The following supplement accompanies the article

What are algal turfs? Towards a better description of turfs

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Supplement. Descriptions of turfs in the marine ecological literature

Table S1. Descriptions of some of the main assemblages that have been referred to as algal 'turfs' or similar names (e.g. mats, gazons, epilithic algae, parvosilvosa)

Description	**Composition/example taxa**	**Habitat/geographical region**	**Stressed ecological features**	**Reference to other definitions/descriptions**	**Main sources**
Taxonomically complex, conspicuous component of subtidal vegetation comprising an aggregate of species of small algae and developmental forms of large algae	~80 species, of which 55% < 1 cm high, ~30% <10 cm and ~15% >10 cm, including *Spermothamnion, Platysiphonia, Sciadophycus, Halimenia, Pterosiphonia, Botryocladia, Bryopsis*	Subtidal rocks or other hard substrata (e.g. shells) in Californian kelp forests	Ability to reproduce vegetatively and temporal persistency	Equated to parvosilvosa	Neushul & Dahl (1967)
Relatively dense associations of ≥1 species of filamentous or foliose algae of small stature, attaining a height or thickness of 1 to 30 mm	Complex and variable composition (>30 species), including the dominant *Jania, Polysiphonia, Ceramium, Hypnea, Cladophora, Gelidium, Laurencia*	Shallow coral reefs, American Samoa, particularly abundant on sand and unconsolidated coral rubble	Interactions between associated species (anchor taxa and epiphytes), substrate consolidation, low biomass but high productivity potential		Dahl (1972)

Thick, dense, extensive, persistent, filamentous, carpet-like aggregations. Thalli are described to trap sand	Formed by *Pterosiphonia pennata*	Shallow subtidal rocky habitats (Gulf of Lion, France)	Habitat to a variety of epiphytic and juvenile algae and invertebrates		Lauret (1974), Airoldi (2000)
Sparse to loosely aggregated, inconspicuous multispecific associations of unicellular and short (usually <1 cm), simple, branched and unbranched filamentous algae	Cyanophyta and simple filamentous eukaryotes (e.g. *Ectocarpus*)	Shallow coral reefs in zones with moderate to high grazing pressure	Rapid growth	Distinguished from the thick, dense, complex, fleshy turfs described by Hay (1981). Equated to the turfs described by Dahl (1972)	Borowitzka et al. (1978), Hackney et al. (1989), Klumpp & McKinnon (1992)
Large, continuous, tightly clumped, colonial aggregates of 1 to many macroalgal species with both prostrate and upright branches, where upright branches are >0.5 cm tall and are packed so that each is in contact with its neighbours	Dominant taxa include *Dictyota, Halimeda, Laurencia, Gelidium, Rhodoglossum, Corallina, Lithotrix* (heights up to about 10–15 cm)	Temperate and tropical shallow reefs and intertidal habitats (southern California, USA; Caribbean)	Phenotypic plasticity (ability to increase packing of thalli in response to environmental stress and disturbance, e.g. desiccation, herbivory)	Distinguished from small (<0.5 cm) filamentous species that trap sediment and have vertical and horizontal uprights (mats), and species with scattered uprights along stoloniferous prostrate axis (runners)	Hay (1981), Taylor & Hay (1984)

Small algal formations comprising a stratum of sediment with a layer of plant growth forming a thick mat of entangled thalli	Combination of few (1–6) perennial anchor taxa up to ~7 cm high, and numerous (40–60) epiphytic taxa, including creeping, repent or filamentous forms. Dominant taxa include *Corallina* (60% cover), Gelidiaceae, and *Ceramium*	Low intertidal rocky platforms in southern California	Interactions between perennial anchor taxa and epiphytes, association with sediments	Explicit description of similarities and dissimilarities with other types of turf assemblages	Stewart (1982, 1983)
Filamentous algae of ~3 mm height. Specific study of *Padina boergesenii:* thalli <0.32 mm width without reproductive structures	Dominant taxa include *Ceramium, Gelidium, Jania, Ectocarpus, Chaetomorpha, Enteromorpha, Cladophoropsis, Griffithsia, Polysiphonia*, and *Padina* (*Columbia*). Mixtures of *Hincksia mitchelliae, Polysiphonia* spp., *Sphacelaria* spp. (Australia).	Tropical shallow reefs of the Colombian Caribbean and Great Australia Reef	Susceptibility to herbivory. Impact on settlement of corals		Diaz-Pulido et al. (2007, 2010)
Diminutive algal communities	Comprised of 14 species of Chlorophyta, 3 Cyanophyta, 19 Phaeophyta, 28 Rhodophyta	Lagoon, crest and slope of One Tree Island on the Great Barrier Reef	Highlighting the significant standing crop of these algae	Description refers to Price et al. (1976) and Borowitzka et al. (1978)	Hatcher & Larkum (1983)

Primarily filamentous algae <10 mm	*Ceramium* spp., *Polysiphonia* spp., *Herposiphonia* spp., *Centroceras* spp., *Taenioma* spp. and *Ectocarpus* spp.	Tropical shallow reef of the southern Caribbean	Impact on recruitment of corals	Description refers to Hatcher & Larkum's (1983) definition of epilithic algal community and to Steneck's (1988) description of an assemblage of algae of 1–10 mm height, primarily consisting of filaments. Corticated and branched forms are also identified as turfs	Arnold et al. (2010)
Carpet-like mat of algal thalli, associated with sediment	Dominated by *Corallina pinnatifolia* with occasional *C. officinalis* and *Ulva californica*, *Gelidium* spp., *Centroceras clavulatum*, *Leathesia difformis* and *Laurencia pacifica*	Intertidal zone of California	Use as habitat by small invertebrates	Description refers to Stewart (1982, 1983)	Huff & Jarett (2007)
Small cushion-shaped and filamentous species, usually <5 cm in height	Primarily *Colpomenia sinuosa*, *Dasycladus vermicularis*, *Jania* spp., *Ceramium* spp.	Tropical shallow reefs of the Canary Islands, eastern Atlantic Ocean	Effects of sedimentation on herbivory of turfs		Ortega-Borges et al. (2009)

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