Braga *et al*. Supplementary Table

Selected publications using corals, coralline algae and vermetids in fossil Quaternary reefs to reconstruct local relative sea-level or to interpret palaeodepth of deposits. All taxa names and growth forms are verbatim quotations of the original publication. No corrections of original taxonomic nomenclature have been attempted. Genus names in species binomials are only spelled out in their first appearance. CCA: crustose coralline algae.

Western Atlantic-Caribbean province

Authors	Locality Age	Inferred palaeodepth	Palaeoenvironment	Coralgal assemblages	Other fossils	Source of data for palaeodepth interpretation
Mesolella, 1967	Barbados Pleistocene	Mean low tide for top 3)	1) Deeper fore-reef slope 2) Mid fore-reef slope 3) Upper fore-reef and reef crest 4) Rear coral-head zone	1) Coral-head zone of *Montastrea annularis, Siderastrea siderea, S. radians, Diploria strigosa, D. labyrinthiformis, minor Porites astreoides, Agaricia agaricites, Favia fragum, Meandrina meandrites, M. brazilensis, Colpophyllia natans, Montastrea cavernosa, Porites porites, Eusmilia fastigata* and *Madracis* 2) *Acropora cervicornis, M. annularis, Diploria* sp., *Siderastrea* sp. 3) *Acropora palmata* 4) *M. annularis, A. cervicornis, Diploria* sp., *Siderastrea* sp., *P. porites, A. agaricites, F. fragum, M. meandrites, P. astreoides, C. natans, M. cavernosa, E. fastigata, Madracis* sp. and *Oculina, Millepora*	3) Thick CCA 4) CCA	Goreau, 1959; Ginsburg, 1956; Shinn, 1963; Newell & Rigby, 1957; Storr, 1964; Stoddart, 1962
Lighty *et al.* 1978	SE Florida shelf Holocene	Shallow water	Back-reef, reef crest and fore reef	(1) Back-reef coral head (2) Back-reef *A. cervicornis* (3) *A. palmata* (4) fore-reef coral head		Ginsburg, 1956; Shinn, 1963
Fairbanks & Mathews, 1978	Barbados MIS 7 to MIS 5a	<5 m	Reef-crest	*A. palmata*		No reference
Lighty *et al.*, 1982	Western Atlantic Holocene and modern	Optimum 1 to 5 m	Reef-crest framework	*A. palmata*		Based on a long list of ecological papers

Edwards *et al.*, 1987b	1) Barbados 2) Vanuatu, Huon Peninsula, Hispaniola Holocene and LIG	0 to 2 m	Reef crest	*A. palmata*		well known fact
Fairbanks, 1989	Barbados Deglacial and early Holocene	< 5 m	Reef-crest	*A. palmate*, *P. astreoides*. Also *A. cervicornis, M. annularis*		Lighty *et al.*, 1982; Fairbanks & Matthews, 1978
Bard *et al.*, 1990a	Barbados Deglacial and early Holocene	±2.5 m for *A. palmata*	Reef-crest	*A. palmata* and *Porites*		Fairbanks, 1989
Bard *et al.*, 1990b	Barbados 130 ka	±2,5 m for *A. palmata*	Reef-crest	*A. palmata*		Fairbanks, 1989
Chen *et al.*, 1991	1) San Salvador 2) Great Inagua MIS 5e	1) 3 to 4 m 2) planed reef tops (4 m)	1) Shelf patch reef crest 2) Patch reefs	1) *A. palmata*, *M. annularis, Diploria clivosa*; 2.1) *in situ M. annularis, D. strigosa* and chunks of *A. cervicornis* and *A. palmata*; 2.2) *M. annularis* and *D. clivosa*		
Martindale, 1992	Barbados Pleistocene and modern	1) 15 to 25 m	1) Exposed environment at mid-depth, lagoon	1) Crusts of uniform composition: surfaces and sides of *M. annularis, Diploria* sp. and *Siderastrea* sp.	1) Thin crusts of foliaceous CCA *(Mesophyllum, Tenarea, Neogoniolithon, Hydrolithon)*	
		2) Shallow, turbulent water	2) High energy crest of the outer barrier reef and on spurs on the inner fringing reef	2) Crusts of mixed composition: *A. palmata*	2) Thick (> 2 mm) layers of CCA *Porolithon, Lithophyllum*, or *Tenarea*. Thin (< 2 mm), crusts of *Lithophyllum, Neogoniolithon* and *Mesophyllum* overlie the initial succession and are overlain by very thin (< 1 mm), detached, foliose crusts of *Mesophyllum* and *Lithothamnion*	Own observations in modern reef
Gallup *et al.*, 1994	Barbados Last 200 ka interglacials and older terraces	Not specified, assumed previous estimates +/- 3 m?)	Cobble, reef crest, forereef	*A. palmata*, *Sideratrea, Porites*		Ku *et al.*, 1974, Marshall & Thom, 1976; Chen *et al.* 1991
Ludwig *et al.*, 1996	Florida Keys and Bermuda MIS 5a	*Montastrea* grows to about 80 m,	Reef crest of outlier reef	*M. annularis* (and Holocene *A. palmata*) in Florida Keys, *Oculina* and *Siderastrea* in Bermuda		Shinn *et al.*, 1989

