

LANDSCOPE EXPEDITIONS

Western Australian Department of Conservation and Land Management,
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in association with
UWA Extension, The University of Western Australia, Nedlands, WA 6907

An Astronomical Experience and Abrolhos Odyssey 1999
LANDSCOPE Expedition Report No. 31

FROM THE EXPEDITION LEADERS

On behalf of CALM and UWA Extension we would like to thank all members for their tremendous support and good nature in making this expedition the success it was. We were privileged to witness a rare and spectacular annular solar eclipse under ideal conditions. The event brought together amateur eclipse watchers and international astronomers from all over the globe. Their passion and excitement created a very special atmosphere, transforming the historic Hampton Arms Inn into an international observatory. The Perth Observatory observations recorded at Greenough are being studied and the plant collections from the Abrolhos Archipelago have been incorporated into a data base on the vegetation of the islands. Our thanks are extended to Max Cramer for sharing his vast knowledge on the Abrolhos shipwrecks and the discovery of the French coin on Dirk Hartog Island; to the staff of the Geraldton Region Museum for creating the opportunity for a special early morning visit; to Brian and Judy Turnock of the Hampton Arms Inn for their excellent catering and friendliness; to the staff of the Batavia Motor Inn; to Bevan Suckling, Nick Linton and Chieko Furujiku, crew of the *Southern Lady II*, for their professionalism, hospitality and consideration of the expedition's particular requirements. Thanks are also extended to Roy Fieldgate and Leigh Davis (CALM) for arranging maps and aerial photographs of the Abrolhos. Vanda Longman provided information on CALM's vegetation survey of the islands. We trust the expedition to witness the eclipse and visit the Abrolhos was a memorable experience for everyone and we look forward to having your company on future *LANDSCOPE* Expeditions.

Kevin Kenneally, Kevin Coate and Jamie Biggs



Members of the Astronomical Experience and Abrolhos Odyssey *LANDSCOPE* Expedition 1999

EXPEDITION ACHIEVEMENTS

1. The annular solar eclipse was successfully witnessed by the expeditioners at Greenough and was recorded by Perth Observatory staff on videotape. This recording facilitates accurate timings of important phases of the eclipse. This information will be forwarded to IOTA (International Occultation and Timing Association) in the USA.
2. Western Australian science benefited from the presence of international experts who visited Greenough to observe and record the eclipse. Expeditioners had the opportunity to meet scientists such as Professor J. Pasachoff (Professor of Astronomy & Director Hopkins Observatory, USA), Dr Fred Espenak (NASA, USA) and Professor Lawrence Cram (Chair of Academic Board and Professor of Astro Physics, University of Sydney), and observe them at work.
3. Plant specimens were collected on 18 islands from which collections had not previously been made. This material was given to Vanda Longman, a consultant working for CALM principal research scientist Greg Keighery. These plants have now been identified and this information will be used by CALM as part of a vegetation survey of the Houtman Abrolhos Islands. It will also be included in a forthcoming publication.
4. Valuable bird observations with associated breeding records, were made. Several dead specimens found on islands have been lodged with the Western Australian Museum.
5. Four unnamed islands have been provisionally named (for easier reference on future surveys). These names have been forwarded to DOLA (Department of Land Administration) for consideration.

DIARY OF THE ASTRONOMICAL EXPERIENCE AND ABROLHOS ODYSSEY LANDSCOPE EXPEDITION 1999

Monday February 15 We came in ones, twos and threes – by car, bus and plane – to rendezvous at the Batavia Motor Inn to be briefed on the expedition logistics with leaders Kevin Coate (KC), Kevin Kenneally (KK) and Dr James Biggs the Government Astronomer. Our official expedition name tags were handed round by Ruth Kyle and we were told by KK to remember to wear them on the morrow (so we didn't miss out on lunch). We certainly did not miss tea – though Jamie had to leave early for the public lecture he was giving at the Geraldton Region Museum so he missed out on dessert.

Tuesday February 16 Most of us were able to compliment the cook by eating a large breakfast, though Bob did ask "who thought they would be eating a big breakfast on Wednesday?" KK very kindly arranged some exercise – a brief walk to the Museum which was opened early for us. Max Cramer – famous for discovery/recovery of the *Batavia* thirty odd years ago: and now famous for discovery of the French coin and the lead

bottle seal on Dirk Hartog Island that was supposed to claim Australia for the French. (A second coin and intact bottle has since been found by the staff of the WA Maritime Museum.) Five years research and twenty minutes looking last Christmas by Max Cramer and fellow explorers and voilà! Max and other Geraldton Museum folk are still trying to get the *Batavia* returned to Geraldton. We all wish them good luck – also with their new museum.

Jamie (Biggs) then gave a short lecture on the annular solar eclipse. Two main points (1) don't look and (2) look only at the video screens set up at the Hampton Arms Inn. His very scientific explanation was indeed easy to follow: "the total eclipse happens if the shadow lobs onto the Earth – if not you get an annular." A group photo under the Moreton Bay Fig and then over to the Geraldton City Council to see a more preserved bronze culverin cannon from the *Batavia*. John gave a very descriptive explanation on the handling and use of this type of cannon. Back on the bus and several quick stops on the way to Greenough (as KC explained about the buildings – pensioner cottages, mills, pioneer cemetery, convict bridge) then a stroll around Greenough hamlet, the local history of flood and changing rivers. Claire asked, "when did the river change to its present site?" because KC has said that it was now there (pointing) over the hill. KK was very snappy in stating "that's what happens when you get old – you go over the hill." The *Eucalyptus camaldulensis* was admired as was the story of it's naming. The tree was first described from a specimen, grown from seed sent from Australia, in the garden of the monastery of the Camalduli, a religious order, near Naples, Italy.

On to the media circus – where we followed Jamie round as he met with the different TV, press, etc. personnel. Then lunch in the Hampton Arms – a wonderful spread including carrot cake! Bevan and Nick (from the *Southern Lady II*) joined us and promised a calm day on Wednesday.

A little after noon the coach group arranged by Perth Observatory joined us. Special guest Prof. Jay Pasachoff, Director of the Hopkins Observatory at Williams College, USA, gave a slide show of eclipses and more information on filming them. Jamie and his staff set up their solar projection telescope and had two sites available to view the whole movement of the Moon across the Sun. Initially slow going then Swiss internet webcam specialist Olivier Staiger led the cheer for first contact, then closer to the full annular, as it got colder and hazy everyone crowded round the telescope or their filming equipment. A few seconds before it occurred everyone was able to see Venus, Jupiter and Saturn as the sunlight dimmed. Then the big event – for a few seconds only – but a very impressive sight – so impressive everyone forgot to check whether the eggs had stood on end or not!

The wonderful people at the Arms then gave us a cuppa before more official photos, then on the bus back to Geraldton. We had to hurry so we could get to the shops before they closed – for important things like vino and bait.

Dinner al fresco by the pool on a balmy summer night. Once again we were treated to a wonderful buffet meal. KC outlined our plans for tomorrow – an early start and a four-hour trip to the Northern (Wallabi) group of the Abrolhos. The weather forecast is favourable.

During and after dinner we reflected and discussed the days activities, events and characters, as well as other matters. It was a relaxed, friendly “getting to know each other” evening. We all retired quite early ready for an early start tomorrow.

Wednesday February 17 We all rose early, packed our gear into the bus and had a hearty breakfast, as well as a good dose of Kwells or something similar.

After bidding goodbye to KK, we boarded the bus and were driven by KC to the Fisherman’s Harbour, where we boarded the *Southern Lady II*. She is a supply boat servicing the rock lobster fisheries on the Abrolhos and during the off-season serves as a charter boat licensed to carry 25 passengers.

