



* Document translated with DeepL from Spanish (original language) to English (22.05.2023)

The exotic soft coral *Unomia stolonifera* (formerly *Xenia* sp.) originating from Indonesia (Ambom) is believed to have been illegally introduced into Conoma Bay and Mochima National Park (Mono Island) between 2000-2005 by an aquarium dealer. The coral was first sighted in 2007 during an environmental impact study conducted in Valle Seco, Anzoátegui State, the original introduction area of the exotic coral (Ruiz-Allais et al. 2014).

Since its first appearance, this highly invasive species has spread rapidly along the coastal reefs and beaches of northeastern Venezuela (Mochima National Park), growing aggressively on different substrates, including corals of various types, sponges and native seagrass meadows (*Thalassia testudinum*). **Photos (1,2,3 and 4. See at the end).**

Also, recently (2022), its presence was corroborated on the coasts of western Venezuela; specifically in Choroní, Aragua State and in the Cuare Fauna Reserve, in Falcón. There are also reliable reports of the coral's presence in the state of Carabobo. This demonstrates the speed with which the species is dispersing to areas far from its original introduction site and the imminent danger of its dispersal to the rest of the Caribbean. The colonies of *Unomia stolonifera* observed in Cayo Sur (Cuare Faunal Refuge) are well consolidated and cover a considerable extension of the sandy bottom and part of the reef. This key is located on the border with Morrocoy National Park (Falcón State) and relatively close to the Dutch Antilles (Aruba, Curaçao and Bonaire), which puts them at imminent risk. Likewise, we estimate that if the invasion continues to advance westwards, it could soon reach the Colombian Caribbean.

Recently, we have received a reliable report of the presence of *Unomia stolonifera* on one of the main islands of the Northern Caribbean. As the species has not been scientifically confirmed, we are unable to share the information at this time. However, it is very likely that the invasive species has already colonised this area and other Caribbean islands, although it has not yet been detected.

Ecological Impact of the Invasion:

Due to its high fecundity, accelerated growth, LACK OF predators and rapid dispersal, *Unomia stolonifera* covers large areas of reefs in a short time. As a consequence, the biodiversity of the colonised ecosystems has been negatively impacted to such an extent that, in the most affected areas, where the cover of the invasive coral reaches invasive coral cover is up to 100%, native corals and the different species associated with the reef have been almost completely eliminated (Ruiz-Allais et al. 2021).

Among the most affected groups, in addition to corals and benthos in general, are reef fishes whose populations have been considerably reduced (research currently underway).

In Mochima National Park (eastern Venezuela) alone, we conservatively estimate that around 95 km of coastline and 3,000,000 m² of seabed have already been colonised (more than 50%), many of the coastal reefs by 100%. We have currently accurately mapped invasion sites in 50% of Mochima National Park (total park area is 50,000 hectares) but have not been able to finish the prospecting work due to lack of financial resources.

Similarly, in western Venezuela we have found it in Choroní and in the Cuare Wildlife Refuge. This is 400 km from the original area of introduction and it is already a well consolidated invasion. We think that it is imminent for it to reach other places in the Caribbean, especially through Venezuelan oil tankers. In fact, we have serious reports of its presence in a Caribbean country. It is very possible that it is already in other areas of the Caribbean and has not been discovered.

This situation, in addition to the obvious ecological impact, is directly affecting artisanal fisheries, the main activity and livelihood of many coastal populations in the country. It is also affecting beach tourism and other productive economic activities such as sport fishing, recreational and sport diving. Therefore, it is no longer just an exclusively environmental problem, but has become an economic and social problem.

This is a serious threat that has been underestimated and that can have a very negative impact on ecosystems in the Caribbean and beyond.

Currently, the Unomia Project team, together with a group of Venezuelan engineers, is developing a prototype (underwater machine) that will allow the efficient extraction of coral and the cleaning of the affected areas. We are carrying out experimental field tests and hope, as soon as possible, to have an effective protocol for the control of the invasion.

We hope that the information we are sharing with you will be of interest to you and that we can count on your valuable help, we remain at your disposal.

Yours sincerely

Juan Pedro Ruiz-Allais (Biólogo Marino) Director del Proyecto Unomia). @unomiaproject @jp Ruizallais

References:

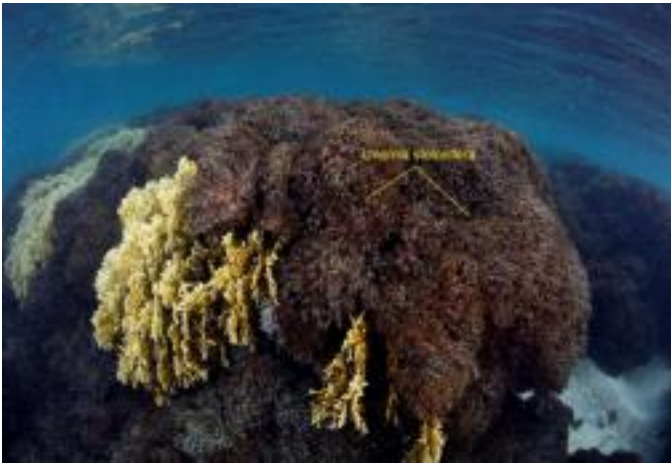
Access links to our research:

<https://www.researchgate.net/publication/351854325> The invasive octocoral *Unomia stolonifera* Alcyonacea Xeniidae is dominating the benthos in the Southeastern Caribbean Sea

<https://www.researchgate.net/publication/351058001> Revisiting the type of *Cespitularia stolonifera* Gohar 1938 leads to the description of a new genus and a species of the family Xeniidae Octocorallia Alcyonacea

<https://www.researchgate.net/publication/278098887> The first incidence of an alien soft coral of the family Xeniidae in the Caribbean an invasion in eastern Venezuelan coral communities

Photos:



1



2



3



4

Photo Captions:

Photos: 1-2. Invasive coral *Unomia stolonifera* covering coral reef. Mochima National Park, 2021.

Photo: 3. Invasive coral *Unomia stolonifera* on fully colonised seagrass meadow (*Thalassia testudinum*). Mochima National Park, 2017.

Photo: 4. Detail of a colony of *U. stolonifera*. Coral polyps can be seen. Mochima National Park, 2017.

Photos: Humberto Ramirez Nahim (Photographer and Underwater Cameraman of the Unomia Project).