		optimum 3 to 45 m, supposed 3 m.				
Toscano & Lundberg, 1998	S.E. Florida Early Holocene	≤ 4 m based on corals and difference with coeval peat levels	Landward pinnacle and reef crest	*A. palmata*, *M. annularis* and *C. natans*		Jaap, 1984; Shinn, 1980; Lighty *et al.*, 1982
Toscano & Lundberg, 1999	S.E. Florida MIS5 a to c	3 to 4 m for back-reef, < 2 m for reef crest facies; head corals 0 to 45 m	Shallow fore-reef and back-reef	Head corals *M. annularis* and *C. natans* and the branching coral *A. palmata*		Jaap, 1984; Fairbanks, 1989; Lightly *et al.*, 1982
Vézina *et al.*, 1999	Grand Cayman Unit A > 400 Unit B 364 Unit C 229 Unit D 131 ky	Unit A to D < 10 m; in unit A combination with geomorphology 4 to 9 m	Unit A open shelf with patch reefs; B to D lagoon with patch reefs	Unit A *A. palmata* Unit B coral heads Unit C *A. palmata*, *A. cervicornis, P. porites*		Rigby & Roberts, 1976; Blanchon, 1995; Hunter, 1994
Fruijtier *et al.*, 2000	Key Largo, Florida MIS 5e	0 to 3 m	Reefs	*Diploria* sp., *Siderastrea* sp., *Montastrea* sp.		Perkins, 1977; also Stanley, 1966
Blanchon & Eisenhauer, 2001	Barbados LIG	4) < 1 m due to *Dendropoma;* habitat depth range of *A. palmata* 0 to 6 m south coast, 0 to 2 m west coast; 0 to 5 m in high-energy reef crests with thick intertidal encrusters	1) Distal reef front 2) Middle reef front 3) Proximal reef front 4) Reef crest 5) Proximal back reef	1) Head-coral framestone: *Siderastrea* spp*, Montastrea* spp and *Diploria* spp, with subordinate *Colpophyllia* spp*, M. cavernosa, Isophyllastrea rigida, Stephanocoenia michilini* and *P. astreoides* 2) Cervicornis framestone: *A. cervicornis, M. annularis, Siderastrea* spp. 3) Mixed framestone: *A. palmata*, *A. cervicornis, M. annularis* 4) Rudstone: *A. palmata* 5) Branching-coral framestone facies: *P. porites, P. astreoides, A. cervicornis, M. annularis, Agaricia* sp. and *E. fastigiata*	4) CCA, encrusting foraminifera (*Homotrema rubrum*) and vermetid gastropods, including *Dendropoma*	Glynn, 1973; Focke, 1978; Laborel, 1986; Jones & Hunter, 1995; Mesolella *et al.*, 1969, 1970; Blanchon *et al.*, 1997
Blanchon *et al.*, 2002	Grand Cayman Holocene	Submerged intertidal notch and erosion of reef crest; 0 to 5 m for *A. palmata*	*Acropora* reef crest	*A. palmata* in rudstone In framestone *Siderastrea* spp*., Diploria* spp., stumps of *A. palmata, M. annularis, M. cavernosa* and *Isophyllastrea rigida*, fragments of *Millepora, Agaricia* sp. and *A. cervicornis*	*Porolithon* sp*., Lithophyllum* sp., foraminifera *H. rubrum* in rudstone	Blanchon & Jones, 1995
Gallup *et al.*, 2002	Barbados Termination II	Cobbles imply proximity to sea-level	Fringing reef with coral cobbles	*A. palmata* and head coral, *A. palmata* and A. *cervicornis* in other units		
Speed & Cheng, 2004	Barbados LIG	0 to 5 m	Fringe reef	*Acropora palmata* (*A. cervicornis* seawards)		Adey (1978)