We departed at 7.30 am. It was a fine warm day with a gentle south-easterly (tending south-westerly) breeze, forecast to increase later in the day.

As Skipper Bevan guided the craft away from the shore, his partner Nick welcomed us aboard and discussed facilities and on-board safety issues. During the crossing we saw numerous birds, including a raft of about 300 wedge-tailed shearwaters, apparently sitting over a shoal of fish. Just after 9.00 am a pod of dolphins appeared a short way off. They swam straight for the boat, dived under the bow and then began to surf the bow wave, much to the excitement of those assembled on the foredeck. There were three adults and one juvenile. They only swam with us for a brief time – a few minutes only.

Meanwhile, some of our number, including our illustrious leader KC had succumbed to the effects of the rolling and swaying and spent much of their time lying on the bunks and mattresses scattered around the boat. Mollie had claimed her spot as soon as we boarded the vessel and still had not budged except to come on deck for the initial safety briefing. The swell seemed to lessen a little (or maybe we were becoming used to it?) as we travelled further west. More shearwaters, terns and flying fish were sighted on the way. The islands were finally sighted at 11.30 am, four hours after leaving port. The boat moored near Little Pigeon Island at about 12.40 pm and we began lunch minutes later. Everyone seemed to have survived the crossing reasonably well.

Wednesday February 17 (afternoon) We spent a most interesting afternoon visiting West Wallabi Island. We were taken ashore in two small boats, four or five people at a time – one boat had to make two trips. Each trip took about 25 minutes. I was in the last boat which became stuck on the reef for about five minutes. Kevin, Jamie and Ron had to get out to lighten the boat. We waded through water up to our knees, wearing our reef boots, for the last 50 metres and reached West Wallabi at 2.30 pm.

We walked toward Weibbe Hayes’ first “fort” where some artefacts from the *Batavia* had been found. On the

way we collected some *Frankenia pauciflora* and other plants and lichen. We saw three tammar wallabies and a king skink and later on a western dragon and spiny-tailed lizard. After a group photo at the “fort” we walked on to the second fort. As no artefacts had been found here it is not certain it was built by people from the *Batavia*. Near this “fort” we saw lots of fairy terns flying overhead, then Barbara and Adrian saw a young one running along the ground. Kevin said they do not usually nest so far from the coast.

On the way back to our landing place we stopped to see Weibbe Hayes’ water hole. This had meant the difference between life and death to the survivors from the *Batavia* who were stranded here by the mutineers. We then walked along the coast to two fireplaces made by the *Batavia* survivors. They were just opposite Pigeon Island.

The last boat left West Wallabi at 5.10 pm. On the way back we stopped at tiny Shag Island and Kevin and Hugh went ashore to collect some plants and explore. Kevin saw eight cormorants’ nests. We got back to the *Southern Lady II* at 6.15 pm. We sailed on to Beacon Island and went ashore at 6.45 pm. Here we saw hundreds of bridled terns flying overhead and also roosting in the bushes and on the ground. They showed no fear of us, so we could get very close to them. We even saw a mother tern regurgitating food for her chick – something I had never seen before (except on TV). In the distance we saw an osprey’s nest perched on some lobster pots.

About half an hour after we had returned to the *Southern Lady II* Kevin told us about plans for the next day and Jamie told us about the iridium satellite No. 56, predicted to appear in the south at 8.44 pm. We watched it as it suddenly appeared like a star as bright as Venus. It lasted for about 20 seconds and then faded quickly. Then we watched the video “Wilderness Regained” about the Abrolhos Islands. While watching the video we had our evening meal which included bald chin groper and gold spot cod (slimy cod). These were caught during the afternoon by Bob, a very keen fisherman. It was a fitting end to a wonderful afternoon.

Thursday February 18 Fine and sunny with afternoon cloud. Being tied up at the jetty overnight we had time to go ashore in the evening and early morning for a walk of sheer delight as the birds went about their business with little regard for our proximity. Two ospreys vied with each other in attempting to land on our aerials, but they were just too flexible for them.

The first journey of the day was out past Long Island to the site of the *Batavia* shipwreck and almost the whole company snorkelled over the wreck, marvelling at the clarity of the water and the amount of artefacts which could be easily recognised. Although it was an excellent day for the viewing of the wreck and the weather was very kind, there was still a swell running and some care was needed leaving and boarding the boat. Ruth seemed at odds with the sea and showed her displeasure by head butting the transom before climbing aboard. The first aid box came into use for Ruth and later for Crystal who

cut her toes on the transom of the boat. The first of the collection teams left the boat at this time, Kevin taking three: Michelle, Claire and Jamie, who hadn't snorkelled. First to Traitor's Island which was the first one the survivors reached. The beach was covered with oysters and Nick's hammer allowed us to sample a few. About ten species of plants were collected.

The second visit was to Wann Island, named for a local fishing family. It is only 58 metres long and the vegetation was no more than 50–60 cm high and windswept. Meanwhile, back on the *Southern Lady II* the team prepared for more snorkelling as the boat moved round to the other side of Long Island near the site of the supposed gallows. I am told the coral here was more striking than that at the *Batavia*.

A new collection team of Hugh, Ron and Kath went off to adjacent islands. Rock 1 (unnamed) was only 40 x 30 metres but contained breeding sites for cormorants and osprey. Again the vegetation was low, sparse and wind blown. Rock 2 (also unnamed) was even smaller, but the sea-lions provided great entertainment. One joined Nick and Chieko in the water and later a group of eight appeared in full view. First Sister is a crescent shaped island half of which is an extensive shearwater nesting site, with more vegetation than the others. A sea eagle nest and 2 osprey nests were seen. Oysters again.

Immediately after lunch a party of three went with Kevin and Nick to check out two more islands. Firstly to Second Sister where they collected plant specimens. It was a barren island with very little vegetation but there were two Australian sea-lions basking on the beach. Third Sister Island is larger and circular and plant specimens were collected there also.

The *Southern Lady II* met this group at Third Sister Island and we then continued on our way down to the Easter group of islands. This trip took about an hour and we arrived there at about 3.30 pm and anchored in Leo's Lagoon. The weather had clouded over quite a bit and there were signs of a thunderstorm with a little lightning away to the west and north. Bob trawled a line all the way down, without luck, but he had caught a nice bald chin groper in the morning, which I hope we are going to enjoy tonight. After afternoon tea Kevin, with three helpers, visited four islands not far from where we were anchored. The first of these – Joe Smith's Island – is quite small, with coral and rock and not much vegetation – plant specimens were collected. There are signs of a previous building – no doubt Joe Smith's – with sheets of rusted corrugated iron and asbestos lying around. The second island was even smaller, roughly circular and covered with very thick bushy vegetation over the rough coral base. In the middle, and built on top of the bushes, was an osprey's nest but with no sign of recent habitation.

The third island we visited was Tapani, much larger but very irregular in shape and very barren and rocky. Samples of vegetation were collected here as well. There was once again an osprey's nest in the centre, but this time there had been help by man who had built a base for the nest from the rocky coral and bits of wood. There was no sign of the occupants while we were there, but

when we had gone on to the fourth island we noticed two ospreys in occupation. The fourth island visited was once again quite small, very rough and did not have much vegetation. There were signs that bridled terns had nested there and there were a couple of adults in evidence.

The other party went in two groups to Leo's Lagoon Island and walked the length of it to the east – probably about a kilometre. It was quite wide at the western end where we were anchored, but was quite narrow towards the east. The party could see the rollers coming in from the south. Thanks to Claire the party saw caspian terns, a bar-tailed godwit, two pacific gulls' nests and two other breeding sites – one shearwater and the other bridled terns. The group also saw two Australian sea-lions in the completely land-locked lagoon.

