

REDMAP SIGHTINGS: Top 10 Species and other Trends

by Yvette Barry

Divers, fishers and beachgoers have reported 1060+ sightings on Redmap, an app and website that invites Australians to log marine life not usually found in their local seas. The eastern rock lobster — venturing down Tasmania’s East Coast — was the most logged species on Redmap. Nearly a third of the confirmed sightings were considered uncommon where spotted, i.e. they were south of their known home ranges. And many of the other sightings submitted have been really valuable for improving our knowledge of their distributions. *Here are the latest trends from Redmap’s community data ...*

Eight of Redmap’s Top 10 sightings from around Australia, listed below, were logged in Tasmanian seas! Tasmanian fishers and divers considered these species uncommon in their local fishing and diving spots: eastern rock lobster, zebra fish, yellowtail kingfish, white-ear, herring cale, luderick, old wife and snapper. Redmap scientists confirmed that many of these sightings were indeed out-of-range, meaning, they were further south than their usual geographic range.

The Top 10 species most logged on Redmap Australia since 2009:

1. Eastern rock lobster (*Sagmariasus verreauxi*), Tasmania
2. Zebrafish (*Girella zebra*), Tasmania
3. Yellowtail kingfish (*Seriola lalandi*), Tasmania
4. White-ear (*Parma microlepis*), Tasmania
5. Herring cale (*Olisthops cyanomelas*), Tasmania
6. Brokenline wrasse (*Stethojulis interrupta*), New South Wales
7. Luderick (*Girella tricuspidata*), Tasmania
8. Old wife (*Enoplosus armatus*), Tasmania
9. Moorish idol (*Zanclus cornutus*), New South Wales
10. Snapper (*Pagrus auratus*), Tasmania



The eastern rock lobster (*Sagmariasus verreauxi*): the most reported species on the Redmap website. This species is often sighted out of its usual range on Tasmania’s east coast (Photo: Danny Leel).

Tasmania’s dominance within the Redmap data makes sense for two reasons. First, the project began in Tasmania in 2009 and only went national at the end of 2012. This allowed Tasmanian fishers and divers to collect more observations over a longer period. Second, Tasmania’s East Coast is a global warming hot spot with seas warming at three to four times the global average. The State is experiencing more obvious changes in the distribution of fish and other marine species, as some extend their range further south in search of their preferred climate. Tasmanians are more likely to encounter a species that’s “uncommon” in their local seas than say, in Queensland, where changes in water temperatures are not so marked.

How far from “home” are Redmap sightings?

Redmap needs more observations of species over time to indicate if — and how far — a species has shifted its marine postcode south. To give you a rough idea, Table 1 shows some individual sightings logged on Redmap Tasmania and how far south they were spotted from their usual range.

In these examples, not much can be inferred from the onepot puller seen off St Helens in August, photographed just

68 km south of its known range. But other sightings were clearly out-of-range, like a green moray in St Helens (195 km south of its known range), a white-ear in Freycinet (203 km south of its range) and an eastern king prawn in Hobart (273 km further south than usual) (see Table 1). As Redmap receives more sightings like these, the community data will indicate if a species is shifting or extending their distributions further along the Tasmanian coast.




Species	Month spotted	Where	Distance (km) south of southerly range
 Onepot puller (<i>Chromis hypsilepis</i>)	August	St Helens	68km
 Mosaic leatherjacket (<i>Eubalichthys mosaicus</i>)	June	Maria Island	127km
 Snapper (<i>Pagrus auratus</i>)	March	Blackmans Bay	173km
 Eastern rock lobster (<i>Sagmariasus verreauxi</i>)	Feb	Tasman Peninsula	190km
 Green moray (<i>Gymnathorax prasinus</i>)	May	St Helens	195km
 White-ear (<i>Parma microlepis</i>)	March	Freycinet	203km
 Eastern King Prawn (<i>Melicertus plebejus</i>)	April	Hobart	273km

Table 1: Examples of Redmap Tasmania sightings that were “out-of-range” – south of their usual distributions

Other sightings of note

A spate of common paper nautilus (*Argonauta argo*) sightings have been reported on Tasmania’s East Coast. Also known as an argonaut, this small octopus with a distinct white shell is uncommon south of NSW. But it has been washing up on Tassie beaches and recently ten sightings were logged on Redmap!