Blanchon & Perry, 2004	Yucatan Holocene and modern	1) 0 to 2 m 2) 2 to 10 m	1) Reef-crest/flat 2) Reef front	1) *A. palmata* 2) *A. palmata*, rare *Montastrea and* also crusts of *Millepora* sp. up to 2 cm	1) Traces and encrusters including sponge borings (*Entobia convoluta*), cm-thick CCA (*Porolithon* sp., *Neogoniolithon* sp., *Lithophyllum* sp. and *Lithoporella* sp.), flattened *H. rubrum* and vermetids; 2) Boring bivalves and sponges, thin (0.5 to 2 mm) CCA, primarily *Porolithon* sp., *Neogoniolithon* sp., *Tenarea* sp. with vermetids	Own observations in modern reef
Potter *et al.*, 2004	Barbados MIS 5a and 5c	*A. palmata* within 5 m	Reef crest	*A. palmata*, *Monastrea* sp., *Siderastrea* sp. and *Diploria* sp.		Mesolella, 1967
Schellmann & Radtke, 2004	Barbados Pleistocene and Holocene	3) 0 to 5m	1) Deeper fore-reef 2) Fore-reed 3) Reef crest 4) Back reef	1) Mixed coral heads of *M. annularis, M. cavernosa, Diploria, Siderastrea* 2) *A. cervicornis* 3) *A. palmata* 4) Head coral and organ-pipe colonies of *M. annularis*		Lighty *et al.*, 1982; Geister, 1983
Peltier & Fairbanks, 2006	Barbados LGM and deglacial	0 to 5m for *A. palmata*, 0-20 m for *M. annularis*		*A. palmata*, *M. annularis*, *P. astreoides, Diploria* sp., *A. cervicornis*		Fairbanks, 1989
Coyne *et al.*, 2007	Grand Cayman Units A to F; concentrates in D to F (Vézina *et al.* 1999 for A to D)	Unit D probably < 10 m-deep Unit F intertidal to subtidal		*Porites* sp., *M. annularis, Diploria* sp., *A. palmata*, *A. cervicornis* and *Madracis* sp.		Jones & Hunter, 1990; Vézina, 1997; Vézina *et al.*, 1999
Scholz *et al.,* 2007	Barbados MIS 6.5	Not specified, assume *A. palmata* indicates sea-level	Reef framework	*A. palmata*		
Blanchon *et al.*, 2009	Yucatán MIS 5e	Mean lower water	Reef crest	*A. palmata*	Encruster association of CCA, *H. rubrum* and vermetids on clasts and colonies of *A. palmata*.	Blanchon & Perry, 2004
Muhs *et al.*, 2011	Florida MIS 5.5 and MIS 7	About 3 m. *M. cavernosa* 10 to 65 m	Stressed shelf-margin reefs	*M. annularis* and *D. strigosa*, *Colpophyllia; M. cavernosa*		Shinn *et al.*, 1989

Thompson *et al.*, 2011	Bahamas LIG	Approximately 3 m		*A. palmata, A. cervicornis, M. annularis, D. strigosa, D. clivosa, S. siderea*		
Toscano *et al.*, 2012	St. Croix, Virgin Islands MIS5.5	1 to 3 m for *P. porites*; combined coral, CCA and foraminifera < 5 m	Shallow back-reef or reef flat facies, or lagoonal reef setting	*P. porites*	CCA: *Titanoderma prototypum*, Foraminifera: *H. rubrum*	Cairns, 1982; Suchanek, 1989; Shinn *et al.*, 1989; Littler & Littler, 2000; Mackenzie *et al.*, 1965; Elliott *et al.*, 1996; Pilarczyk & Reinhardt, 2011
Hubbard *et al.*, 2013	St. Croix, Virgin Islands Holocene	*A. palmata* growth at 3 to 22 m palaeodepth		*A. palmata*		Own observations on coral position in drill cores
Stathakopoulos & Riegl, 2015	Inner reef SE Florida shelf Holocene	0 to 5 m based on *A. palmata*	Immature reef and/or a series of fused patch reefs for the inner and	*A. palmata*, *Orbicella* (formerly *Montastraea*) *annularis, M. cavernosa, D. strigosa, Siderastrea* spp.*, C. natans, Millepora* spp. and very few occurrences of *P. porites*, *Dichocenia* sp.*, Manicina aereolata* and *A. cervicornis*		
Abdul *et al.*, 2016, Mortlock *et al.*, 2016	Barbados Deglacial	< 5 m	Reef crest	*A. palmata*		Goreau, 1959; Mesolella, 1967
Bard *et al.*, 2016	Barbados Deglacial	0 to 15 (24) m	Reef crest and deeper front	*A. palmata*		Goreau & Wells, 1967; Hubbard, 2009; Zimmer *et al.*, 2006
Toscano, 2016	Barbados Holocene	0 to 5 m; one sample deduced 6.7 m	Reef crest	*A. palmata*		
Khan *et al.*, 2017	Caribbean Holocene and modern	1) Mean lower low water-5 m; 2) 0 to 30 m	Reef crest for *A. Palmata*	1) *A. palmata*; 2) *A. cervicornis, C. natans, D. clivosa, D. labrynthiformis, D. strigosa, Dichocoenia stokesii, Orbicella* species complex (including *O. annularis, O. faveolata* and *O. franksi*), *P. astreoides* and *S. siderea*		
Dechnik *et al.*, 2019	Brazil (Abrolhos and Espirito Santo) Holocene	0 to 2.9 m (coral), 1 m CCA and vermetids, MLWS for microatolls	Reef flats and micro-atolls	*Mussismilia, Siderastrea, Millepora, Montastrea*		Martin *et al.*, 2003; Angulo *et al.*, 2006; Smithers & Woodroffe, 2000
Stathakopoulos *et al.*, 2020	south Florida Holocene and modern	Typically < 5 m	Reef crest	*A. palmata*		Lighty *et al.*, 1982

