G.J. (2008). Australian Marine Life: the plants and animals of temperate waters. 2nd Ed. Reed-New Holland.

Prescott, A. (2005). *It's Blue with Five Petals. Kangaroo Island Field Guide. Wildflowers of Kangaroo Island and the Fleurieu Peninsula*. Anne Prescott and Associates Pty Ltd, South Australia.

Saunders, B. (2009). *Shores and shallows of Coffin Bay: An identification guide*. (Eyre Peninsula Natural Resources Management Board: Coffin Bay).

Shepherd, S.A. and Thomas, I.M. (Eds) *Marine Invertebrates of Southern Australia. Part II.* South Australian Government Printing Division: Adelaide, South Australia.

anthony.robinson7@bigpond.com

# **MINNAWARRA BIODIVERSITY SURVEY SPRING 2023**

# Saturday 7th October to Wednesday October 11th

#### (note that this is not the October Long Weekend because of the full moon on the Friday before the long

#### weekend)

Come for half a day, one day or several days. Minnawarra is situated on the southern Fleurieu Peninsula For further information and registration forms, contact:

Janet Furler on 0419 842 667 or thefurlers@gmail.com



# WITCHELINA NATURE RESERVE – MY FIRST SEG TRIP

#### **Rebecca Anderson**

I hope that my first attendance at a SEG biological survey at Witchelina Nature Reserve results in *Ctenotus schomburgkii* being remembered as the "Aeroplane lizard" (just check out those windows!). As a non-field biologist with a previous life as a bench scientist in neurophysiology/anatomy I simply used descriptive terms for what I pulled out of the pit-fall traps. Over the course of ten days it was amazing to me how many snippets of my late 80s/early 90s BSc studies in zoology/ comparative anatomy came back to me. And it was fun!

Anyone interested in nature, science and who likes working/spending time with other like-minded people should consider attending a field trip like this.



Ctenotus schomburgkii, the "aeroplane lizard"

Nineteen people attended the latest SEG survey, which was initially intended to be held in October 2022 but was postponed due to wet weather. This time (April 14-23) we only lost the first day in the field due to heavy rain. Unfortunately enough rain fell to prevent the SEG originator (Richard Willing) from bringing the SEG patron (Rod Bunten) up to Witchelina for a visit, as the public roads were closed for five days. The traditional owners of Witchelina are the Kuyani Adnyamathanha Peoples Nation and the Arabana Peoples Nation. It occupies an area larger than Kangaroo Island, extends from Lake Torrens in the South to Marree in the north. It is a spectacular part of South Australia. The homestead and associated buildings are located a short distance from Farina, north of Leigh Creek. Witchelina has three bioregions and nine arid land systems and includes a large portion of the Willouran Ranges - it features red sand dunes, stony gibber plains with "choc chip" shale and "bubble rock" concretions, old man saltbush, river red gums along dry creek beds, a gorge or two, and is home to a large variety of birds, including wedge tailed eagles and emus, and plenty of red and eastern grey kangaroos.

We were housed in relative luxury at the Witchelina Shearers Quarters with most people having rooms to themselves, and a few with their own tent-cot, trailer tent or car roof tent down by the dry creek bed. A large kitchen with adjoining dining room, a large room with trestle tables, and wide verandas gave ample space for people to have a bit of time alone, though apart from the first day of rain there wasn't a whole lot of spare time to fill.

For me, the creature comforts of beds, flushing toilets, showers and multiple fridges were one of the attractions for attending Witchelina given that I am not an experienced bush camper. It was the perfect introduction to SEG. And certainly less daunting than the prospect of spending two weeks fending for myself in the middle of nowhere with a bunch of people I'd never met. The fact that I had not met a single person involved in SEG before going on this trip was only a minor concern! Everyone was very welcoming, and the first wet day helped people get to know each other. I really enjoyed getting to know everyone over the ten days, hearing about some of their life's adventures, how they got involved in SEG, about other environmental work they do, although I'm not sure I convinced any that I really do have a sister who talks more than me...

The eighteen volunteers, five on their first SEG trip, were led by scientist Andrew Sinel, from Ecosphere a company he established to undertake biological surveys all over South Australia. While Andrew is primarily a botanist (I'm still trying to love the Crested Pigeon, his favourite bird!) he was ably supported by some very knowledgeable SEG personnel when it came to identifying the animals we encountered, especially Bob Sharrad who was a 'go-to' person for most of us while pouring over the books after a day in the field in order to confirm the days sightings.

