

# AgulhasNPark eBulletin

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South African NATIONAL PARKS

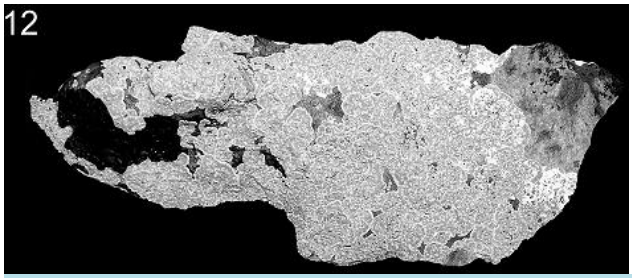

**National Marine Week 12 – 18 October**

Celebrations around our marine life have taken place each year since 1988 as government endeavours to create public awareness on marine conservation issues and remind South Africans of our spectacular marine heritage that provides employment and recreational opportunities for all.

## Marine heritage along the Cape Agulhas coastline

**A new species of coralline red algae discovered at Cape Agulhas – Prof Gavin W. Maneveldt, Department of Biodiversity and Conservation Biology, University of the Western Cape**

After three years of debating, the scientific community has finally accepted the naming of a new species (*Spongites agulhensis*) of calcified red seaweed from the southernmost tip of Africa. First collected in June 2010, the species was initially mistaken for another very common encrusting coralline alga. However, anatomical investigations soon showed that this species was unique. When the species description was submitted for peer-review, members of the scientific community argued that it was identical to a species from the Northeast Pacific. This refusal to accept the species as new to science prompted a collaborative study between researchers from the University of North Carolina, Chapel Hill in the USA and the University of the Western Cape in South Africa. Using a combination of DNA analysis and histological examination, these researchers showed unequivocally that the species was indeed new to science, even though it differed from the Northeast Pacific species by only a single anatomical character. Most interesting about this research is that it is the first report of its kind to demonstrate that geographically overlapping species are genetically more similar than morpho-anatomically nearly indistinguishable species whose distributions are widely separated. *Spongites agulhensis* has formally been described in the September 2015 issue of the international journal *Phycologia.*






**Images of *S. agulhensis* as they appear in *Phycologia*, September 2015. Fig. 12. Type specimen. Fig. 13. Individual crusts in their common high intertidal habitat from Stinkbaai, Cape Agulhas. Fig. 14. *Spongites agulhensis* (arrowheads) growing side by side with *S. yendoi* (Sy) in upper reaches of the mid-intertidal zone.**

Prof Gavin and Southern Tippers exploring

## Marine heritage along the Cape Agulhas coastline

**Perlemoen, Abalone**, ***Haliotis midae***

Perlemoen is endemic to South African waters and is a sea snail. It has a large and heavy shell with strong irregular corrugations running across the spire. The margins of the foot have a dense fur of fleshy projections. It grows up to a size of 190mm. They are slow-growing animals and reach sexual maturity only after eight to 10 years and minimum legal size after 13 years. It is a herbivore and feeds on seaweeds. Abalone was part of man's diet from ages ago. Today it is seriously under threat due to illegal, unregulated and unreported fishing. (SOURCE: *Coast Care fact sheet*. n.d.)


**Interesting Abalone behaviour – Prof Peter Britz, Department of Ichthyology and Fisheries Science, Rhodes University**

Abalone feed mainly on drift algae that have broken loose. They typically wait with their foot raised to clamp a passing frond of algae. They stay on the 'home-scar' and don't forage looking for food. Their habitat choice is very specific - typically rock faces and crevices on structured reef. They do not like sand, moving pebbles or very heavily exposed wave-scoured channels. So even on a reef with a virgin abalone population, only a portion will support a high abalone density. The dominant benthic grazer in abalone habitat is usually the sea urchin which scours the bottom widely. Heavily grazed benthic hard substrates are characterised by pink coralline encrusting *Lithothamnion* algae. When abalone is removed the main effect is localised decreases in biodiversity. As benthic habitats are characterised by competition for space, other grazers like sea urchins, or algae like kelp, colonise the space. Anecdotally, the old surfers claim places like Kommetjie had less kelp and were more surfable before the abalone were fished out.

**Abalone important in marine ecosystems - Prof. Gavin W. Maneveldt, Department of Biodiversity & Conservation Biology, University of the Western Cape**

Abalone are important in marine ecosystems. As herbivores they consume macro-algae (seaweeds) and so are important in that they have the ability to prevent the monopolisation of space by a few fleshy seaweeds that have the potential to competitively exclude other seaweeds. Their feeding behaviour often allows a greater diversity (bearing in mind that diversity is not simply a function of the number of species, but also their relative abundance) of seaweed species to co-exist. Areas with a high density of abalone can actually have a higher diversity of seaweeds, particularly those that grow epizoically (on the shells of the abalone). In the absence of abalone, seaweed diversity can be comparatively low. This has a number of implications because it also affects the diversity of other animals that potentially are dependent on a select number of seaweeds. In short, a healthy ecosystem is dependent on a number of interacting trophic (primary producers [seaweeds], primary consumers [herbivores], suspension feeders, secondary consumers [omnivores, predators, etc.], and decomposers) levels, and abalone form but one link in that trophic chain for it to function most effectively.

**Seaweeds along the Cape Agulhas coast**

There are currently 284 known species of seaweeds in the coastal region that includes Cape Agulhas. This figure, however, excludes the encrusting coralline algae that amounts to a further 28 species from this region of the coast. (Information provided by Prof Robert Anderson of the Biological Sciences Department at UCT). Article on seaweeds to follow soon.