Vieira *et al*., This volume	Brazil (Abrolhos Shelf) Late Pleistocene and Holocene	< 10 to 12 m	Reef framework	*Siderastrea stellata, Mussismilia harttii, Favia gravida, Millepora* sp., *M. cavernosa and Porites* sp.	CCA: *Porolithon* gr. *onkodes, Melyvonnea erubescens and Dawsoniolithon* gr. *conicum*	Leão & Ginsburg, 1997; Leão *et al.*, 1997; Jesionek *et al.,* 2016; Amado-Filho *et al.,* 2018

Indo-Pacific province

Authors	**Locality** **Age**	**Inferred palaeodepth**	**Palaeoenvironment**	**Coralgal assemblages**		**Source of data**
Nakamori, 1986	Ryukyu Islands Pleistocene		Moat to reef crest of fringing reef or protected patch reefs	Community A) Branching *Acropora*, *Montipora* and hemispherical *Porites*		Own observation in modern reefs
		Almost sea-level	Reef edge	Community B) Tabular *Acropora*		
		0 to 15 m	Reef slope	Community C) Tabular *Acropora*, hemispherical *Porites*, *Favia*, *Platygyra*		
		10 to 30 m	Reef slope	Community D) *Echinophyllia*, *Oxypora* and *Mycedium*, *Favia*, *Platygyra*		
		30 to 100 m	Deep reef slope	Community E) *Leptoseris*, *Pachyseris*		
Pirazzoli & Montaggioni, 1988	Tahiti Holocene	< 3 m due to *Serpulorbis* corals and CCA < 6 m		Massive, branching *Acropora robusta*-*Acropora danai*, domal *Porites*	CCA: *Porolithon onkodes*, *Neogoniolithon fosliei*, *Lithophyllum*, *Lithoporella* Vermetid: *Serpulorbis annulatus,* Foraminifera: *Homotrema, Carpenteria*	Richard, 1982; Faure, 1982; Adey, 1986
Pirazzoli *et al.* 1988	Tuamotus atolls, Holocene	Difference with living equivalent		*Acropora*, *Porites*, algal ridge		Own observations
Chappell & Polach, 1991	Huon Peninsula Deglacial	Not specified	Fringing reef barrier	*Porites*, *Acropora*, *Montipora*, *Pocillopora*, *Favia*, *Goniopora*		
Kan *et al*., 1991	Ryukyu Islands (Kume Isl.) Holocene	Shallow water	1) Seaward slope of reef crest 2) Inner, landward reef crest	1) Tabular *Acropora* facies 2) Stubby branching *Acropora* facies		Takahashi & Koba, 1977

