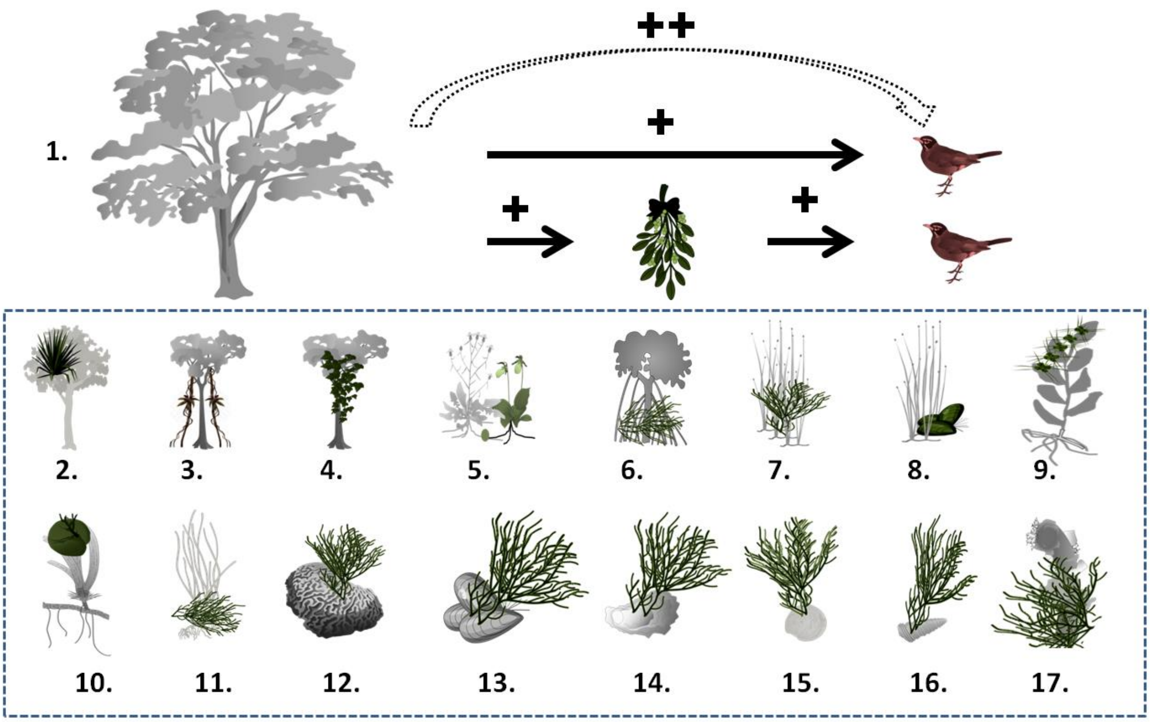
Electronic Supplementary Material

1. Details of cascading habitat-formation

Cascading habitat-formation is a hierarchically structured process because the secondary habitat-former is dependent on the primary habitat-former (typically physical dependency, either obligate, such as mistletoes or facultative, such as vines) [1]. The secondary habitat-former is generally smaller than the primary habitat-former (but see examples 13-17 in Figure 1 for exceptions). The secondary habitat-former typically has negative effects on the primary habitat-former (e.g., through competition for limited resources or by increasing drag), although positive effects can also occur (e.g., through stress reduction or associated enemy escape). The strength of reciprocal effects between the co-existing habitat-formers and end-users can therefore determine the spatio-temporal stability of the habitat cascade. We suggest that the magnitude of facilitation associated with the secondary habitat-former is great (1) the larger, more abundant and more ecologically/functionally different the secondary habitat-former is compared to the primary habitat-former, (2) at opposite end-points of environmental stress gradients because end-users here are more likely to escape stress and enemies and find resources and friends, and (3) when alternative pathways for end-users to escape stress and enemies and find resources and friends, are weak (= weak dilution/strong concentration-processes), for example if spatio-temporal heterogeneity, food web complexity, or adjacent and interspersed habitats are low and small [1-2]. Thus, cascading habitat-formation is typically density-mediated [1, 3-6], although trait-mediated indirect facilitation can also occur [7].