Bob slaved over the hot grill and cooked us all a delicious meal of fish. Then Chieko cooked steak to follow. We ate very well and happily. Kevin was very pleased with our achievements today and told us of his plans for tomorrow. Jamie was delighted to be able to point out to us Venus and a very new moon. Although there was a lot of low cloud we could enjoy looking at the sunset and Venus, Moon and Jupiter (in that order).

We have had a wonderful day, with lots of different experiences – all interesting and educational. I truly enjoy being part of this group – every one has something to contribute and a generosity of spirit. The crew are capable and very helpful and always cheerful. Some of us enjoyed sleeping on the fly bridge under the stars, others on the fore deck inside bunks or the deck itself and still others, down below.

After the evening meal Jamie gave an astronomical tour of the sky from the bow of the *Southern Lady II* at first with the door closed to block out the light from inside. The sky had cleared of the earlier cloud covering. During tea the new crescent moon was visible intermittently just above the horizon with Venus below and Jupiter above – cloud cover at the horizon spoiled the full view. When at the bow, we could see the lights of Geraldton reflected in the clouds on the horizon. At 10.00 pm the call of the bunk/floor/fly deck was too great after the long day in the sun snorkelling, collecting plant specimens and travelling so the astronomical travel came to an end for another evening, and we all went to bed.

Friday February 19 The day began early with some heavenly fireworks at about 3.30 to 4.00 am. There was a very active electrical storm in progress from the direction of Geraldton, as the lights of the town were still reflected. Flashes every 2–18 seconds or so. The lightning was quite startling and the bright flashes were reflected in the clouds. *Southern Lady II* at the time was in very calm waters just lapping the hull. Still a wild night inside the cabin (on deck). Bevan, the skipper, told me when we got up that he had heard that there had been a big storm in Geraldton during the night. Light at 5.55 am with quite clear skies above with a few clouds near the horizon. The *Southern Lady II* oscillates from side to side on its mooring in the wind. Sunrise 6.10 am (half sun above the horizon). 6.50 am after the usual

good breakfast of cereals and cooked bacon and egg, the *Southern Lady II* set off for the north end of Alexander Island through the channel we had used the day before. At 7.10 am arrived at Alexander Island and dropped anchor. On the way there saw the following: osprey diving to catch fish, feeding frenzy by sooty terns, cormorants, shearwaters, roseate terns and bridled terns.

As the *Southern Lady II* is a supply boat for the rock lobster fleet, it carries plenty of fuel and water. At Alexander Island Bevan filled up 400 litres of fuel into the *Southern Lady II*'s tanks, having used approximately 600 litres to arrive there from Geraldton according to Bevan. This morning we have snorkelling on the reef and a walk on Alexander Island planned. At 7.45 am we were taken over to the island in the two boats. An Australian sea-lion was waiting there for us along with many birds, particularly sooty terns. On the way back along the beach an Australian sea-lion had caught a fish and was swishing it around in the water with it in his teeth. It seemed to be playing around and showing off as it stopped every so often to look at us! By 9.30 am most had arrived back on the *Southern Lady II*. Ron swam back and was rewarded by a close encounter with the sea-lion (no doubt a thrilling experience) and some stag-horn coral that was a bit too close to the surface. The snorkelling around the *Southern Lady II* was particularly good today as it was comparatively shallow – about 4 metres deep. Different types of coral, but none coloured that I could see. Only a few coloured fish, large grey with black striped back, small black and white striped, one bright green/yellow fluorescent among stag-horn coral and shoals of small fry. Coral was stag-horn type, large round, flat plate type, cone type. Deep channel between coral reef and the island. (On Alexander Island we also saw 4 ruddy turnstones.)

10.30 am we weighed anchor and left for Rat Island to look at the guano workings. At 11.00 am we tied up at the jetty on Rat Island – the tide was in so we could navigate the channel to the jetty. So many huts with all mod-cons, usually on display at the edge of the limestone cliffs emptying directly into the water – no swimming here in the lobster season! Some were even flush types. We walked along the coast past the huts and jetties – including the school. It seemed particularly hot with the hard ground and the huts. Kevin Coate showed us the workings on the island towards the centre – quite barren with no bird life, piles of stones and low vegetation – after the extraction of the guano last century. We got some relief from the heat on the substantially-built stone jetty built by the guano collectors in the 19th century. The cooling breeze hit us as soon as we stepped off the land. The jetty appeared in reasonable condition despite its years, but minus the railway lines.

12.00 pm returned to *Southern Lady II* for lunch. There was an immature pacific gull sitting on the jetty where *Southern Lady II* was moored. We noticed quite a few flies on deck – not normally bothered with flies on this trip/expedition so far. They went as soon as we started moving again. We left for Wooded Island with a cooling breeze to ease the heat of the sun and at 12.30 pm dropped

anchor at Wooded Island. KC gave us a briefing before going ashore, mentioning that there is a land-locked lagoon in the island and a narrow channel between Wooded Island and Morley Island (white-faced storm petrels nest on Morley Island). There are only two known colonies of lesser noddy in the Easter Group of islands, one being on Wooded Island. Pied cormorants are ousting the lesser noddies through nesting on the mangroves which occur on low-lying land on the island. We were going into the mangroves to look at nesting lesser noddies. There should be sooty and bridled terns as well plus an osprey nest and Australian sea-lions on the island.

All the group except Bob and Claire went in the boats to Wooded Island at 12.45 pm. KC showed us some white mangroves with nesting lesser noddies with young in the nest – apparently quite late in the year for this to be taking place. We crept under the mangroves to get a closer look at the nests above, and also to see the spotless crakes, two or three of which walked by but did not come very close. Later we saw three sea eagles (probably all mature) upsetting and disturbing the noddies who all flew about in consternation, not wanting to be victims.

The party noted the destruction by nesting cormorants to the mangroves by the side of the lagoon. The cormorants were not nesting at the time, but there were many (100's) of nests, some thick with guano and others newer at the tops of the mangroves. The guano-covered nests had laid bare the mangrove leaves but the others had not yet affected them – some lesser noddies still in residence below the cormorants.

KC showed us the green sea lettuce in the lagoon used by the lesser noddies in making their nests. The visit to Wooded Island finished with a look at the ospreys' nest, about 2 m high. Along the coast these are composed of anything that is to hand, or beak – ropes, wood, thongs – all sorts. An Australian sea-lion came in to see what was going on when the two boats were ready to return us to *Southern Lady II*. Back to the boat after a very leisurely walk on the island. We weighed anchor immediately to head to the southern group of Islands – Pelsaert Group – to Gun Island. However, there was a change of plans on our way and we changed course for Pelsaert Island instead. All of a sudden the engines stopped – no islands around. Bob had caught a fish on his line at last and pulled it in – a bobby mackerel, about 50 cm long. That will be very nice for a meal – maybe tomorrow's breakfast!

At 4.20 pm arrived at anchorage spot at southern end of Pelsaert Island about one and a half miles from the lighthouse. KC briefed us again, telling us that the Pelsaert Group is encircled by a half moon shaped reef to shelter it. There are three layers of birds at the breeding area at the end – sooty terns on the ground, shearwaters underneath and common noddies on top of vegetation. Guano mining had continued until 1946. The jetty has been washed away since KC last visited. The *Windsor*, a steamer wrecked in 1908, is on the half moon reef and other wrecks were around. There is an old rail track for walking on away from the breeding areas.