Edwards *et al.*, 1993	Huon Peninsula, Papua New Guinea 7-11 ka	Shallow water		Several common corals, mostly *Porites*	
Eisenhauer *et al.*, 1993	Houtman Abrolhos, Western Australia Holocene	0 to 25 m	Fringing reef platform	*Acropora* sp.	No reference
Stein *et al.*, 1993	Huon Peninsula, Papua New Guinea	Shallow water but allow 30 m depth	Barrier reef, lagoon, fringing reef	*Porites lutea, Gardineroseris planulata, Platygyra sinensis, P. lamellina, Favia pallida, Plesiastrea curta, Hydnophora microconos*	Not specified
Zhu *et al.*, 1993	Turtle Bay, Houtman Abrolhos Islands LIG	0 to 2 m	Reef platform	Thick branching, platy and head corals, including *Acropora*, *Platygyra, Favites and Goniopora*	No reference
Yonekura *et al.*, 1994	Ryukyu Islands (Yoron Isl.) Holocene	Shallow water	1) Reef crest 2) Reef pavement 3) Moat	1) Encrusting *Acropora* facies associated with branching platy and massive *Acropora*. 2) Mostly bioclastic, some thin branching *Acropora* 3) Angular and poorly sorted coral fragments	
Szabo *et al.*, 1994	Oahu, Hawaii LIG	Shallow water habitats		*Porites* and *Pocillopora*	No reference
Kan *et al.*, 1995	Ryukyu Islands (Okierabu Isl.) Holocene	5 m or less	Shallow seaward reef margin	Tabular *Acropora* facies	
Bard *et al.*, 1996a	Sumba Island Indonesia 1) Holocene; 2) MIS 5 e	5 to 15 m and terrace	Low-energy, lagoonal environments	1) *Porites* microatoll; 2) *Echinophyllia, Lobophyllia, Heliopora coerulea, Stylophora, Seriatopora, Porites nigrescens, Pachyseris speciosa, Mycediurn elephantotus, Fungia* sp.	Faure, 1982
Bard *et al.*, 1996b	Tahiti Deglacial	Less than 6 m	Fringing to barrier reef	*A. robusta/danai, A. clathrata, Pocillopora* cf. *verrucosa*, Faviids, Poritiids	Reference to Montaggioni in preparation
Eisenhauer *et al.*, 1996	Houtman Abrolhos, W Australia LIG	Pacific *Acropora* 0 to 25 m	Reef framework	*Acropora*, *Platygyra*, *Favites* and *Goniopora*	Eisenhauer *et al.*, 1993
Galewsky *et al.*, 1996	Huon Gulf, Papua New Guinea	< 5 to 10 m	Shallow-water high-energy reef	*A. robusta, Galaxea fascicularis* and *Cyphastrea microphthalma, Porites, Favia, Goniopora, Pavona*	Veron *et al.*, 1977; Veron & Pichon, 1979, 1982; Veron &

	348 ± 10 ka					Wallace, 1984; Veron & Kelley, 1988
Camoin *et al.*, 1997	Mauritius, Holocene and modern	8 to 15 to 20 m	Base of the spur and groove zone	Encrusting colonies (*Echinopora gemmacea*, *Echinophyllia aspera*) and associated massive and tabular branching forms (*P. lutea*, *Pocillopora verrucosa*, *Platygyra daedalea*, *C. microphthalma*, *Goniastrea pectinata*, *Favia stelligera*, *Acropora hyacinthus*, *A. danai, Acropora tenuis*		Faure, 1982
		< 6 m	Upper part of the spur and groove zone	Branching and massive coral colonies (*A. tenuis, A. hyacinthus*, *P. verrucosa*, *P. lutea*, *C. microphthalma*, *F. stelligera*, *G. pectinata*, *Goniastrea retiformis*, *Millepora platyphylla*), with robust-branching forms (*A. robusta-danai*, *Acropora digitifera*)		
		< 2 m	Outer reef flat	Robust braching *A.* gr. *danai*, *A. digitifera, Acropora humilis*, *Pocillopora damicornis* ec. *brevicornis*, *P. lutea*, *P. daedalea* and *G. fascicularis*.	Coral colonies encrusted by CCA (*Lithoporella*) and foraminifera (*Homotrema* and *Acervulina*)	
	Reunion Holocene	< 15 m	Outer slope or the reef flat zone	Branching *Acropora* facies, dominated by *Acropora cytherea-hyacinthus*, *A. tenuis* and *Acropora pharaonis*		Faure, 1982
	Mayotte Holocene	< 5 m	Upper forereef to reef flat	Robust-branching *Acropora* facies, dominated by *A. danai*/ *robusta* and locally-associated massive forms (*G. retiformis*)	CCA: *Mesophyllum*, *Lithoporella* Foraminifera: *Homotrema*, *Acervulina*	Faure, 1982; Veron 1986
Montaggioni & Faure, 1997	Mauritius Holocene and modern	0 to 6 m	Medium energy reef crest upper forereef	Robust-branching coral facies: robust-branching acroporids (*A. robusta*, A. *danai*, *A. digitifera, A. humilis*), associated with branching (*P. verrucosa*, *P. eydouxi*) and massive forms (*P.* cf. *lutea*, *Leptoria phrygia*, *P. daedalea*, *G. retiformis*, *F. stelligera*). Subordinate forms include *M. platyphylla*, *E. gemmacea*, *Cyphastrea* sp. and *Leptastrea* sp.		Own observations in a fringing reef in the island
		6 to 15 m	Low energy settings, middle parts of the forereef zone	Tabular-branching coral facies: tabular and/or branching corals (*A. hyacinthus*, *A. cytherea*, *P. verrucosa*, *P. damicornis, Porites nigrescens*). Associated species with various growth forms; they include *A. danai*, *E. aspera*, *P.* cf. *Iutea*, *E. gemmacea, Leptastrea* sp., *Alveopora* sp., *Platygyra pini* and *Montipora* sp.		