Facilitation of end-users from cascading habitat-formation can occur autogenically (i.e., within/on the secondary habitat-former) and allogenically (i.e., through ecological subsidy) from either locally (e.g., mistletoe litter fallen to the forest floor [8-10]) or from adjacent ecosystems (e.g., through advection processes, such as when seaweeds fixed in polychaete gardens dislodge and are transported to adjacent salt marshes together with their end-user communities [11]), and across terrestrial, freshwater and marine ecosystems as observed for trophic cascades [12]. Cascading habitat-formation can control species abundances, patterns of diversity and ecosystem functioning across biogeographic, taxonomic and latitudinal realms, in terrestrial (see example 1-5 in Figure S1 below), semi-terrestrial (example 6-8), freshwater (example 9 and 13), and marine (example 10-17) ecosystems. Indirect facilitation is here described within a habitat-formation framework; however, similar indirect facilitation processes can often be applied to other types of co-existing ‘ecologically important species’ (e.g., keystone resources/species, foundation species, habitat-modifiers, ecosystem engineers, structural species, transformer species, dominants, core species) [13-20].

Figure S1. Common types of cascading habitat-formation. Cascading habitat-formation can increase diversity and abundance of end-users: primary habitat-formers (light grey) cause indirect positive effects on end-users by physically controlling secondary habitat-formers (dark grey). **Example 1:** A eucalyptus tree provides habitat for birds (long black arrow) and mistletoes (short black arrow), and mistletoes provide additional habitat for additional birds (short black arrow). The tree has both direct and indirect positive effects on birds, resulting in net facilitation of bird communities (bend arrow). **Examples 2-17**: Examples of co-existing habitat-formers in terrestrial (2-5), semi-terrestrial (6-8), freshwater (9, 13), and marine (10-17) ecosystems. See footnote for details on the interacting habitat-formers, associated end-users, and scientific case-studies. Symbols are courtesy of the Integration and Application Network, University of Maryland Center for Environmental Science (ian.umces.edu/symbols/).



Footnote; to ease comparison, the fundamental primary habitat-former, the facilitated secondary habitat-former, and the facilitated end-users are emphasized in underlined, bold, and italic type, respectively. Ball-park sizes of habitat-formers are included for comparisons –

actual sizes can, of course, vary by orders of magnitude depending on age of the habitat-formers and environmental conditions. These examples do not represent an exhaustive list; more combinations between these, and other, co-occurring habitat formers are likely to be common.

[1]Eucalyptus trees (*c.* 10-30 m) provide habitat for **mistletoes** (*c.* 1 m) to facilitate more *birds* [8, 10, 21] (experimental and correlative evidence).

[2]Trees (*c.* 10-30 m) provide habitat for **nest epiphytes and orchids** (*c.* 1 m) to facilitate more *birds and invertebrates* [22-33] (experimental and correlative evidence).

[3]Trees (*c.* 10-30 m) provide habitat for **lianas** (*c.* 10-20 m) to facilitate more *invertebrates* [34-36] (correlative evidence).

[4]Trees (*c.* 10-30 m) provide habitat for **vines** (*c.* 5-15 m)**, ferns** (*c.* 1 m)**, lichens and mosses** (*c.* 0.02-0.05 m) to facilitate more *invertebrates and birds* [36-41] (correlative evidence).

[5]Grasses (*c.* 1 m) provide 'habitat' for **hemi-parasitic plants** (*c.* 0.2 m) to facilitate more *invertebrates* [42] (suggestive evidence).

[6]Mangroves (*c.* 10-50 m) provide habitat for **seaweeds** (*c.* 0.5 m) to facilitate more *invertebrates* [4, 43-44] (experimental and correlative evidence).

[7]Salt marshes (*c.* 1 m) provide habitat for **seaweeds** (*c.* 0.3 m) to facilitate more *invertebrates* [45] (experimental evidence).

[8]Salt marshes and seagrasses (*c.* 1 m) provide habitat for **mussels** (*c.* 0.1 m) to facilitate more *invertebrates and seaweeds* [46-48] (experimental and correlative evidence).

[9]Freshwater and marine plants (*c.* 0.5 m) provide habitat for **colonial diatoms and other microbial biofilms** (*c.* 0.001 m) to facilitate more *invertebrates* [49-53] (these epiphytes are not habitat-formers *sensu strictu* but rather a trophic subsidy; i.e., these studies show that consumers can have positive indirect effects on primary habitat-formers by preferentially consuming epibionts. This type of 'keystone consumption' [1] is thereby a mirror-process of cascading habitat-formation/modification and facilitation).