We landed on Pelsaert near the old jetty where there was a good sandy landing. We found a stranded live baler shell (*Melo amphora*) upside down on the sand. KC bathed it in water and returned it to the sea, we hoped it would be revived by the sea water. The party then walked along the old rail track towards the south and soon arrived at the place where all the common noddies were congregating. We were surrounded by birds from then on as they rose into the wind and circled around about and in front of us. What an amazing sight and experience to encounter so many birds. I think there were three immature sea eagles flying in the area as well. On the shore on the far side we saw a bar-tailed godwit on the way back.

When we got back to the jetty remains there was a live conch shell near the baler, which had revived enough to move further into the sea. The conch appeared to be *Syrinx aruanus*, a carnivorous shell according to the shell book.

Back on board a feast was prepared and the last of the wine and port was brought out for our last supper of this expedition on board *Southern Lady II*. I find the days getting better all the time – more relaxed and anticipatory and tomorrow we will take away our memories and treasures of a unique experience. For me, it has been a new and varied experience an insight into another world I hardly knew existed from my comfortable existence in Perth.

At 6.55 pm lesser noddies observed passing *Southern Lady II* in great numbers heading to the north, presumably to roost in their colonies on the island after spending the day feeding. They were still passing at 7.40 pm – 45 minutes later.

After tea it was time for our final astronomical experience from the fly-deck with our resident Government Astronomer. It was by now blowing hard and quite cool – beanies, warm tops and trousers were definitely needed, for about the first time on the expedition. Jamie gave us a potted description of our galaxy and two others he pointed out and he then pointed out some of the easier constellations, brightest stars and the planets' trajectory arc. We retired with the port afterwards to get our warmth back and at 10.00 pm the lights went off. An early start was planned for the next day to Gun Island.

I support earlier observations about the important role that Bevan, Nick and Chieko have played in facilitating the smooth running and enjoyment of the expedition for us. The enthusiasm and interest shown by the two leaders, Kevin Coate and Jamie Biggs, in sharing knowledge and experience is the mainstay of this expedition.

Saturday February 20 Dolphins round the boat at 6.00 am. It was a noisy, blustery night but the sea was not rough. The sky was overcast as we got underway heading northwards to Gun Island. Everyone in good spirits, our party has jelled very well. Smooth seas at this time. Breakfast cooking – it is pleasant to close one's eyes and catch the odd snatches of conversation and laughter, and the smell of food, including the

mackerel which Bob caught yesterday, trolling behind the boat.

At 7.30 am the anchor rattles out as breakfast is served. Mackerel with fried egg; I've never had that combination before but it is excellent. A large ray goes by, watch this space folks, its all happening here! Kevin, Ron, Adrian and John to Island No.3. Island No.3 is a flat island composing karst limestone which rises cliff-like from the sea to a general elevation of not more than 3 metres. The face of the island is undercut by waves. GPS readings were taken, and paced measurements, which showed that the island measures some 324 m x 80 m, with the long axis in the north/south direction. The surface of the island was sparsely covered with a variety of scrubby vegetation and plants which were extensively sampled. The surface of the island was liberally pocked by 150–200 m round holes going down at various angles into the substrata. There was liberal evidence of former guano workings which appeared to be concentrated at the northern end. Some odd bits of timber still survive, littering the surface. There was no evidence of mammals or reptiles here and scarcely any evidence of colonisation by birds except for the ospreys. There were four ospreys and there was a nest about 1.5 m high at the northern end of the island. A single Australian sea-lion came to see us off.

The full expedition party went ashore at Gun Island. The geology here was similar to Island No.3, i.e. exposed limestone karst. The island was flat with a general elevation of 3–4 metres. Approaching the island the rock rose vertically from a sandy/shelly foreshore with shallow near-shore water. The party landed close to the remains of the former jetty built for the guano operations. There was a small quarry by the jetty, excavated for rock to build the jetty. This was home for a number of wading birds, crakes, etc.

At the north-eastern end there was a memorial cairn with plaque to commemorate survivors from the Dutch boat *Zeewyk* which ran aground on the half-moon reef. Remnants of guano excavation work were in evidence.

Two or three wedge-tailed shearwater chicks, fat, furry and very late hatched, well after main hatch. Sighting these was an unexpected bonus. A well (natural hole in the ground) was found about 200 m inland from the memorial cairn and central. The hole was about 1.5 m in diameter round with water level some 2 m below ground level. Judging by the feathers around the hole it is evidently well used by the seabirds.

The history of these islands is fascinating. The *Batavia* epic is well documented but the *Zeewyk* wreck on Half Moon Reef is not as well known. That the survivors were able to build such a substantial boat and sail it to Batavia is remarkable. We endeavoured to find where the boat was built but without success although we thought we were in the general area. There was some evidence of the oil drilling workings but thankfully these were unsuccessful. There was a large group of pied cormorants resting on the cliffs.

We then left Gun Island and travelled through the Post Office and Mangrove Group – passing Basile Island where it is reported two young men were put ashore. Tied

up at Nook Island and while KC and five of the ladies visited Gaze and Lagoon Islands Adrian and Chieko scuba dived around Nook Island whilst John, Hugh and Ron snorkelled. Jamie ventured in as well. After lunch we squared everything away for what promised to be a bumpy trip home.

February 20 2.40 pm Captain's Log – Well I'm the Captain at the moment. My hour or two of glory while the skipper Bev has a snooze. It is not really that glorious, I'd rather be horizontal as well!

I'm in the wheelhouse keeping an eye on the GPS and making sure we don't bump into too much. We are on a bearing of 82° and will be so for another 25.5 nautical miles, which at 10.4 knots equates to about two and a half hours before we swing into the calm waters of Champion Bay. George the auto pilot has the wheel. He can read the compass and control the hydraulic solenoid valves that keeps the bow pointing east.

From my airsprung seat I can see 15 of the most appreciative passengers we have had this season. At the moment they are probably reflecting on the past four days. At least they would be trying to think of anything other than that moist, light-headed feeling some get when your eyes and those three little balancing organs give when they get mixed messages. I haven't seen any lose their lunch yet. Actually it is not a bad passage today – I think I would give it a 4/10. Other than my outboard motor dying on the last day I've had a great trip. Oh yeah – then there is that persistent tooth ache!

My aim on each trip is to allow each person to take away a special memory of the Abrolhos. It is not a difficult job on a trip like this as these youngsters are all keen to learn and make the most of their time away. Luckily for me I have been able to learn a heap over the past four days. Gazing at the stars with Jamie Biggs would have to have been the highlight for me, I hope I can remember just a fraction of what he said.

When Kevin passed this diary to me (quite quickly I might add – he didn't want to spend long in the wheelhouse) he said to say a bit about myself. Well, I'll keep it brief. I have been in Geraldton for the past 7 years working for RGC Mineral Sands as a Senior Project Engineer. I am a metallurgist from Murdoch. All the degrees under the sun are useless out here, where a practical approach and experience has no substitute. Both of which I'm learning from my skipper Bev. I'm half way through my sea time to get my Master V Skippers ticket. Bev is a great teacher for me, infinitely patient and knowledgeable. Bev is also my business partner as we own and run a charter operation called Abrolhos Islands Escape Charters. We have been operating for a little over a year now hiring the *Southern Lady II* and ourselves back for a company called Falvis. As I'm not one to miss an opportunity you can contact us on 99382505.

Anyway from the Master on Watch and his slumbering crew – Skipper Bev and the lovely caterer Chieko – thanks for coming. It was truly a pleasure having everyone of you. My email address is: abrolhos_escape@wn.com.au
Nick Linton

February 20 4.57 pm Captain's Log My thanks to everyone for making this trip special, great company, all with a like-minded, nature bent!