		< 6 m	Inner part of the present-day reef crest and the outermost section of the backreef	Robust-branching-domal coral facies: abundant dome-shaped colonies (*P. daedalea*, *P.* cf. *lutea*, *G. fascicularis*) and branching *P. damicornis*. These corals are mixed with large fragments of various robust-branching and domal species (*A. danai*, *A. digitifera*, *F. stelligera*, *E. gemmacea*		
		< 10 m	Middle part of back reef	Foliaceous coral facies: foliaceous species (*Pavona cactus, P. divaricata, P. decussata*, *Montipora foliosa*), delicate branching *Seriatopora hystrix* and branching *P. nigrescens*. Subordinate forms are *G. fascicularis*, *P. damicornis*, *Echinopora* sp. and various unidentifiable acroporids		
Montaggioni *et al.,* 1997	Tahiti Deglacial and Holocene	0 to 6m	Reef edge and upper reef slope	Robust-branching community: *Acropora* gr. *danai-robusta*, associated with branching *P.* cf. *verrucosa*, *A. humilis* and scarce domal *Leptastrea* sp., *Porites* cf. *lobata* and *Montastrea annuligera*	CCA: crusts 2 to 4 cm-thick *Hydrolithon* (*P.*) *onkodes* and, to a lesser extent, of *N. fosliei*	Bouchon, 1985; Pirazzoli & Montaggioni, 1988; Montaggioni & Camoin, 1993;
		5 to 15 m	Outer slopes	Tabular branching *Acropora* community: tabular *A. hyacinthus*, *A. cytherea* and *A. clathrata* species, with subordinate, plate-shaped *A. danai-robusta* ecomorphs and domal *M. annuligera*.	CCA: mm-thick crusts of *Neogoniolithon* cf. *absimile*, *Neogoniolithon* cf. *propinquum*, *Dermatolithon* cf. *tessellatum* and *Mesophyllum* cf. *prolifer*. *H. onkodes* rare or absent.	Bouchon, 1985, 1996
		> 5 m and outer reef flat and windward lagoon	Outer slope, outer reef flat and windward lagoon	Domal *Porites* community: *P.* cf. *lutea* and *P.* cf. *lobata*, mixed with a few *P.* cf. *verrucosa* and tabular acroporids.	CCA: branching *Lithophyllum* < 1 cm-thick over *Porites*. When present, *H. onkodes* with *D.* cf. *tessellatum* and *N. fosliei* form mm-thick crusts.	Faure & Laboute, 1984; Kuhlman & Chevalier, 1986; Bouchon, 1996
Stirling *et al.*, 1998	W Australia LIG	0 to 1 m, surface of highest *in situ* corals	Fringing reefs	*Goniastrea*, Faviidae and *Porites* coral heads, *Acropora* tabulate		Veeh *et al.* 1979
Webster *et al.*, 1998	Kikai-jima, Ryukyu Islands Holocene	0 to 3 m?	High energy, shallow outer reef flat/edge	Subsurface 1): tabulate and robust-branching *Acropora* spp. (*A. hyacinthus*, *A. humilis* groups), *Acropora palifera* and *Acropora monticulosa*.		Iryu *et al.*, 1995; Done, 1982; Nakamori, 1986
		5 to 10 m	Low-energy, reef slope	Subsurface 2): massive *Porites* spp. (*P. lutea*, *P. lobata* or *P. australiaensis*) with associated		