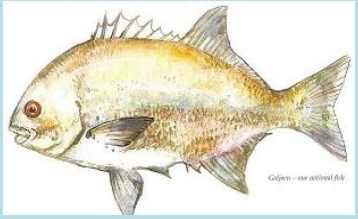
**African Penguin Awareness Day, 10 October**

The African Penguin (*Spheniscus demersus*), is also known as the Black-footed Penguin. Because of its call, which sounds like a braying donkey, this penguin was previously known as the Jackass Penguin. The African Penguin is so named because it is the only species of penguin that breeds in Africa and it is endemic to the south-west coast. There are various colonies between Namibia and Port Elizabeth, the largest of which can be found on Dreyer Island, near Kleinbaai. Unfortunately, due to egg harvesting, guano harvesting (collection of bird droppings for fertilizer), disease, pressure from commercial fishing, and oil pollution on their food supply, African Penguin populations have rapidly declined and the bird is now listed as "vulnerable to extinction". One hundred years ago it was estimated that the African Penguin numbered 4 million - today there are only about 56 000 breeding pairs left. African Penguin Awareness Day is an international SANCCOB (Southern African Foundation for the Conservation of Coastal Birds) initiative to raise awareness of the plight of this delightful bird. The University of Cape Town's Avian Demography Unit has shown that SANCCOB's rehabilitation efforts have meant that the penguin populations are as much as 19% higher than they would have been, had action not been taken. Since 1968 this organisation has treated more than 90 000 birds. (SOURCE: *A Year of Special Days*, 2015, Sharenet)

**African Black Oystercatcher, Swarttobie, *Haematopus moquini***

The African Black Oystercatcher is a very colourful bird with its jet-black body, pink legs and bright orange-red bill and eyes, and is endemic to the coast and offshore islands of southern Africa south of the Sahara. It is usually found in pairs, but also roosts in flocks of 20 to 100 birds. It occurs on rocky and sandy shores and estuaries and feeds largely on mussels and limpets, but also on worms and whelks. The bird has an important effect on the ecology of rocky shores by substantially reducing the densities of limpets and algal beds can develop. It lays its eggs in scraped hollows on the shore and breeds from October to March, peaking early January. The eggs and chicks are extremely well camouflaged which increases the chance to be damaged by vehicles on beaches. They are endangered and are being protected by law. (SOURCE: BRANCH, G.M., et al. 2005. *Two oceans: a guide to the marine life of southern Africa*; MACLEAN, G.L. 1993. *Roberts' Birds of Southern Africa*.)

**Galjoen**, ***Dichistius capensis,* a national asset**



The Galjoen was one of the first species recognised as being endemic to southern African coastal waters. It is South Africa's **national fish** and ranks as one of the most popular angling species. The name is probably derived from the Dutch word *gallei* or *galleon* which refers to the fish's legendary fighting spirit when caught. Being a linefish the Galjoen feeds in the turbulent waters of the Indian Ocean coastal reefs which teem with a diversity of sea life. The Galjoen once occurred in great numbers throughout its range, from northern Namibia to the southern Kwa-Zulu Natal coastal waters. Sexual maturity is reached at a length of about 34cm and in the Cape spawning occurs during the summer. They are serial spawners which means that they spawn several times in a season. Today Galjoen is quite scarce in most regions probably caused by overfishing by net and line which resulted in legislation to protect the species. Gill netting was restricted after 1974. Bag limits, closed seasons and minimum sizes were introduced later. A recreational permit, obtainable at the Post Office, only allows a maximum of five fish per day and the fishing season is open from 1 March to 15 October. The minimum size is 35 cm and Galjoen may never be sold. (SOURCES: *Coast Care file*, n.d.; VAN DER ELST, R. 2010. *A guide to the common sea fishes of southern Africa*.)

**"When one tugs at a single thing in nature, he finds it attached to the rest of the world" – *John Muir***

**Ratelrivier, a self-sustaining farm**

In the early 1900s Ratelrivier was a self-sufficient little community with about 11 white families working on the farm. Employees included a farm manager, bookkeeper, secretary, school teacher, blacksmith, stable hands, shepherds, groomsmen, gardeners, dairy workers, a nurse and general labourers who all saw to the necessities of the day. Apart from vegetables there was also a variety of fruit trees to care for. There was not much in the way of flower gardens. (Adrian Ackermann) There were figs, quinces, apples, pears, mulberries, lovely pomegranates and grapes. The grape vines were covered with fine wire mesh to keep out birds. Stephen Fry, on the farm from 1917 until his death in 1939, had a big planting programme which included wheat. This was milled at the farm's own mill for flour for every household, and it made lovely bread! The laundry was washed in the stream that ran in front of the house by one of the farm women. The "wash house" included a big wooden box which was sunk into the stream. The washing was immaculate – bleached in the sun – ironed and starched to perfection and whiter than white. The farm also had a shop run for the convenience of the farm people. (SOURCE: *The History of Ratelrivier*, as told by Nell Naudé, neé Fry); pictures from Naudé family album)

**Spotted in the Park …**
***Leucadendron tinctum***

**Spotted in the Nuwejaars SMA …**
**Spider Orchid**
***Bartholina burmanniana***


**A cultural experience awaits Kids in the Park**

Ten groups will this year attend the 2015 Kids in Parks programme which starts on October 14 and ends on November 18. A total of 500 learners are expected to attend an environmental education programme at the Agulhas Training Centre. The programme concentrates on natural and cultural aspects of the Agulhas National Park.


**Visit our neighbours, the Nuwejaars Wetlands Management Area**