Running a charter is easy if everyone "rubs along" allowing for different personalities all of us with our short comings. Our little community, albeit for a brief time, made my year of chartering all worthwhile. Jamie and Kevin's knowledge was invaluable, I learnt a great deal, please come again.

Thank you again for the pleasure of your company.

Bevan Suckling

Dear Everybody,

Thank you very much for helping to make this trip special for me. I always remember this trip with you. I believe your team has a magnificent sense of nature. I will not forget sharing our time away. We slept under the stars, shared wine, food and laughs at the Abrolhos Islands on board the lovely boat *Southern Lady II*. I hope our trip remains in your dreams as it will in mine!! Ocean love in the Abrolhos Islands **Chieko Furujiku**. 2437 Johana Yotama, Japan F939-1815. Email: chiekofuru@hotmail.com

BIRDS, VEGETATION AND NATURAL HISTORY NOTES BY KEVIN COATE

Our objectives were to collect plant specimens for Vanda Longman, a consultant working for principal research scientist Greg Keighery (from a list of small islands that had not been previously collected on) as part of CALM's current "Vegetation Survey of the Houtman Abrolhos Islands" (to be published in *CALM Science* journal) and record any evidence of sea bird breeding. Due to a number of circumstances – good weather, right tides, fast dinghies and a skipper who knew the waters, we achieved more than we hoped. The Abrolhos Islands were first sighted by Frederick de Houtman in 1619. The name Abrolhos is derived from the Portuguese expression *abre os olhos* meaning "open the eyes" or "look out" and first appeared on charts of the Dutch East India Company in 1627.

Aboard the *Southern Lady II* with skipper Bevan Suckling and his partner Nick Linton, we departed Geraldton for the Abrolhos Islands in moderately fair seas. Our earlier visit to the Geraldton Maritime Museum to see relics of the early Dutch wrecks and listen to the graphic descriptions given by local identity and underwater explorer, Max Cramer, had given us all a keen anticipation to be out in this historic area. We appreciated Max giving of his time and the Museum staff in opening early for our benefit.

Altogether collections were made from eighteen islands and plant specimens brought back for subsequent identification and inclusion in the "Vegetation Survey of the Houtman Abrolhos Islands". Valuable bird observations with associated breeding records were made and several dead specimens found on islands were lodged with the WA Museum. The four unnamed islands listed above have tentatively been given names for easier



Dr Jamie Biggs and Professor Jay Pasachoff with the solar projection telescope with video camera attachment



Observers viewing the projected eclipse at maximum annularity



A facsimile of the french coin and lead bottle seal discovered by Max Cramer and his team on Dirk Hartog Island in 1998



'Fort' constructed from limestone shingle by survivors of the *Batavia* on West Wallabi Island



'Fort' construction attributed to either survivors of the *Batavia* or the nineteenth century guano diggers

reference on future surveys, and these will be forwarded to DOLA for consideration. They are provisionally named "Landscape Island" – after the 1999 Landscape Expedition survey; "Naturalist Island" – after those who assisted in the survey on the 1999 *Landscape Expedition*; "Nitraria Island" – after the dense vegetation on the east end; "Tectus Island" – after one of the species of broken shells dropped for food by sea birds.

Many thanks to everyone for participating and making the expedition such a wonderful success. It was a fun time enjoyed by all, while at the same time contributing to science for a better understanding of the environment.

THE WALLABI GROUP OF ISLANDS

West Wallabi Island (28°28'04"S 113°41'13"E) – 17.2.1999.

On arrival at the Wallabi Group we anchored near Pigeon Island and were then ferried to Slaughter Point for a fascinating look at sites connected to the 1629 wreck of the Dutch East Indiaman, *Batavia*, and collected plant specimens.

At the first site we saw the walls of a stone structure less than a metre in height, in the shape of a small building. Archaeological surveys conducted by Aquinas College in the 1960s and later by the WA Museum, concluded from fragments of Rhenish stoneware (Bellarmine jugs) and other relics, that it probably was the first building erected by Europeans in Australia. When nearby old fireplaces were excavated, bones of tamar wallaby (*Macropus eugenii*) and other wildlife eaten by the survivors were discovered. We found tamar wallaby to be plentiful, particularly where they could find shelter and shade under *Pittosporum phylliraeoides* shrubs. On the semi arid West and East Wallabi Islands these interesting small rufous coloured animals have learnt to survive by drinking sea water. The famous naturalist John Gilbert, when collecting specimens for John Gould, visited here in 1843 after an epic journey from Fremantle in a small 15 ton wooden boat. While at the Wallabi Islands he obtained no less than thirty skins of the tamar.

Further inland at the second site was a similar stone shelter and it is still unclear whether or not it is connected to the *Batavia* survivor's or workers mining guano in the early 1900s. This structure is built on a bare limestone platform and consequently can not be excavated. However, fragments of crockery more typical of the 1800s and 1900s have indicated occupancy by guano diggers. (John Forrest, then a surveyor, recorded these two structures when he visited in 1879.) Bird Observations: This location of exposed and flat limestone rock (at the second site) is a favoured spot for waders even though a long way from the shoreline. It was unusual to find fairy terns breeding here, so far inland and so late in the season. A small fluffy chick spotted by Barbara Finch came from one of 6–8 breeding pairs calling and hovering above.

Plants Collected: *Acanthocarpus preissii*, *Beyeria viscosa*, *Capparis spinosa*, *Carpobrotus virescens*,

Dianella revoluta, *Diplolaena grandiflora*, *Exocarpos sparteus*, *Frankenia pauciflora*, *Grevillea argyrophylla*, *Halosarcia halocnemoides*, *Myoporum insulare*, *Olearia axillaris*, *Pittosporum phylliraeoides*, *Sarcostemma viminalis* ssp. *australe*, *Sonchus oleraceus*, *Spinifex longifolius*, *Threlkeldia diffusa*, *Westringia dampieri*.

Miscellaneous: Several bearded dragons (*Pogona minor minor*) were found and examined on West Wallabi as well as an interesting spiny tailed skink (*Egernia stokesii stokesii*) named after Lieut John Lort Stokes of *H.M.S. Beagle* when the Abrolhos was charted. Two very healthy ticks attached to this reptile were identified by Mark Harvey of the Western Australian Museum. They were found to be male and female *Amblyomma albo limbatum*, a species found throughout the South West and as far north as Geraldton and common on ground dwelling reptiles.

Back on board the *Southern Lady II*, Bob Fitzhardinge, who had stayed back to fish, recounted to us how he had lost fish and line to giant samson fish in a feeding frenzy.

Beacon Island (28°28'36"S 113°47'03" E)

At Beacon Island Bridled Tern were still rearing young, under a thick cover of *Nitraria billardiarei* around the fishermen's huts. Most of the group watched an adult bird regurgitate food 4 times into the mouth of a partly fledged youngster. Beacon Island was the scene of one of the bloodiest episodes in Australian history and during the time *Batavia* survivors were there – 125 men, women and children were murdered.

It is a small island with a lot of history. In 1963 Max Cramer and others excavated and found Dutch artifacts and human skeletons. There are still skeletons under some of the buildings. A prominent cairn on the island was probably placed there in 1897 by Surveyor A.J. Wells, who was doing a survey of guano deposits. The small stone construction on the southeast point of the island, although popularly accepted as being the prison of Jeronimus Cornelisz, the ring leader of the *Batavia* mutiny, from artefacts found there by the WA Museum, it seems more likely to be a shelter erected by survivors from the wreck of the *Hadda* in 1877.