				massive Faviidae such as *L. phrygia*, *Goniastrea* sp., *F. pallida, Favites* sp., *Platygyra* sp., *Montastrea* sp., *Montipora* sp. and *Leptastrea* sp.		
		0 to 3 m?	Outer reef flat/reef edge to upper reef slope, high energy and high turbidity	Surface A): tabulate, encrusting, minor massive *Acropora* sp., *A. palifera*, *Montipora* sp., *A. monticulosa, P. verrucosa,* associated Faviidae		
		0 to 1 m?	Shallow upper reef slope, moderate energy and less turbid	Surface B): tabulate, encrusting *Acropora* sp., *A. palifera*, *Montipora* sp., *A. monticulosa*, lack of Faviidae		
		0 to 3 m?	Very shallow reef flat to reef edge, high energy and turbidity	Surface C): massive/columnar, tabulate *G. retiformis*, *Acropora* sp., *Favites* sp., *Montipora* sp.		
			Very shallow, reef flat to upper reef slope, high turbidity and high energy	Surface D): massive/columnar, encrusting and tabulate *Millepora exaesa*, *H. coerulea, G. retiformis*, *Acropora* sp., *Favites* sp.		
		5 to 10 m	Deeper reef slope, moderate energy and turbidity	Surface E): encrusting and massive *Montipora* sp., *Porites* sp., associated Faviidae, a distinct lack of *Acropora* sp.		
Cabioch *et al.,* 1999	Mauritius, Tahiti, New Caledonia Deglacial and modern	6 to 15 m	Outer reef margin, middle forereef	Tabular coral facies: mainly composed of *A.* gr. *hyacinthus*/*cytherea* associated with *P. damicornis, P. eydouxi, Montipora digitata* and various other acroporids.	CCA: crusts < 5 mm-thick, generally composed of *H. onkodes*, *Lithophyllum* sp., *M.* cf. *prolifer* and *D.* cf. *tessellatum*	Faure, 1982; Done, 1982; Marshall & Davies, 1982; Veron, 1990; Adey *et al.*, 1982; Adey, 1986
		0 to 6 m (vermetids are restricted to 0-4 m)	Outer margin reef, medium to high-energy, reef crest or upper forereef zone	Robust-branching coral facies: *A.* gr. *danai*/*robusta*, *A. humilis, A. digitifera, P. verrucosa* and various domal *Porites*.	CCA: thick veneers (up to 4 cm) of *H.* cf. *onkodes*, *D.* cf. *tesselatum, Lithophyllum* cf. *molluccense* and *N.* cf. *fosliei*. Vermetid: *Dendropoma maximus* and *S. annulatus*	Faure, 1982; Faure & Laboute, 1984; Delesalle *et al.*, 1985; Camoin & Montaggioni, 1994; Morton, 1973; Adey *et al.* 1982; Richard, 1982; Laborel, 1986
		0 to 10 m	Outer margin reef, more sheltered habitat, inner part of reef crest or outermost section of backreef	Domal coral facies: includes *Porites* spp. (*P.* cf. *lutea* and *P.* cf. *lobata*), occasional *A.* gr. *danai*/*robusta*.	CCA: thin veneers of *H.* cf. *onkodes* or *D.* cf. *tessellatum*	Faure & Laboute, 1984; Bouchon, 1985; Kühlman & Chevalier, 1986
		0 to 10 m		Other coral species may be also finite sea-level recorders (*G. retiformis*, *G. pectinata*, *F.*		

