

Recently, more sophisticated techniques have been developed that attempt to reconcile field efficiency, low environmental impacts and low costs. For example, lethal vinegar injection kits have been successfully tested, here, around Vua Islet in the Southwestern lagoon of Grande Terre. © B. Preuss

Acanthaster Network), set up in New Caledonia since 2015. It is based on the voluntary participation of fishermen, boaters, diving clubs, environmental consultants, associations and scientists in monitoring the outbreak (box. 21).

The "acanthaster phenomenon" is now recognized as a major conservation issue. However, the late realization of its magnitude and the existence of recurring controversies regarding the relevance of human intervention, have severely hampered the response capacities of affected countries. Despite their efficiency over the short to medium term, current management strategies are only a temporary solution, treating symptoms rather than the origin of a complex phenomenon

Box 21 The Oreanet program Pascal Dumas and Sylvie Fiat

The IRD project, OREANET (Oreanet Regional Acanthaster Network) was officially launched in July 2015 with financial support from the Pacific Fund (Fonds Pacifique), the Government of New Caledonia and GOPS (Grand observatoire de la biodiversité terrestre et marine du Pacifique sud et sud-ouest). This project aims at building an operational monitoring network for the "acanthaster threat" in New Caledonia, Vanuatu and Fiji. The success of this network is based on a participative approach, where observations are relayed by lagoon users, with userfriendly tools that allow rapid reporting of acanthasters from a computer, tablet or smartphone.

To date, the OREANET network has recorded over 16,000 acanthasters through more than 300 participative reports from fishermen, coastal communities, boaters, divers, NGOs, diving clubs and associations, scientific organizations, etc. Standardized procedures for the verification of the threat and control in the field have also been developed and validated. The objective is to establish a mapping of threats and provide an operational response framework when an outbreak is reported via the surveillance network.

whose underlying causes are still largely unknown. The next step requires the development of a global approach, integrating a better understanding of the processes that control the onset, maintenance and spread of acanthaster outbreaks with relation to climate change affecting marine ecosystems: a major scientific challenge.

New Caledonia World of corals

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Cover page 1 (from top to bottom): Bay of Upi, Isle of Pines. © P.-A. Pantz Coral biodiversity of Larégnère reef. © IRD/S. Andréfouët

Cover page 4 (from left to right): Loading of a mikwaa net on a decked pirogue at Pwadèwia, St. Joseph Bay, Isle of Pines, 2017. © M. Juncker Clown fish eggs. © G. Boussarie Incubation of coral colonies in benthic chambers. © CNRS/E. Amice Flying Red-footed booby (*Sula sula*). © M. Juncker

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