Over the duration of the expedition, we enjoyed excellent weather and were able to take advantage of the calm sea when *Southern Lady II* anchored just off Morning Reef, to snorkel over the wrecksite of the *Batavia*. The clarity of the water gave a perfect view of the cannon and the large anchor still remaining there. Shoals of fish swimming around the wreck complimented a memorable visit to this historic site.

Still in the Wallabi Group, some assisted to collect and record plant and bird life on Traitor's Island and Wann Island while others visited Long Island where the *Batavia* mutineers shifted 45 men, women and children, most of whom were later murdered. The shelter built of stacked coral plates is still somewhat of a mystery, but it has been suggested it may have been the place where the three mutineers were kept before being hung.

While travelling to First Sister Island from Long Island we noticed a pink slick on the surface of the water indicating a spawning of coral the previous night.

Shag Rock (28°28'33"S 113°42'44"E) – 17.2.1999
Height above sea level: approx 2.5 m surrounded by a cliff.

Dimensions: Length: approx 60 m. Width: approx 22 m.

Features: Large bare area in centre composed of guano.

Bird Observations: 8 disused pied cormorant nests; bridled tern present in small numbers.

Plants Collected: *Atriplex cinerea*, *Halosarcia halocnemoides*, *Nitraria billardierei*.

Traitors Island (28° 29'07"S 113° 46'58"E) – 18.2.1999

Height above sea level: approx 2 m.

Features: Coral shingle western end. Large area in the centre of guano and ice plant (*Mesembryanthemum crystallinum*). Dense matted vegetation (about 0.5 m high) surrounds most of the shore line. On the shallow reef on the eastern end a good supply of large and tasty rock oysters.

Bird Observations: 1 dead pied cormorant, bridled terns present in the shrubbery, ruddy turnstone, red-capped plover and silver eye.

Plants Collected: *Atriplex cinerea*, *Enchylaena tomentosa*, *Lavatera plebeia*, *Mesembryanthemum crystallinum*, *Myoporum insulare*, *Nitraria billardierei*.

Wann Island (28°28'20"S 113°45'46"E) – 18.2.1999

Height above sea level: approx 2 m.

Dimensions: Length: 58 m. Width: approx 15 m.

Features: Low matted, sparsely covered vegetation – surrounded by small cliffs. On the southern end a large concentration of broken trochus shell (*Tectus pyramidus*) and *Turbo intercostalis* that have been dropped by birds (most likely pacific gulls) to extract the fish.

Bird Observations: disused osprey nest on an upturned craypot; disused pied cormorant nests totalling 44; and about 15 disused burrows that appear to be those of little shearwater.

Plants Collected: *Atriplex cinerea*, *Carpobrotus virescens*, *Enchylaena tomentosa*.

1st Unnamed Island north of First Sister [Island]
(28.47°S 113.74°E) – 18.2.1999.

("Naturalist Island" – named after those who assisted in the survey on the 1999 *Landscape Expedition*.)

Height above sea level: approx 2 m.

Dimensions: Length: 40 m. Width: approx 23 m.

Features: Limestone rock – one-third vegetated.

Bird Observations: 1 osprey nest; about 10 disused burrows (most likely little shearwater)

Plants Collected: *Atriplex cinerea*, *Enchylaena tomentosa*, *Mesembryanthemum crystallinum*, *Myoporum insulare*, *Nitraria billardierei*, *Threlkeldia diffusa*.

2nd Unnamed Island north of First Sister [Island] – 18.2.1999.

("Tectus Island" – named after *Tectus pyramidus*, one of the species of broken shells dropped for food by sea birds.)

Height above sea level: approx 2 m.

Dimensions: Length: 32 m. Width: approx 21 m.

Features: Limestone, surrounded by cliffs and about two-thirds vegetated. Large amount of broken shells dropped by birds for food.

Bird Observations: One osprey nest and a recently dead osprey. Ron Johnston of the Western Australian Museum indicated it had the appearance of a young bird. The wing and other parts have been added to the Museum collections.

Plants Collected: *Enchylaena tomentosa*, *Mesembryanthemum crystallinum*, *Nitraria billardierei*, *Sarcocornia quinqueflora*.

Miscellaneous: 2 Australian sea-lions.

First Sister [Island]

(28°28'40"S 113°44'34"E) – 18.2.1999

Height above sea level: approx 2 m.

Dimensions: Length: approx 102 m. Width: approx 38 m.

Features: Small rise of western end, leveling out to sandy area sparsely matted – *Atriplex cinerea* eastern end. Good sized rock oysters on NW end.

Bird Observations: little shearwater - extensive breeding area 70 m by 34 m full of burrows (rough estimate 150–200), in low lying sandy area covered by sparsely matted *Atriplex cinerea*; One decomposed little shearwater chick. (This colony has to contend with Australian sea-lions that like to bask in the breeding area.); 1 grey-tailed tattler; pacific gull – 4 (disused nests); 6 fairy tern; 1 eastern reef egret; 2 silver gull; 1 osprey and a small nest.

Plants Collected: *Atriplex cinerea*, *Bromus arenarius*, *Cakile maritima*, *Enchylaena tomentosa*, *Mesembryanthemum crystallinum*, *Myoporum insulare*, *Nitraria billardierei*, *Sarcocornia quinqueflora*, *Senecio lautus*, *Setaria dielsii*, *Spinifex longifolius*, *Threlkeldia diffusa*.

Miscellaneous: 8 Australian sea-lions.

THE EASTER GROUP OF ISLANDS

Leo Island – 18.2.1999

After leaving the Wallabi Group of Islands we anchored at Leo Island, where some went ashore. Some took the dingy to other islands to collect plants.

Feature: A large lagoon dominates the island.

Bird Observations: crested tern, bridled tern (still with young), roseate tern, red-capped plover, bar-tailed godwit, white-bellied sea-eagle, ruddy turnstone; sooty oyster catcher, pacific gull (and 2 disused nests), silver gull, welcome swallow, silver eye. There were little shearwater burrows behind the fishermen's houses.

Miscellaneous: 2 Australian sea-lions in the enclosed lagoon.

Joe Smith Island (28°40'56"S 113°51'29"E) – 18.2.1999

Height above sea level: approx 1.5 m.

Dimensions: Length: approx 95 m. Width: approx 34 m.

Features: Three quarters vegetated with open shale areas. Concrete foundations of old fishing shack and remains of old jetty. Collapsed osprey nesting platform

on wooden pole and supporting stone cairn.

Plant Collections: *Atriplex cinerea*, *Chenopodium murale*, *Lavatera plebeia*, *Myoporum insulare*, *Nitraria billardierei*, *Senecio lautus*, *Threlkeldia diffusa*.

Tapani Island (28.67°S 113.85°E) – 18.2.1999

Dimensions: Length: approx 241 m. Width: approx 60 m.

Features: Irregularly shaped and approx a quarter vegetated - composed of coral rubble with large storm ridges of coral rubble.

Bird Observations: osprey nest on platform and pole erected by fishermen.

Plant Collections: *Atriplex cinerea*, *Carpobrotus virescens*, *Myoporum insulare*, *Nitraria billardierei*, *Sarcocornia quinqueflora*, *Sonchus oleraceus*, *Threlkeldia diffusa*.

1st Unnamed Island east of Tapani Island (28.67°S 113.85°E) – 18.2.1999

("Nitraria Island" – named after the dense vegetation on the east end.)

Height above sea level: approx 2.5 m.

Dimensions: Length: approx 36 m (east west). Width: 18 m (north south).

Features: Heavily vegetated with a dense cover of *Nitraria billardierei* on the east end. Composed of limestone and coral rubble.

Bird Observations: osprey nest on *Nitraria billardierei*; bridled tern with almost fledged young under *Nitraria billardierei*.