A juvenile mosaic leatherjacket (*Eubalichthys mosaicus*) was spotted off Maria Island by Redmap member Antonia Cooper in June this year. This is a



A common paper nautilus (*Argonauta argo*) photographed on Seven Mile Beach near Hobart Airport in May 2014, a long way from its usual home! (Photo: Dr Simon Grove).

significant find, as this species normally isn't found in southern Tasmania in mid-winter! Juveniles of potential range-extending species recorded in colder months are particularly important as they indicate the prospect of species being able to survive (and therefore reproduce) throughout the year – thereby increasing their likelihood of establishing a stable population.



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Marine life such as tiger sharks, warty prowfish, giant cuttlefish, loggerhead turtles, wahoo, sea urchins, and dugongs – just to name a few – are common in many regions of Australia. But scientists have little information about their distribution and movements. So keep logging these valuable sightings too.

How you can help!

If you catch or see a fish that you find "unusual" in your local seas, share your sighting and photo on the Redmap app or redmap.org.au. The continued support of fishers and divers will, over time, allow Redmap to better understand and predict changes in the distributions of Australia's marine life.



GRAEME EWING

IMAS profile

Graeme Ewing has worked as a senior technical officer at IMAS Taroona since prior to the inception of TAFI, and came to marine science from careers in industrial chemistry and environmental science. His tertiary qualifications include a Bachelor of Science, an Honours degree in Environmental Science, and a Masters degree in Marine Science.

Graeme's areas of expertise include field operations as a coxswain and commercial diver, laboratory operations for ageing fish and reproductive histology, data management and analysis, and preparation of technical and scientific manuscripts for publication. Recent IMAS projects that Graeme has worked on include stock assessments of the Tasmanian commercial banded morwong, striped trumpeter, garfish, small pelagics, and calamari fisheries; stock assessment of the Tasmanian recreational sand flathead fishery; designing and trialling fisher-deployed deep water puerulus collectors; assessment of the impacts of gillnet fishing in Tasmania; and research on the Maugean skate in Macquarie Harbour.

In recent years Graeme has also worked for the Australian Antarctic Division conducting fisheries research into the impacts of the toothfish fishery around sub-Antarctic Islands and the Antarctic continent.

One of the things Graeme loves about his job with IMAS is the diversity of duties undertaken by the technical team. An average week may involve sea-time collecting catch data on a commercial fishing vessel, sea-time in an IMAS dinghy fishing or diving to collect biological data or specimens, laboratory-time processing or analysing biological samples, desk-time analysing data or writing up results, and workshop-time designing or building sampling equipment.

Memorable moments in Graeme's career with IMAS include lobster fishing off Maatsuyker on a rare mirror-calm day, dawn light while gillnetting on Macquarie Harbour, rearing redbait eggs in the spare shower recess of the mid-water trawler *Ellidi*, the camaraderie of remote fieldwork, working on the shelf-break off Paddy's Head with humpback whales in every direction as far as the eye can see ... Not so memorable moments include one too many times coming face-to-face with a large grumpy seal, and cold, cold fingers during winter fieldwork.

Graeme is passionate about science education and is active in *Scientists in Schools*, *Working on Water*, *Science Week*, and work experience programs in schools where students have the opportunity to experience fisheries science firsthand. Graeme has found the work experience programs particularly satisfying, with some secondary school students sufficiently inspired to study marine science at university as a result.

Graeme has lived in the Channel area for over 20 years and is a keen gardener, landscaper and renovator, an avid musician and surfer, and loves a party!

