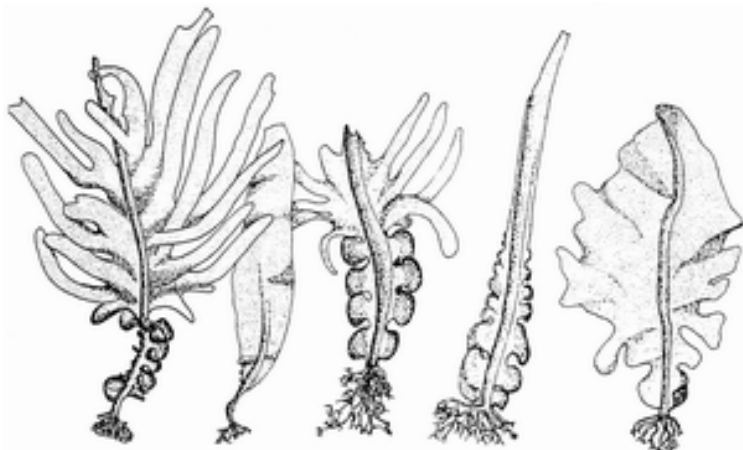




Species Fact Sheets

Undaria pinnatifida (Harvey) Suringar, 187)



Undaria pinnatifida: (click for more)

See tree map [↔+](#)

Synonyms

- *Alaria pinnatifida* Harvey, 1860. Basionim.
- *Ulopteryx pinnatifida* (Harvey) Kjellman, 1885

FAO Names

En - Wakame, Fr - Wakamé, Sp - Abeto marino.

3Alpha Code: UDP Taxonomic Code: 7710400301

Scientific Name with Original Description

Undaria pinnatifida (Harvey) Suringar, 1873. Illustrationes des algues du Japon. Musée Botanique de Leide. 1: 77-90.

Diagnostic Features

A brown seaweed. Thallus fixed by a ramified holdfast with numerous haptera, the origin of a flat stipe with denticulated margins (in young individuals); frond blade-like (lanceolated), extending from the tip of the plant for half to three-quarters the length of the plant, and reaching an overall length to about 60 cm or even up to 1m. It has a midrib with undulating wing-like pinnate blades at the base. The sporophyte is golden-brown in colour, with a lighter coloured stipe.

Geographical Distribution

Native to the Japan Sea, particularly on the coasts of Japan, west of Hokkaido, coasts of Korea and parts of China. Accidentally introduced in 1971 in the Mediterranean (étang de Thau), and by the I.F.R.E.M.E.R. in the coast of Bretagne (1983). It has been acclimated in a variety of european localities (France, British Islands, Netherlands, Spain, and Italy). Also introduced in New Zealand, Australia (1988), and Argentina. Introduction to Tasmanian waters is suspected to have occurred via ballast water discharged from ships.

[🗺️](#) Launch the Aquatic Species Distribution map viewer

Habitat and Biology

Undaria pinnatifida inhabits the intertidal zone down to the subtidal zone, to a depth of 15-20 metres. Sessile, forming seaweeds. Primary Producer. In Australia, where it has been introduced, *Undaria pinnatifida* has few grazing consumers (some fish and sea urchins).