Plant Collections: *Carpobrotus virescens*, *Chenopodium murale*, *Mesembryanthemum crystallinum*, *Myoporum insulare*, *Nitraria billardierei*, *Sonchus oleraceus*, *Suaeda australis*, *Threlkeldia diffusa*.

2nd Unnamed Island east of Tapani Island (28.67°S 113.85°E) – 18.2.1999

("Landscape Island" – named after 1999 *Landscape Expedition* survey.)

Height above sea level: approx 2.5 m.

Dimensions: Length: approx 68 m. Width: approx 25 m.

Features: Composed of welded together and loose staghorn coral. Surrounded by cliffs.

Bird Observations: 1 white-bellied sea-eagle, 12 ruddy turnstone.

Plant Collections: *Atriplex cinerea*, *Chenopodium murale*, *Lavatera plebeia*, *Mesembryanthemum crystallinum*, *Myoporum insulare*, *Nitraria billardierei*, *Sonchus oleraceus*.

Alexander Island – 19.2.1999

The name commemorates W.B. Alexander, a well known naturalist who visited the Abrolhos Islands in 1913. Bird Observations: We visited Alexander Island to monitor the breeding progress of a large colony of sooty tern. There were many dark plumaged juveniles flying and resting in flocks along the shore line. Over most of this fairly large island, almost fully fledged chicks were

common under shrubbery. There were bridled tern under the shrubbery next to the shoreline around the island that appeared to still have young.

Miscellaneous: 3 Australian sea-lions.

Rat Island – 19.2.1999.

Historic Perspective: Once there were huge breeding colonies of sooty tern and common noddy on this island. A.J. Campbell on his visit in 1889 estimated there to be in excess of a million common noddies. On our visit to view the moonscaping effect left by the guano diggers there was nothing to remind us of the activity of hundreds of thousands of birds that used to nest here, even up to the mid 1930s. They have all abandoned the Island. The introduction of cats and large scale gathering of eggs is thought to be a major factor in their demise. The main activity for Rat Island these days is over a three month period 15 March to 30 June when rock lobster fishermen return to catch the succulent delicacy. Walking past the fishermen's huts gave us an insight to the feverish activity generated here each year.

Wooded Island (28°45'S 113°48'E) – 19.2.1999.

Height above sea level: approx 3.5 m.

Dimensions: Length: approx 900 m. Width: approx 320 m.

Features: This 19 ha island is dominated by a large central lagoon.

Bird Observations: From previous visits, I have noted that the pied cormorant rookery is expanding at a significant rate to the detriment of mangrove trees (*Avicennia marina* – some of which have died) causing lesser noddies that are dependent on them for nesting to desert the area. At the eastern end of the most recent expansion of the cormorant colony (at the south western end of the lagoon), some lesser noddies were still clinging to nesting positions under cormorant nests, despite being covered in droppings. Although there is a noticeable reduction of lesser noddy breeding in the mangroves at this site, when observing the number flying out from the fringing mangrove vegetation on the southern side of the lagoon, it may be that they are relocating. While most of the lesser noddy breeding was finished, there were still nests containing newly hatched fluffy chicks as well as some chicks almost fully fledged. Sooty and bridled terns still had almost fully fledged young under shrubbery.

Comparison: We are examining aerial photographs taken by S. Fowler in 1944 where there is no evidence of a cormorant rookery compared with present day aerial photographs.

THE PELSEAERT GROUP OF ISLANDS

Pelsaert Island (28°56'S 113°58'E) – 19.2.1999

For many years it was thought that the *Batavia* was wrecked on Pelsaert Island. Commander John Clements Wickham and Lieut John Lort Stokes mistakenly identified wreckage on the island as coming from the *H.M.S. Batavia*, during a hydrographic survey on the

H.M.S. Beagle in 1840 – and named it after the *Batavia* commander Francisco Pelsaert.

Features: A long (about 12 kms) narrow gutted island, in close proximity to the Half Moon Reef. A light tower at the southern end.

Bird Observations: Here again there was evidence of late breeding with many almost fully fledged common noddy and sooty tern under the shrubbery toward the southern end. Wedge-tailed shearwater burrows were still in use. (For the area we visited, CALM personnel have estimated, during peak breeding on earlier surveys, up to approximately – 130 000 nests of common noddy; 233 000 nests of sooty tern; and over 50 000 burrows of wedge-tailed shearwater.) In shallow water, close to what remains of the old guano jetty (the remnant timber was blown away in a storm last winter) it was wonderful to find two large shellfish – a baler (*Melo amphora*) and a conch (*Syrinx arcianus*). After examining them we returned them to the crystal clear water from whence they came.

At dusk as we reminisced on the days activities aboard the *Southern Lady II* at anchor just off the island, we were treated to an amazing spectacle. An almost continuous stream of thousands of lesser noddy were returning from the sea to their roosting and breeding colony on the island just to the north of us. They streamed past for about three-quarters of an hour until dark. John Gilbert after his visit to Pelsaert Island, in his letter to John Gould in March 1843, remarked on the one dark almost continuous line of birds leaving and returning to their breeding colonies: "Even (John James) Audubon, I think who has been so accustomed to see such vast flocks of passenger pigeons, could hardly avoid expressing strong surprise, if he saw these birds at sunset, moving in one immense mass over and around their roosting places.....". Well after dark, as Jamie Biggs gave us a lesson on the top deck on the mythology and stars in the universe, there were sea birds flying around.

Gun Island (28°53'18"S 113°51'27"E) – 19.2.1999

Here we visited sites connected to survivors of the *Zeewyk*, wrecked in 1627, and speculated as to the exact spot where the *Sloepie* was built to carry the survivors back to Java. A plaque erected at the survivor's camp site, was unreadable due to poor design and positioning. The build-up of guano on it would have taken a lot of scrubbing away. We have notified the WA Maritime Museum of this, in hope they may be able to rectify the situation.

Bird Observations: wedge-tailed shearwater were still breeding and several small downy chicks were seen. Many burrows appeared to be active. Partly fledged bridled tern chicks were recorded and adult birds were plentiful, flying up from under stacks of limestone slabs and shrubbery.

Three Island (28.90°S 113.87°E) – 20.2.1999

Height above sea level: approx 2 m.

Dimensions: Length: approx 324 m. Width: approx 77 m.

Features: Overhanging limestone cliff to 2 m all around

island. Reasonably well vegetated over extensive guano workings. Submerged rock wall (old guano jetty) on north-eastern end. Many rock mounds west end and north side, where the area had been extensively mined for guano. Many sink holes or solution pipes disappear into the limestone over the island. Remains of old guano workers' shelters (with some remains of roofing iron) on the northern side of the island.

Bird Observations: bridled tern in small numbers that appear to be still breeding; a large osprey nest at western end.

Plant Collections: *Atriplex cinerea*, *Bromus diandrus*, *Carpobrotus virescens*, *Cerastium glomeratum*, *Halosarcia halocnemoides*, *Mesembryanthemum crystallinum*, *Nitraria billardiarei*, *Senecio lautus*, *Setaria dielsii*, *Spergularia rubra*, *Threlkeldia diffusa*, *Triglochin mucronatum*.

Miscellaneous: Two small skins of the same appearance; 1 Australian sea-lion.

Eight Island – 20.2.1999

Height above sea level: approx 2–3 m.

Dimensions: Length: approx 80 m north-south. Width: approx 88 m east-west.

Features: Limestone karst with overhanging cliff around the island. Succulents throughout centre where guano was extracted. Piles of rock and short walls all left over from guano diggings. Stone and rock structure on south-east end.