[10]Seagrasses and seaweeds (*c.* 0.3-1 m) provide habitat for **epiphytes** (*c.* 0.02-0.2 m) to facilitate more *invertebrates* [54-57] (experimental and correlative evidence).

[11]Seagrasses (*c.* 0.5 m) provide habitat for **seaweeds** (*c.* 0.2 m) to facilitate more *invertebrates* [3, 58-59] (experimental evidence).

[12]Corals (*c.* 0.5 m) provide habitat for **polychaetes, sponges, seaweeds and other sessile organisms** (*c.* 0.1 m long) [60-62] to facilitate more *invertebrates* (experimental, correlative and suggestive evidence).

[13]Mussels (*c.* 0.1 m) provide habitat for **seaweeds** (*c.* 0.2 m) to facilitate more *invertebrates* [1, 59, 63] (experimental and correlative evidence).

[14]Oysters (*c.* 0.1 m) provide habitat for **seaweeds** (*c.* 0.2 m) to facilitate more *invertebrates* (suggestive evidence).

[15]Cockles (*c.* 0.02 m) provide habitat for **seaweeds** (*c.* 0.1 m) to facilitate more *invertebrates* [1] (correlative evidence).

[16]Gastropods (*c.* 0.02 m long) provide habitat for **seaweeds** (*c.* 0.2 m) to facilitate more *invertebrates* [1] (correlative evidence).

[17]Polychaetes (*c.* 0.02 m) provide habitat for **seaweeds** (*c.* 0.2 m) to facilitate more *invertebrates* [1, 64] (experimental and correlative evidence).

Table S1. Overview of representative studies on cascading habitat-formation. All studies except [25] manipulated the abundance of primary and/or secondary habitat-formers (HF). Study [25] was included because of its high-impact conclusion in a high-impact journal (doubling rainforest invertebrates by incorporating overlooked cascading habitat-formation; Nature). The first 9 studies ('a-i') were highlighted in a review of cascading habitat-formation [1]. Here we add data on sizes of the habitat-formers and experimental extent and grain, and data for study [21] (cf. Table S2 for details). Column headings; Primary and Secondary habitat-formers = the HFs 'broad habitat-type', 'species identity' and 'typical length', respectively. <u>End-users</u> = quantified organisms that can be facilitated by the primary and/or secondary HF. <u>MR</u> = Magnification ratio = end-user value of (Primary HF + Secondary HF)/Primary HF. For example, MR = 2 corresponds to a doubling of end-user metric by including a secondary HF in a system. MR values are shown for end-user abundances first and then taxonomic richness (NA = Not Available). MR values were extracted from [1] and Table S2. <u>Size-ratio</u> = Size ratio between co-existing HFs (Length primary HF/Length secondary HF). <u>Extent</u> = area over which plots are scattered. <u>Grain</u> = the area of a plot.

Study	Primary habitat-former	Secondary habitat-former	End-user	MR	Size-ratio	Extent (m^2)	Grain (m^2)
[a][1]	Polychaete garden-*Diopatra cuprea*-0.05 m	Drift seaweed-*Gracilaria vermiculophylla*-0.3 m	Sessile plants-invertebrates	10.5/2.5	0.2	400000000	0.3
[b][56]	Seaweed bed-*Sargassum* mimic-0.3 m	Epiphyte-Multiple species-0.05 m	Mobile invertebrates	2.4/NA	6.0	100	0.2
[c][54]	Seagrass meadow-*Thalassia testudinum* mimic-0.7 m	Epiphyte-*Giffordia mitchelliae* mimic-0.02 m	Mobile invertebrates	8.4/NA	35.0	100	0.0001
[d][55]	Seagrass meadow-Mimic-0.3 m	Epiphyte-Multiple species-0.01 m	Mobile invertebrates	1.7/1.2	30.0	25	0.05
[e][57]	Seagrass meadow-*Amphibolis*-0.8 m	Epiphyte-Multiple species-0.05 m	Mobile invertebrates	2.0/1.4	16.0	10000	2.3
[f][46]	Salt marsh-*Spartina alterniflora*-1.5 m	Bivalve-*Geukensia demissa*-0.2 m	Various plant-invertebrates	2.8/NA	7.5	10000	1.0
[g][48]	Salt marsh-*Spartina alterniflora*-1.5 m	Bivalve-*Geukensia demissa*-0.2 m	Mobile invertebrates	3.0/1.1	7.5	10000	1.0
[h][25]	Forest-Dipterocarp trees-30 m	Epiphyte (nest)-*Asplenium nidus*-1 m	Mobile invertebrates	2.0/NA	30.0	70000	21
[i][23]	Forest-Coffee trees (mainly *Inga jinicuil*)-2.5 m	Epiph yte (nest)-multiple species(mainly *Tillandsia* spp)-0.3 m	Birds	1.5/1.0	8.3	4000000	30000

