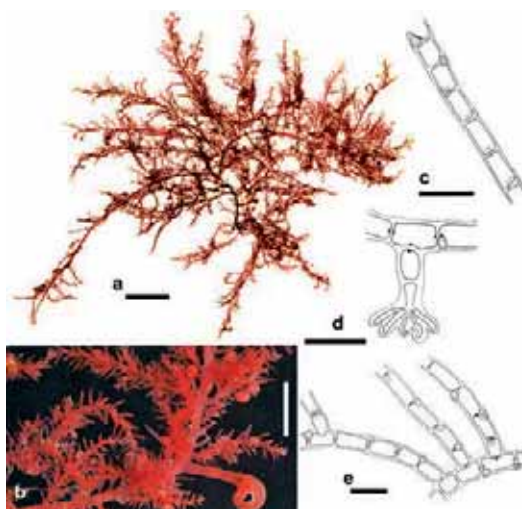


Bonnemaisonia hamifera Hariot

Relevant synonym

Trailiella intricata Batters

a-b. Gametophytes. a. Dried specimen. b. Axis with cystocarps. c-e. Tetrasporophyte. c. Filament. d. Rhizoid. e. Branches. Bars: a = 1 cm; b = 5 mm; c-e = 50 μ m.



Photos a: S. Ruitton (NW Atlantic); b: Cabioch et al., 1992 (NE Atlantic). Drawings: Coppejans, 1963 (Mediterranean), with the permission from E. Schweizerbart Science Publishers.

Short description

Bonnemaisonia hamifera has a heteromorphic life history with alternation of erect gametophytes (*B. hamifera*) and filamentous tetrasporophyte first

regarded as a distinct species (*Trailiella intricata*). Gametophytes, medium (to 20 cm high), erect, deep to blackish red, much branched; main axes, 1 mm in diameter; branchlets opposite and spirally arranged; few branches modified to form prominent reflexed crozier-shaped hooks; dioecious; cystocarps stalked, subspherical, 2 mm in diameter; spermatangial organs elongate, stalked, 400-600 μ m in diameter and to 1.5 mm long. Tetrasporophyte: small (up to 2.5 cm in diameter), filamentous, cotton-wool-like tufts; uniseriate, irregularly branched, 20-30 μ m in diameter; a colourless, refractive gland cell formed at the upper end of each cell; tetrasporangia ovoid, cruciately divided, 30-40 μ m in diameter, each sunk partially or completely into the cell from which it has been formed.

Distinguishing characteristics

Gametophytes: the thallus with branchlets opposite and spirally arranged and the crozier-shaped, hook-like modified branches are distinctive; confusion possible with:

- the native species of *Bonnemaisonia*: branchlets distichous and absence of crozier-shaped hooks. Tetrasporophyte: the uniseriate filament with a colourless, refractive gland cell at the upper end of each cell is distinctive; no confusion possible with native species.

Biology / Ecology / Habitat

Subtidal communities; tetrasporophyte ("Trailliella-phase") occurring all year round, but most obvious in October-May.

Distribution

Worldwide: north-western Pacific, described from Japan (Hariot, 1891), Korea, Russia; north-eastern Pacific, California, Mexico, Guadalupe Island; north-western Atlantic (introduced), Canada, Nova Scotia, USA, Massachusetts, Virginia; north-eastern Atlantic, Britain (introduced, first observation in 1890; Dixon and Irvine, 1977), from Norway to Canary Islands; south-eastern Atlantic (introduced), South Africa. **Mediterranean:** the gametophyte seems to have been observed only in Spain, close to Gibraltar (Conde and Seoane Camba, 1982a,b) and in Catalonia (Silva *et al.*, 2008), whereas the sporophyte ("*Trailliella intricata*" phase) has been recorded all around the Mediterranean; recorded first in 1909 from Tunisia, La Galite (Petersen, 1918); successively recorded in Algeria (Boudouresque, 1969); France Pyrénées-Orientales (Boudouresque, 1970); Italy, Sicily (Cinelli *et al.*, 1976), Venice (Curiel *et al.*, 1996a); Spain, Catalonia (Ballesteros i Segarra and Romero Martinengo, 1982), Malaga (Conde and Seoane Camba, 1982a), Valencia (Boisset, 1986); Balearic Islands (Cremades, 1989); Morocco (Kazzaz, 1989); Monaco (Verlaque and Bernard, 1998); Greece, north Aegean Sea (Skoufas and Tsirika, 2006); Turkey (Taşkin *et al.*, 2008a); Slovenia (Lipej *et al.*, 2012).

Mode of introduction

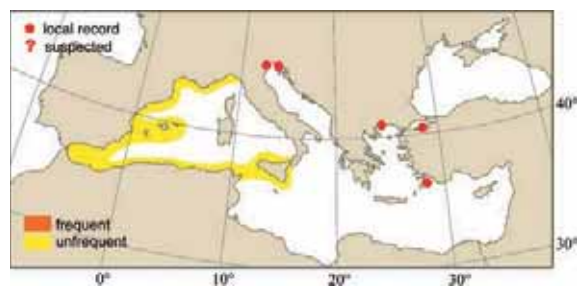
Shipping; secondary dispersal by fishing and shipping.

Establishment

Well established.

Importance to humans

Invasive in the north-eastern Atlantic.



1st Mediterranean record
La Galite, Tunisia, 1918
[1909].

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