This biological survey concentrated on mammals and reptiles and was conducted in two main areas: north/ northeast of the homestead, and southwest of the homestead. In each area four sites were established amongst similar terrain/flora, each consisting of two pitfall lines and



Bob Sharrad and Bec Anderson inspecting and recording a catch from a pitfall line. Photo Piers Brissenden



Gidgee Skink Egernia stokesii. Photo Piers Brissenden

fifteen Elliot traps plus a few cages and funnel traps. My science research had never taken me into the field, so all of this was a learning experience, and an enjoyable one. Establishing the sites was made easier thanks to all the rain that had fallen, and all the expertise on hand. After the first two days of establishing the sites, it was simply a matter of checking them each morning and late afternoon and identifying/recording what had been caught. This included various dunnarts, annoying house mice, skinks, geckos, dragon lizards and happily just one *Suta suta* or curl snake. Overall, the total numbers of animals were lower than anticipated for the chosen locations, perhaps in part due to the time of year, with the final report to be prepared by Andrew for the Nature Foundation.

The days were long due to the rough 4WD tracks (particularly around Jess's Swamp!) and large distances that needed to be covered to get to the two main sites. For those heading to the south-west sites, an all-day adventure meant leaving around 8am and returning after 5pm. Mind you, there was time during the middle of the day to explore some neighbouring terrain or sit and enjoy a long lazy lunch in beautiful surrounds. One trip to the boundary with Mulgaria Station easily showed the difference that grazing (Black Angas cattle) makes to the vegetation, with Witchelina having been leased by the Nature Foundation of SA back in 2010 at which time all cattle and sheep grazing ceased.

The nights were short, with most people crashing soon after dinner, something that was a little hard to get used to! And the meals just didn't stop – vast amounts of food, with extra provisions in case the roads were unpassable. Many recipes collected and refined over many SEG trips have curious names (provided largely by chief food organiser Trent) such as "Rachmaniov's Krumbelle" and so, our duty team of four played a rendition of the Rach 3 (familiar to many people from the movie Shine) when the dessert was served. As the days marched on the duty teams became more adventurous and ambitious with their allocated recipes. We certainly ate very well.

On an afternoon off exploring some nearby sites Jill showed me my first gidgee skink wedged between rocks at Rocky Dam Lookout. This later allowed me to confidently identify "Greg" the local gidgee skink that lives at the front gate of the Witchelina homestead. The homestead is staffed



Shearers Quarters at Witchelina. Photo Rebecca Anderson

by rotational managers: Brenton and Nanette during the first half of our stay, and then Kevin and Paul. One night we all wandered up to the homestead to have a look around, see the inside of the house and the historical photos and records. These were of particular interest to my "roomie" Sharyn who is halfway through a PhD on SA's conservation history. For 23 years Sharyn listened to her neighbour Trent talk about SEG trips, so finally bit the bullet and joined one. She appeared to enjoy the experience as it gave her a unique perspective on the collective nerdiness of a bunch of people endlessly fascinated by animals, plants and rocks. She was quietly studying all of us while we were busy looking at creatures and their habitats.

A month has gone by since this trip and already most of the genus and species names have gone from my memory. But a lasting memory is my overall enjoyment of the ten days, the great people I met and the sheer amount of new information I was exposed to. Hopefully some of it will come back to me the next time I'm out in the field. Having survived by first SEG trip I can now start accumulating the various items required to join another survey, though perhaps I'll start with just a night or two if it involves bush camping!

Thank you to everyone who made this SEG trip possible. Witchelina April 2023

Chief Scientist: Andrew Sinel, Ecosphere SEG Science Leader: Bob Sharrad Camp Leader, and SEG President: Alun Thomas Quartermaster: Trent Porter SEG trip old-hands: Christine Arnold, Andrew Barr, Kathleen

Cunningham, Helen Johnson, Peter Reuter, Brian Swann, Jess Swann, Garry Trethewey, Michelle Trethewey, Jill Tugwell SEG trip newbies: Bec Anderson, Piers Brissenden, Martin Caon, Sharyn Clarke, Roger Clay

rebeccaanderson07@gmail.com



Gibber Earless Dragon *Tympanocryptis intima*. Photo Piers Brissenden



Curl Snake Suta suta. Photo Piers Brissenden



Witchelina Sandhill Country. Photo Piers Brissenden

# V-GRaSP DATA RECOVERY TRIP 11 TO 13 APRIL 2023

# **Garry Trethewey**

This trip was undertaken by Michelle and Garry Trethewey before they proceeded to the Witchelina Expedition.