[j][21]	Forest-*Eucalyptus* trees-20 m	Epiphyte (mistletoe)-Loranthaceae (mainly *Amyema miquelii*)-1 m	Birds	1.3/1.4	20.0	1600000000	100000

[a]We used the length of the sediment protruding tube-cap for *Diopatra* because the seaweeds are only incorporated to this structure. Three nested removal experiments were conducted, spread over an area of ca. 20×20 km. [b]We assumed the plots were spread out over an area of 10×10 m. [c]We assumed that the area of individual plots correspond to ca. 1×1 cm seagrass leaves (width × depth) and that these leaves were spread out over an area of 10×10 m. [d]Individual mimics (=plots) were vacuum sampled – we assumed these mimics were spread out over an area of 5×5 m. [efg]We assumed plots were spread out over an area of 100×100 m. [h]Correlative survey samples were collected from a 7 ha forest. [i]Two nested sites were separated by 2 km – incorporating the size of individual plots we then assumed all plots were spread out over an area of ca. 2×2 km. [j]We assumed the plots were spread out over an area of *c*. 40×40 km (as indicated from the online appendix map).

Table S2. Calculation of magnification ratios (MR) from [21]. Data were shown as proportional change from 2003/04 to 2007/08. To calculate MR values for end-users (birds) we assumed that control and mistletoe removal plots had similar mean values at the start of the experiments (e.g., 100 birds for simplicity). We extracted proportional change data from figure 1 and 2 (column 'Fig.') in [21] to calculate number of birds/bird-species at the end of the experiment in controls (column 'Bird 2007/07 Mistletoe+') and removals (column 'Bird 2007/08 Mistletoe-'). Comparing infected (Mistletoe+) vs. removal (Mistletoe-) plots is comparable to the experimental designs for studies listed in Table S1. For simplicity, we did not include comparisons to plots that were not mistletoe infested – corresponding to 'correlative' evidence for cascading habitat-formation (these MR were smaller than the experimentally determined MR shown here, unpubl. data).

			Extracted		**Birds 2007/08**	
Response; proportional change in...	**MR**	**Fig.**	**Mistletoe+**	**Mistletoe-**	**Mistletoe+**	**Mistletoe-**
Mistletoe foragers-all bird species	1.07	1a	-2.79	-8.81	97.21	91.19
Mistletoe foragers-woodland bird species	1.03	1a	-8.01	-10.66	91.99	89.34
Mistletoe nesters -all bird species	1.15	1b	4.31	-9.45	104.31	90.55
Mistletoe nesters -woodland bird species	1.24	1b	2.44	-17.65	102.44	82.35
Residents-all bird species	1.45	2b	1.67	-29.71	101.67	70.29
Residents-woodland bird species	1.76	2b	14.69	-34.88	114.69	65.12
Average for bird abundance data	**1.3**					

Response; proportional change in...	**MR**	**Fig.**	**Mistletoe+**	**Mistletoe-**	**Mistletoe+**	**Mistletoe-**
Species richness -all bird species	1.32	2a	4.94	-20.74	104.94	79.26
Species richness -woodland bird species	1.50	2a	10.64	-26.19	110.64	73.81
Average for bird richness data	**1.4**					