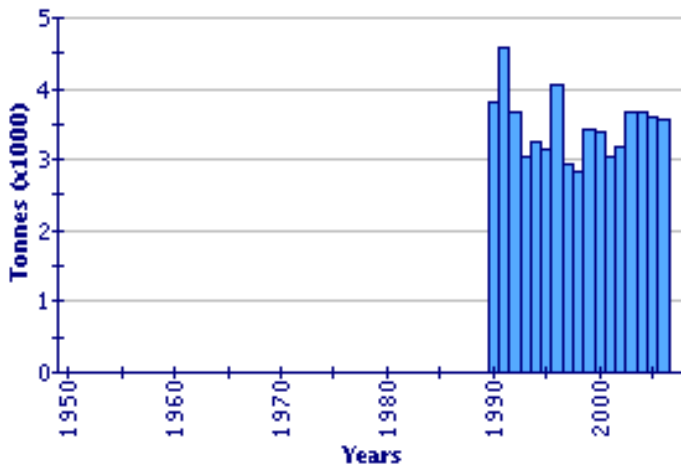
Annual species with two separate life stages. A macroscopic stage (the sporophyte), which produces microscopic zoospores that can settle, germinate and grow into microscopic gametophytes. This stage is usually present through the spring and summer months and once all the spores are released (up to 100 million spores over the spring/summer period), it dies. The microscopic stage (the gametophyte), releases sperm and eggs, when conditions are favourable, which then fertilise and grow into a macroscopic plant. It is present during the colder months. Temperature, light and depth are important variables affecting development. Plants reach to 1.5-2 m in (even up to 3 m) in length in less than a year. Its growth rate has been measured at 1cm per day. It is found mostly on sheltered reef areas which are subject to oceanic influence, rarely in highly exposed areas. It does not tend to become established successfully in areas with high wave action and an abundance of local vegetation.

Size

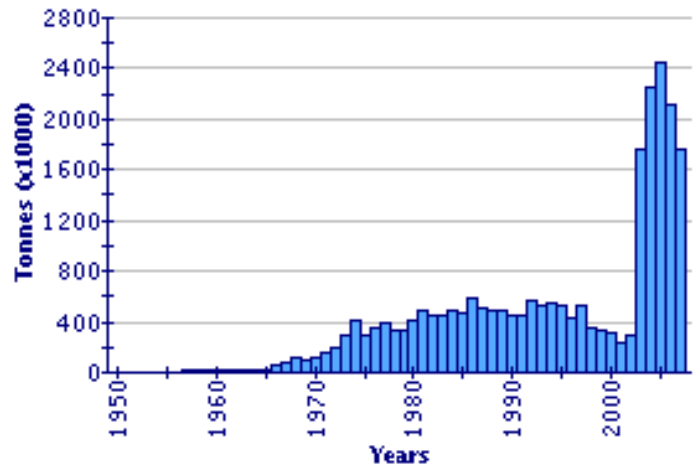
Commonly between 60 and 120 cm length, reaching to 2 (3) m at maturity.

Interest to Fisheries

Global Capture production for *Undaria pinnatifida*
(FAO Fishery Statistic)



Global Aquaculture production for *Undaria pinnatifida*
(FAO Fishery Statistic)



Collected from natural habitats for centuries and also harvested. Annual production from natural habitats between 40 - 60,000 wet tonnes (1960-69). In 1976 (Japan), about 20,000 wet t collected from natural habitats and 127,000 wet t cultivated. Natural production increased by favourish attachment (placing stones on the sea bottom, blasting rocky reefs). Harvest production are overall, between 450,000 and 500,000 tons (Japan and Korea), lower in China (a few hundred tonnes) where this species not as popular as Laminaria. Hybrids with higher growth and nutritional characteristics developed in Japan. *Undaria* is a highly invasive species, grows rapidly and has the potential to overgrow and exclude native algal species. Its presence may alter the food resources of herbivores that would normally consume native species (e.g. in areas of Tasmania). *Undaria* also has the potential to become a problem for marine farms by increasing labour costs due to fouling problems.

Abundantly harvested in SE Asia (Japan, Korea, China) for instance on ropes. It is used for making a product known as "Wakame" for human consumption. Cultured extensively in a number of countries as a fresh and dried food. The alga is harvested between February-June, dragged ashore by long hooks, washed in fresh water and (the thalli) dried.

[➔ Related Fishing Techniques](#)

Local Names

CHINA : ito-wakame , kizami-wakami , qundai-cai , sea mustard .

JAPAN : Wakame , ito-wakame , kizami-wakami , nambu wakame , precious sea grass .

KOREA : ito-wakame , kizami-wakami , miyok .

Remarks

Undaria distans Miyabe and Okamura (also described as a form of *U. pinnatifida*) can also be used as a raw material for Wakame production. Young specimens can be mixed with the native atlantic species *Alaria esculenta*.

Bibliography

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