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MEDIA RELEASE

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Citizen science reveals new discoveries in Coral Sea Marine Park

The 'Citizen Science of the Great Barrier Reef Expedition' exceeded all expectations with a diverse team of ocean enthusiasts ranging from 11 to 88 years old. The expedition integrated ten different citizen science tools to record thousands of observations of fish, coral, other conspicuous marine invertebrates, seagrass and algal biodiversity, spawning fish, mating turtles, and roosting seabirds; adding over 1300 observations including 100 new species to a global biodiversity database¹. The majority of the observations were shallow water reef species recorded by citizen scientists, which is revolutionary, as traditionally scientific discoveries occur by career scientists in very deep water using highly technical equipment.

The ecotourism vessel *Coral Discoverer* departed Cairns on the 23 October 2023 and returned on the 6 November 2023, exploring the Great Barrier Reef Marine Park including Lizard Island, Orpheus Island, John Brewer Reef, Myrmidon Reef, and the Coral Sea Marine Park including East Diamond Islet and Herald Cays. Very few people ever have the opportunity to explore and conduct research in these remote and protected sites.

The first iNaturalist citizen science observation of biota in the Coral Sea region was in October 2011, and over the past 13 years, a total of 1,479 observations of 544 species were added on an opportunistic basis by 95 observers and 271 identifiers. This is approximately 100 observations a year. Over a one week period, our expedition boosted this total to 2781 observations of 672 species by 113 observers and 325 identifiers, essentially adding over 1300 observations including an additional 128 species. Several of these species were recorded for the first time in Australian or Queensland waters on the world's largest citizen science platform (iNaturalist.org) including the Eightband Butterflyfish (*Chaetodon octofasciatus*; only previously recorded from tropical NW Australia), Sixspot Glidergoby (*Valenciennea sexguttata*), Pimpled Basket Sea Snail (*Nassarius papillosus*) and potentially Helmet Coral (*Halomitra pileus*; pending identification). In addition, discoveries of deep-water seagrass, Crown of Thorns starfish and data on coral health and environmental DNA samples were collected. The most observed species thus far are the Whitetip Reef Shark (*Triaenodon obesus*), Grey Reef Shark (*Carcharhinus amblyrhynchos*) and Red-footed Booby (*Sula sula*).

The expedition vessel, the *Coral Discoverer*, hosted six guest lecturers and 40 citizen scientists who snorkeled, SCUBA dived, photographed and shared knowledge about the state of the reef, their impressions of citizen science and their curiosity of discovery in our oceans. The most popular and utilised citizen science tools were iNaturalist, CoralWatch, Citizens of the GBR census, social surveys and Eye on the Reef. Scientists, citizen scientists and artists collaborated to illustrate people, species and reef habitat in journal format.

Citizen science offers ways for individuals and organisations to complement science and management efforts by actively engaging in activities to help monitor, understand, and protect our valuable coral reefs. This expedition involved Australian and international tourists as well



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scientists and an artist working together with a range of partners such as Parks Australia, Great Barrier Reef Marine Park Authority, Citizens of the GBR, Queensland Museum Network, Museum of Underwater Art, James Cook University, Reef Ecologic, Reef Check Australia, CoralWatch, Australian Institute of Marine Science, Griffith University, Wilderlab, iNaturalist and traditional owners.

A public presentation of the preliminary findings from the expedition will take place on 21 November 2023 at the CitSciOz2023 conference at the Sunshine Coast University.

RESOURCES:

¹ <https://inaturalist.ala.org.au/projects/biodiversity-of-the-coral-sea-marine-park>

<https://reefecologic.org/wp-content/uploads/2023/10/Coral-sea-expedition-brochure-final.pdf>

<https://inaturalist.ala.org.au/projects/citizen-science-of-the-great-barrier-reef?tab=observers>

<https://citizenscience.org.au/citscioz23/>

PHOTOS: available on request

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