References

1. Thomsen M., Wernberg T., Altieri A., Tuya F., Gulbransen D., McGlathery K., Holmer M., Silliman B. 2010 Habitat Cascades: The Conceptual Context and Global Relevance of Facilitation Cascades via Habitat Formation and Modification. *Int Comp Biol* **50**(2), 158-175.
2. Angelini C., Altieri A.H., Silliman B.R., Bertness M.D. 2011 Interactions among Foundation Species and their Consequences for Community Organization, Biodiversity, and Conservation. *BioScience* **61**, 782-789.
3. Thomsen M.S., de Bettignies T., Wernberg T., Holmer M., Debeuf B. 2012 Harmful algae are not harmful to everyone. *Harmful Algae* **16**, 74-80.
4. Bishop M.J., Byers J.E., Marcek B.J., Gribben P.E. 2012 Density-dependent facilitation cascades determine epifaunal community structure in temperate Australian mangroves. *Ecology* **93**(6), 1388-1401. (doi:10.1890/10-2296.1).
5. Bishop M.J., Fraser J., Gribben P.E. 2013 Morphological traits and density of foundation species modulate a facilitation cascade in Australian mangroves. *Ecology*. (doi:10.1890/12-1847.1).
6. Thyrring J., Thomsen M.S., Wernberg T. 2013 Large scale facilitation of a sessile community by an invasive habitat-forming snail. *Helgolander Marine Research*. (doi:10.1007/s10152-013-0363-2).
7. Gribben P.E., Byers J., Clements M., McKenzie L.A., Steinberg P.D., Wright J.T. 2009 Behavioural interactions between ecosystem engineers control community species richness. *Ecology Letters* **12**, 1127-1136.
8. Watson D.M. 2001 Mistletoe - a keystone resource in forest and woodlands worldwide. *Annual Review of Ecology and Systematics* **32**(1), 219-249. (doi:doi:10.1146/annurev.ecolsys.32.081501.114024).
9. Watson D.M. 2009 Parasitic plants as facilitators: more Dryad than Dracula? *Journal of Ecology* **97**(6), 1151-1159.
10. Watson D.M. 2002 Effects of mistletoe on diversity: a case-study from southern New South Wales. *Emu* **102**(3), 275-281. (doi:http://dx.doi.org/10.1071/MU01042).
11. Thomsen M.S., McGlathery K.J., Schwarzschild A., Silliman B.R. 2009 Distribution and ecological role of the non-native macroalga *Gracilaria vermiculophylla* in Virginia salt marshes. *Biological Invasions* **11**(10), 2303-2316. (doi:10.1007/s10530-008-9417-9).
12. Knight T.M., McCoy M.W., Chase J.M., McCoy K.A., Holt R.D. 2005 Trophic cascades across ecosystems. *Nature* **437**, 880-884.
13. Bruno J.F., Bertness M.D. 2001 Habitat modification and facilitation in benthic marine communities. *Marine Community Ecology (Bertness, MD, Gaines, SD, Hay, ME) Sinauer Associates, Inc, Sunderland, Massachusetts*, 201-218.
14. Mills L.S., Soule M.E., Doak D.F. 1993 The keystone-species concept in ecology and conservatioon. *BioScience* **43**, 219-224.
15. Jones C.G., Lawton J.H., Shachak M. 1994 Organisms as ecosystem engineers. *Oikos* **69**, 373-386.
16. Dayton P.K. 1972 Towards an understanding of community resilience and the potential effects of enrichment to the benthos of McMurdo Sound, Antarctica. *Proceedings of the Colloquium on Conservation Problems in Antartica*, 81-96.
17. Hanski I. 1982 Dynamics of regional distribution: the core and satellite species hypothesis. *Oikos* **38**, 210–221.
18. Jane R. 2001 Species-level Knowledge of Riverine and Riparian Plants: A Constraint for Determining Flow Requirements in the Future. *Australian Journal of Water Resources* **5**, 21-31.
19. Huston M.A. 1994 Biological diversity: the coexistence of species on changing landscapes. *Cambridge University Press*, 681.
20. Power M.E., Tilman D., Estes J.A., Menge B.A., Bond W.J., Mills L.S., Daily G., Castilla J.C., Lubchenco J., Paine R.T. 1996 Challenges for the quest for keystones. *BioScience* **46**, 609-620.