The aim of this data recovery trip was to do the regular vegetation photopoints, further document *Codonocarpus pyramidalis* growth, to retrieve algae for SA Herbarium, and record any other interesting observations

Garry and Michelle arrived at Owieandana later than expected. Due to general dryness, and the unlikelihood of finding water along the way, we decided to accept the kind offer of Operation Flinders and stay at Owieandana overnight.

Next morning we set off up the Arcoona Creek bright and early. Although vegetation is still in good condition for this time of the year, two of the three euros we saw on this trip were drinking at Woodcutter's Well. A short while later, The Seeps was as low as I've ever seen it, but presumably fresh, (normally very salty) as it was full of little frogs. The bullrush that appeared a couple of years ago has been eaten. The dead sheoaks (*Casuarina sp*) along the short cut, drought victims that fell over with rotted roots, are almost disintegrating, calf-sized branches easily kicked out of the way.

Wild Ass Waterhole was completely dry, so there was no chance of collecting any algae.

SAMBOT Waterhole had a little water in the bottom, and we managed to find some healthy algae for SA Herbarium.

*Codonocarpus pyramidalis*? We were slowed down by finding lots of new ones including kneehigh babies, as well as chasing up some that we'd run out of time for on the last trip. We have records of about 70 now, and once again left some undocumented for lack of time. Time management and record keeping is an evolving thing.

It rained overnight, and a few litres collected in a rockhole near our camp. I was surprised at the behaviour of an eagle that attempted to land on a rotten dead tree that broke under its weight. My interpretation is that the eagle was after a drink in an unfamiliar and non-preferred spot, the implication being that lack of water is already a problem for it. Although we had found water in SAMBOT, its steep sandy sides would stop an eagle taking off in a hurry, so would be unusable.

At our *Melaleuca uncinata* photopoint, on an area of insitu rock, we noticed that only 2% of the dead *M. uncinata* plants had any basal regrowth, but just below, in skeletal soil, 20%. Only one recruit was seen.

Going over North Tusk and to the Plateau we came across a few of our little friends, Ctenophorus modestus, AKA swift rock dragons.

After collecting echidna poo for Adelaide Uni for about five years, I can assert that echidna numbers are still down, I suspect less than half of the number before the drought.

On The Plateau we lost our way, a common occurrence on the flat, because, as vegetation grows and falls over it looks different. The latest iteration of 'The Burnt Patch' is greening up and dying off like anywhere else and its boundaries blending in with the non-burnt area.

We saw no definite sign of goats, although some droppings at North Tusk look less than a year or two old.

garrytre@bigpond.com



Michelle in Camp. Photo Garry Trethewey

SEG is very grateful to our corporate sponsor Microchips Australia for its support to the Minnawarra Project.



# SCIENTIFIC EXPEDITION GROUP INC. APPLICATION FOR MEMBERSHIP AND MEMBERSHIP RENEWAL for 2022 — 23

Membership is open to any persons, family or organisation interested in the following aims:

\* The promotion and running of expeditions of a scientific, cultural and adventurous nature.

\* The furthering of knowledge, understanding and appreciation of the natural environment.

\* Promotion of the values and philosophy of wilderness.

\* Enabling people to learn the skills required for planning and running expeditions, and to develop sound field techniques

#### SUBSCRIPTION RATES

Adult member	\$40.00
Concession cards/ student	\$20.00
Family or Corporate membership	\$50.00

<u>HARD COPY SEGments</u>:- If you would like to receive a hard copy through Australia Post of our quarterly journal SEGments, please include in your payment an additional \$30.00 for a SEGments subscription. All members will receive an electronic copy by email.

Name	
Address	
Telephone (H)	. (W)
E-mail	

Details of scientific, cultural, and adventuring or other relevant skill or interests you may be prepared to share with the group:

.....

#### **ELECTRONIC PAYMENT**

If you have access to the internet, payment can be made using SEG's bank account at Bank of South Australia, details as follows: Acc Name: Scientific Expedition Group Inc. BSB: 105-086 Acc No.: 330629440

Please use your last name if possible to identify your payment <u>AND</u> also advise us by email that you have made a payment to our bank account via email to – scientificexpeditiongroup@gmail.com Or send a cheque payable to Scientific Expedition Group Inc. with a photocopy of this page to:

The Secretary Scientific Expedition Group Inc. 111 Franklin St, Adelaide, SA 5000.

#### PLEASE NOTIFY ANY CHANGE OF POSTAL OR ELECTRONIC ADDRESS