Bird Observations; bridled tern, pacific gull, pied cormorant, ruddy turnstone, silver eye.

Plant Collections: *Atriplex cinerea*, *Bromus diandrus*, *Carpobrotus virescens*, *Cerastium glomeratum*, *Ehrharta longiflora*, *Enchylaena tomentosa*, *Lycium ferocissimum*, *Mesembryanthemum crystallinum*, *Nitraria billardiarei*, *Solanum nigrum*, *Sonchus tenerrimus*, *Threlkeldia diffusa*.

Gaze Island (28.86°S 113.99°E) – 20.2.1999

Dimensions: Length: approx 151 m. Width: approx 62 m.

Features: Coral island composed of loose coral rubble partly fringed by mangroves. A large depression in about the centre of the island surrounded by a ridge of loose coral rubble and shingle.

Bird Observation: crested tern, bridle tern, reef egret.

Plant Collections: *Atriplex cinerea*, *Avicennia marina*, *Halosarcia halocnemoides*, *Sarcocornia quinqueflora*, *Threlkeldia diffusa*.

Miscellaneous: 2 Australian sea-lions resting in bed of *Sarcocornia quinqueflora*.

Travia Island (28.86°S 113°.98°E) – 20.2.1999

Dimensions: Length: approx 145 m. Width: approx 40 m.

Features: Mangroves on south-east tip. Composed of loose coral rubble and shingle ridges created by storms. A depression or small lagoon on the northern end. About one-twentieth of island vegetated.

Bird Observation: 1 dead pied cormorant.

Plant Collections: *Avicennia marina*, *Sarcocornia quinqueflora*, *Threlkeldia diffusa*.

Lagoon Island (28.87°S 113.99°E) – 20.2.1999

Height above sea level: approx 4 m.

Dimensions: Length: approx 185 m. Width: approx 57 m.

Features: A fairly high island composed of coral rubble, with a cliff around the edge. About one-third vegetated. 2 small enclosed lagoons near the south-west corner.

Plant Collections: *Atriplex cinerea*, *Carpobrotus virescens*, *Enchylaena tomentosa*, *Halosarcia halocnemoides*, *Halosarcia indica*, *Mesembryanthemum crystallinum*, *Myoporum insulare*, *Nitraria billardierei*, *Senecio lautus*, *Sonchus oleraceus*, *Threlkeldia diffusa*.

This expedition to the Abrolhos Islands was a memorable experience for everyone concerned and needs more follow-up as there is still much to record of plant communities and the wildlife there.

VOLUNTEER PROFILES



Ron Colquhoun has had an unfulfilled desire to visit the Abrolhos group for many years and hopes that this expedition will enable him to achieve this ambition, enable him to expand his own interests (which include history, birdwatching and astronomy) while helping to increase present knowledge of the areas being covered by this expedition.

Margaret Dawbarn also has an interest in the Abrolhos since reading "Islands of Angry Ghosts" and she enjoys birdwatching. She is a voluntary guide at both Rottneest and Kings Park and is interested in nature generally. She has travelled in Kashmir, Nepal and Kenya as well as camping in Kakadu, the Kimberley region and Karajini. A UWA Extension course some years ago on the night sky also whetted her interest in astronomy.



Mollie Dinham has been on previous expeditions but this will be her first trip to the Abrolhos, which she has always wanted to visit. She has seen other unique astral occasions in the past 20 years from Meeline Station to the south-west of Mt Magnet. She describes herself as the "intrepid traveller", having just published her book, to be launched in April "Travels to Exotic Places".



I did not write in the Diary because it was a case of "Mortified Mollie" – rather than "Mollie the Intrepid Traveller" – when a past injury

reasserted itself and I had a knee which wouldn't work. I handed out fliers for my book "Travels to Exotic Places" to show that I was not an Expedition New Chum, that I physically knew what Expeditions were about. Anyway, I had a great time – enjoying the company, the food, the lifestyle – and watching everyone else work.

Barbara Finch The Abrolhos seems to be the magnet for Barbara but she has had a "very basic introduction to the stars at the Eyre Bird Observatory" some time ago. She is looking forward to the visit to the Abrolhos with its reefs, fish and bird life.



Robert Fitzhardinge Kevin Kenneally's interview on ABC Radio inspired Bob (as he prefers to be called) who is a retired Mine Surveyor to join this expedition. Bob is mad keen on the sea with experience on the Great Barrier Reef and the Fiji islands. He grew up in North Queensland and moved to Perth in 1970. He is a keen golfer and loves fishing.



Crystal Humphry is a retired farmer and says that she has been able to strike out and sample new activities in recent years – she has taught swimming and life saving, joined an Earthwatch expedition, sailed on the *Leeuwin* and taken part in competitive horse riding (endurance riding), travelled round the world and is a part-time TAFE student - plus she has nine grandchildren, so she keeps busy! She has been on a previous **LANDSCOPE** Expedition to Batalling Forest in 1994.



John F Jackson forsees interesting scientific content, adventure, enjoyment, new companions in this expedition, and feels he will be able to contribute positively. He is a retired chartered engineer who plays squash, shoots, fishes and travels. John has returned to the UK and has asked that we publish his UK address and telephone number and issue an invitation to all the expeditioners to call on his wife and himself when they are in the United Kingdom. His address is: Mr John F Jackson, 2 Broome Close, Yateley GU46 7SY Hampshire UK, Tel: 01252 879136





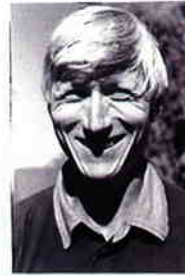
Ruth Kyle was born in Derby in the West Kimberley and continues to have a strong interest in anything to the north. As a child she lived with her grandmother in West Perth opposite the old Observatory. The children of the area knew the one o'clock gun well. Since those days she has always been interested in the "world" of astronomy and now seems a great opportunity to acquire a better insight into that area. The Abrolhos too has fascinated her and she has read as much as she can about the islands and made many visits to the WA Maritime Museum.

Claire Mercer is a previous expeditioner (*LANDSCOPE* Expedition to Burnerbinmah) and wants to see the annular eclipse and continue the star gazing commenced at Burnerbinmah.



Adrian Phelps is a farmer from the Esperance area who farmed for 20 years in South Australia and then 20 years in Esperance. An outdoors person he enjoys most activities involving the sea. He is a keen scuba diver who is hoping to improve his underwater photography.

Michele Russell The *LANDSCOPE* Expedition "New Moon over the Murchison" was Michele's introduction to astronomy, so she felt she couldn't miss this opportunity of learning more about the skies. She says that she learnt so much about birds, plants and stars on that last trip and is looking forward to learning much more on this trip.



Hugh Sykes grew up in England and settled in Perth in 1983. He toured Australia by motor bike but quite understandably has not yet visited the Abrolhos. He has an interest in nature and the environment as well as many other interests such as AUSSI masters swimming, clock and watch repairing, role of the public sector and listening to classical music. He is looking forward to a new experience.

Kathleen Verrier After attending another *LANDSCOPE* Expedition ("Buckshot and Breakaways" to the Gibson Desert) in 1995 Kathleen feels she would like to participate in another worthwhile project. She has been interested in astronomy since childhood and the world of nature and natural history. She is a veterinarian with a small animal practice in Rockingham. She enjoys travelling and finds these expeditions enable her to combine her interests and at the same time make a contribution to the State and the scientific community.



Observing sooty terns on Alexander Island



Australian sea-lion
basking on beach at
First Sister [Island]

Beacon Island – the
scene of the bloody
mutiny of the *Batavia*
shipwreck survivors
(Photo courtesy DOLA)



Going ashore on
Second Island in
southern group

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