21. Watson D.M., Herring M. 2012 Mistletoe as a keystone resource: an experimental test. *Pro Royal Soc B: Biological Sciences* **279**, 3853-3860.
22. Cruz-Angon A., Baena M.L., Greenberg R. 2009 The contribution of epiphytes to the abundance and species richness of canopy insects in a Mexican coffee plantation. *Journal of Tropical Ecology* **45**, 453–463.
23. Cruz-Angon A., Greenberg R. 2005 Are epiphytes important for birds in coffee plantations? An experimental assessment. *J Appl Ecol* **42**, 150-159.
24. Cruz-Angon A., Sillett T.S., Greenberg R. 2008 An experimental study of habitat selection by birds in a coffee plantation. *Ecology* **89**, 921-927.
25. Ellwood M.D.F., Foster W.A. 2004 Doubling the estimate of invertebrate biomass in a rainforest canopy. *Nature* **429**, 549-551.
26. Ellwood M.D.F., Jones A.T., Foster W.A. 2002 Canopy ferns in lowland dipterocarp forest support a prolific abundance of ants, termites, and other invertebrates. *Biotropica* **34**, 575-583.
27. Stuntz S., Linder C., Linsenmair K.E., Simon U., Zotz G. 2003 Do non-myrmocophilic epiphytes influence community structure of arboreal ants? *Basic and Applied Ecology* **4**, 363-373.
28. Stuntz S., Simon U., Zotz G. 1999 Assessing potential influences of vascular epiphytes on arthropod diversity in tropical tree crowns. *Selbyana* **20**, 276-283.
29. Stuntz S., Ziegler C., Simon U., Zots G. 2002 Diversity and structure of the arthropod fauna within three canopy epiphyte species in central Panama. *Journal of Tropical Ecology* **18**, 161-176.
30. Karasawa S., Hijii N. 2006 Does the existence of bird's nest ferns enhance the diversity of oribatid (Acari: Oribatida) communities in a subtropical forest? *Biodiversity and Conservation* **15**, 4533-4553.
31. Affeld K., Worner S.P., Didham R.K., Sullivan J., Henderson R.C., Olarte J.M. 2009 The invertebrate fauna of epiphyte mats in the canopy of northern rata (Myrtaceae: *Metrosideros robusta* A. Cunn.) on the West Coast of the South Island, New Zealand. *NZ J Zool* **36**, 177 - 202.
32. Yanoviak S.P., Berghoff S.M., Linsenmair K.E., Zotz G. 2011 Effects of an Epiphytic Orchid on Arboreal Ant Community Structure in Panama. *Biotropica* **43**(6), 731-737. (doi:10.1111/j.1744-7429.2011.00764.x).
33. Angelini C., Silliman B.R. 2013 Secondary foundation species as drivers of trophic and functional diversity: evidence from a tree-epiphyte system. *Ecology*. (doi:10.1890/13-0496.1).
34. Ødegaard F. 2000 The relative importance of trees versus lianas as hosts for phytophagous beetles (Coleoptera) in tropical forests. *Journal of Biogeography* **27**, 283-296.
35. Blüthgen N., Fiedler K. 2002 Interactions between weaver ants Oecophylla smaragdina, homopterans, trees and lianas in an Australian rain forest canopy. *Journal of Animal Ecology* **71**(5), 793-801.
36. Tanaka H.O., Itioka T. 2011 Ants inhabiting myrmecophytic ferns regulate the distribution of lianas on emergent trees in a Bornean tropical rainforest. *Biology Letters* **7**, 706-709. (doi:10.1098/rsbl.2011.0242).
37. Nadkarni N.M., Matelson T.J. 1989 Bird use of epiphyte resources in neotropical trees. *Condor* **91**, 891-907.
38. Wolf A.L. 2009 Bird use of epiphyte resources in an old-growth coniferous forest of the Pacific Northwest, The Evergreen State College.
39. Meininger C.A., Uetz G.W., Snider J.A. 1985 Variation in epiphytic microcommunities (tardigrade-lichen-bryophyte assemblages) of the Cincinnati, Ohio area. *Urban Ecology* **9**(1), 45-61. (doi:http://dx.doi.org/10.1016/0304-4009(85)90016-6).
40. Stubbs C.S. 1989 Patterns of distribution and abundance of corticolous lichens and their invertebrate associates on *Quercus rubra* in Maine. *Bryologist* **92**, 453-460.
41. Pettersson R.B., Ball J.P., Renhorn K.-E., Esseen P.-A., Sjöberg K. 1995 Invertebrate communities in boreal forest canopies as influenced by forestry and lichens with implications for passerine birds. *Biological Conservation* **74**(1), 57-63. (doi:http://dx.doi.org/10.1016/0006-3207(95)00015-V).

42. Taylor K., Rumsey F.J. 2003 *Bartsia alpina* L. *Journal of Ecology* **91**(5), 908-921. (doi:10.1046/j.1365-2745.2003.00809.x).

43. Jaxion-Harm J., Speight M.R. 2012 Algal cover in mangroves affects distribution and predation rates by carnivorous fishes. *Journal of Experimental Marine Biology and Ecology* **414**, 19-27.

