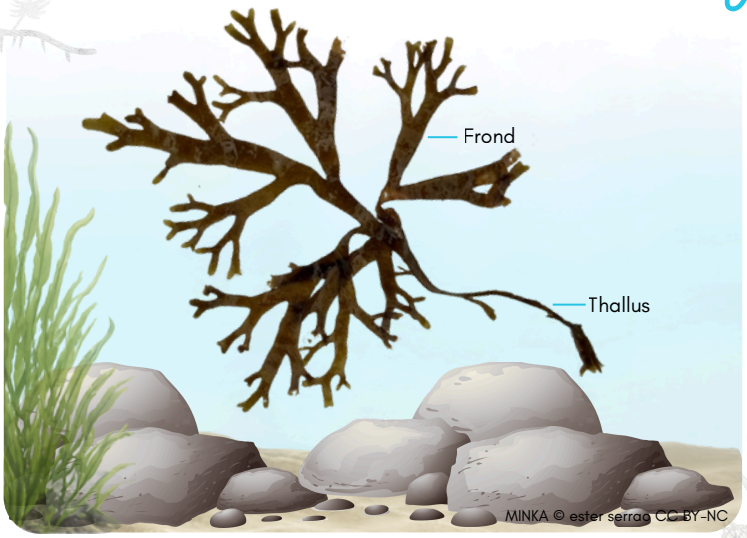
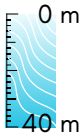
ALIEN-OCCICAT

Northwest Pacific

brown alga - *Rugulopteryx okamurae*





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ITS HISTORY

Origin	1st report Mediterranean	1st report Spain	1st report France (outside lagoons)
Northwest Pacific	2002 Thau lagoon France	2015 Tarifa	2018 Marseille

Introduction via imports of Japanese oyster spat (then ships' ballast water)

ECOLOGICAL AND ECONOMIC IMPACTS

Rugulopteryx okamurae massively covers rocky seabeds, smothering local flora and causing the death of protected species such as gorgonians and corals. Protected by repellent chemical compounds (diterpenes), it avoids predation by local herbivores and even outcompetes other invasive algae, thus proliferating without **natural regulation**. Its expansion leads to significant **economic losses**: it clogs fishing nets, **reducing catches** and **increasing costs** for fishermen, while the accumulation of decomposing biomass on beaches diminishes **tourist appeal** and creates **foul odors**.

FUN FACTS

1st alga in the list of invasive alien species of Union concern

Only alga to produce dilkamural, a **chemical weapon** anti-herbivores.

Survives **3 weeks** in the dark

IDENTIFICATION CRITERIA

Structure : Flat, **ribbon-like**, and **wavy fronds thicker at the edges** and **dichotomously branched**

Color : yellowish-brown to **dark brown**

SIMILAR SPECIES

Forkweed - *Dictyota dichotoma*

Native Mediterranean brown alga
(typically observed between February and August)

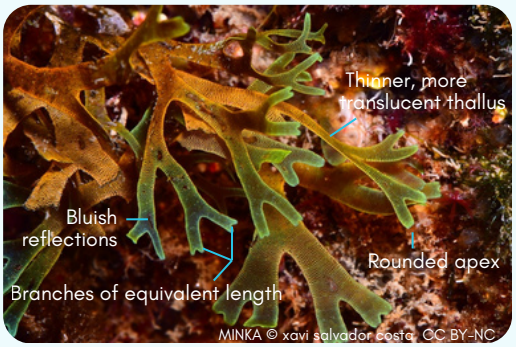

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Image : https://minka-sdg.org/

Sources (details page "Credits"): Bellissimo et al. (2024); EU (2022); Casal-Porras et al. (2021); Garcia-Gomez et al. (2020); Rosas-Guerrero et al. (2018); Roman et al. (2025); Ruitton et al. (2021); UE (2022); Verlaque et al. (2009); Tronholm et al. (2008)

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