44. Bishop M.J., Morgan T., Coleman M.A., Kelaher B.P., Hardstaff L.K., Evenden R.W. 2009 Facilitation of molluscan assemblages in mangroves by the fucalean alga *Hormosira banksii*. *Marine Ecology Progress Series* **392**, 111-122. (doi:10.3354/meps08247).

45. Dijkstra J.A., Boudreau J., Dionne M. 2012 Species-specific mediation of temperature and community interactions by multiple foundation species. *Oikos* **121**(5), 646-654. (doi:10.1111/j.1600-0706.2011.19712.x).

46. Altieri A.H., Silliman B., Bertness M.D. 2007 Hierarchical organization via a facilitation cascade in intertidal cordgrass bed communities. *Am Nat* **169**, 195-206.

47. Valentine J.F., Heck K.L. 1993 Mussels in seagrass meadows: their influence on macroinvertebrate abundance, and production and macrophyte biomass in the northern Gulf of Mexico. *Marine Ecology Progress Series* **96**, 63-74.

48. Altieri A., van Wesenbeeck B.K., Bertness M.D., Silliman B.R. 2010 Facilitation cascade explains positive relationship between native biodiversity and invasion success. *Ecology* **91**, 1269–1275.

49. Brönmark C. 1985 Interactions between macrophytes, epiphytes and herbivores: an experimental approach. *Oikos* **45**, 26-30.

50. Brönmark C. 1989 Interactions between epiphytes, macrophytes and freshwater snails: a review. *Journal of Molluscan Studies* **55**(2), 299-311.

51. Kairesalo T., Koskimies I. 1987 Grazing by oligochaetes and snails on epiphytes. *Freshwater Biology* **17**(2), 317-324. (doi:10.1111/j.1365-2427.1987.tb01051.x).

52. Boström C., Mattila J. 1999 The relative importance of food and shelter for seagrass-associated invertebrates: a latitudinal comparison of habitat choise by isopod grazers. *Oecologia* **120**, 162-170.

53. Worm B., Sommer U. 2000 Rapid direct and indirect effects of a single nutrient pulse in a seaweed-epiphyte-grazer system. *Marine Ecology Progress Series* **202**, 283-288.

54. Hall M., Bell S. 1988 Response of small motile epifauna to complexity of epiphytic algae on seagrass blades. *J Mar Res* **46**, 613-630.

55. Bologna P.A., Heck K.L. 1999 Macrofaunal associations with seagrass epiphytes - Relative importance of trophic and structural characteristics. *J Exp Mar Biol Ecol* **242**, 21-39.

56. Martin-Smith K.M. 1993 Abundance of mobile epifauna: the role of habitat complexity and predation by fishes. *Journal of Experimental Marine Biology and Ecology* **174**, 243-260.

57. Edgar G.J., Robertson A.I. 1992 The influence of seagrass structure on the distribution and abundance of mobile epifauna: pattern and processes in a Western Australian *Amphibolis* bed. *Journal of Experimental Marine Biology and Ecology* **160**, 13-31.

58. Thomsen M.S. 2010 Experimental evidence for positive effects of invasive seaweed on native invertebrates via habitat-formation in a seagrass bed. *Aquatic Invasions* **5**, 341–346.

59. Thomsen M.S., Staehr P.A., Nejrup L.B., Schiel D.R. 2013 Effects of the invasive macroalgae *Gracilaria vermiculophylla* on two co-occurring foundation species and associated invertebrates. *Aquatic Invasions* **8**, 133-145.

60. Bozec Y.-M., Yakob L., Bejarano S., Mumby P.J. 2013 Reciprocal facilitation and non-linearity maintain habitat engineering on coral reefs. *Oikos* **122**, 428–440.

61. Bergsma G.S. 2012 Mutualists alter coral susceptibility and response to biotic disturbance through cascading trait-mediated indirect interactions. *Coral Reefs* **31**, 461-469.

62. Bergsma G.S. 2012 Coral mutualists enhance fish abundance and diversity through a morphology-mediated facilitation cascade. *Marine Ecology Progress Series* **451**, 151-161. (doi:10.3354/meps09615).

63. Ward J.M., Ricciardi A. 2010 Community-level effects of co-occurring native and exotic ecosystem engineers. *Freshwater Biology* **55**, 1803–1817.

64. Thomsen M.S., McGlathery K. 2005 Facilitation of macroalgae by the sedimentary tube forming polychaete *Diopatra cuprea*. *Estuarine, Coastal and Shelf Science* **62**, 63-73.