				stelligera, *Stylophora pistillata, Montipora tuberculosa* and *M. platyphylla*		
Esat *et al.*, 1999	Huon Peninsula, Penultimate deglaciation	< 12 m based on thickness of growth bands, but 0 to 20 m as uncertainity	Fringing reef	*Porites* and various Faviidae		Baker & Weber, 1975; Highsmith, 1979; Huston, 1985.
Israelson and Wohlfarth, 1999	Seychelles MIS 5e	Uppermost subtidal zone	Marine cliffs and overhangs within the subtidal zone	*Goniastrea* and *Porites*	CCA and vermetids	Montaggioni & Hoang, 1988
Banerjee, 2000	east coast of south India LIG and Holocene	0 to 2 to 3 m	Fringing reef terraces	*Acropora*, *Porites*, associated *Diploastrea, Cycloseris* and *Goniopora* only in LIG deposits		Own observations in Palk Bay
Camoin *et al.*, 2001	Mururoa 1) MIS 1, 5, 7 and 9 2) MIS 2, 4 and 8	1.1) 0 to 6 m, 0 to 3 m with vermetids 1.2) 8 to 15 m 2.1) 15 to 30 m 2.2) 15 to 30 m	1.1) High-energy reef fronts or upper forereef slopes 1.2) Middle part of the forereef zone and inner reef flat and lagoonal environments 2.1) Middle reef slope 2.2) Upper reef slope	1.1) *A.* gr. *danai-robusta* and associated *P. verrucosa, A. hyacinthus, A. humilis, F. stelligera, G. pectinata, G. retiformis* and *L. phrygia* 1.2) Branching poritids (*Alveopora allingi*), *A.* cf. *humilis, Pocillopora meandrina, L. phrygia, P. daedalea, Porites* gr. *solida/lobata* and *Porites andrewsi* 2.1) Laminar *Montipora caliculata* associated with *Cyphastrea*. Scarce reworked *F. stelligera, A.* cf. *humilis* and *P.* gr. *verrucosa/meandrina*. 2.2) Branching *Porites* (*Alveopora allingi*) and *Pocillopora*, associated with tabular *Montipora*	1.1) CCA: *H. onkodes, Lithophyllum* sp. and *Porolithon* sp.; peyssonneliaceans: *Chevaliericrusta* cf. *polynesiae*), Foraminifera: *Carpenteria, Rupertia, H. rubrum, Miniacina miniacea*, *Sporadotrema*; and acervulinids Vermetids: *D. maximus* and *S. annulatus* 2.1) CCA: *Hydrolithom munitum, Hydrolithon rupestris, Neogoniolithon, Sporolithon episoredion* and *Sporolithon molle, Lithothamnion* sp., *Lithothmnion muelleri* and *Phymatolithon*; peyssonneliaceans (*Peyssonnelia* and *Polystrata*) Foraminifera: thick crusts of *Sporadotrema, Homotrema, Rupertia, Carpenteria*, acervulinids	Montaggioni *et al.*, 1997; Camoin *et al.*, 1997, 1999; Cabioch *et al.*, 1999; Bablet *et al.*, 1995; Chevalier *et al.*, 1969; Faure & Laboute, 1984; Kuhlman & Chevalier, 1986; Bouchon, 1996

					2.2) CCA: *Sporolithon, Lithoporella* Foraminifera: *Rupertia*, *Miniacina*	
Sagawa *et al.*, 2001	Ryukyu Islands Pleistocene (1.5-3.0 Ma)	0 to 5 m	Moats and lagoon	Assemblage A) Branching forms of *Acropora* such as the *Acropora formosa* group and *Acropora aspera* group. *S. pistillata* also predominates, scarce *Porites* spp., *Acrhelia horrescens* and *Porites cylindrica*		Nakamori, 1986; Nakamori *et al.*, 1995b
		0 to 5 m	Reef crest-upper reef slope	Assemblage B) Tabular and digitate forms of *Acropora* such as *A. hyacinthus* and *A. monticulosa* groups and *P. lutea*		
		5 to 20 m	Upper to middle reef slope	Assemblage C) Massive and hemispherical faviid corals (*F. stelligera*, *Platygyra sinensis, Platygyra ryukyuensis* and *Favites* spp.) associated with thicker encrusting *A. palifera*.	CCA co-occur abundantly	
		20 to 30 m	Middle reef slope	Assemblage D) Foliaceous, encrusting and laminar *Oxypora* spp., *Pectinia* spp. and *Mycedium* spp.		
		30 to 50 m	Lower reef slope	Assemblage E) Foliaceous, encrusting and laminar *Leptoseris* species (*L. yabei, L. hawaiiensis* and *L. papyracea*) associated with *Pachyseris rugose, P. speciosa, Cycloseris* spp., *Diaseri*s spp., *Zoopilus echinatus* and *Cynarina lacrymalis*	CCA as rhodoliths	
Stirling *et al.*, 2001	Henderson Island, Pacific MIS 15 but mainly MIS 9	0 to 15 m	Fringing reefs	*Montastrea*		No reference
Hearty, 2002	Oahu MIS 11 and MIS 5e	Middle Plesitocene Unit 3) 1.5 to 3.5 m	Terraces	Middle Pleistocene Unit 3) *Platygyra* sp., *Pocillopora* sp. and *Porites* sp. Late Pleistocene Unit 4) *in situ* corals not specified		Hearty *et al.*, 2000; Easton & Ku, 1981; Muhs & Szabo, 1994; Sherman *et al.*, 1993
Kayanne *et al.,* 2002	Palau Islands Holocene	2) 0 to 4 m	Barrier reef crest and lagoon	1) Branching *Acropora* (6 to 15 mm diameter) 2) Digitate or corymbose *Acropora* and short robust branches of *Acropora*. *A. digitifera* and *A. humilis* are the most probable species; 3) Delicate branches of *Acropora*, *Montipora* and *Seriatopora* common. Massive corals	1) CCA as rhodoliths	Own observation in the modern reef; Wallace, 1999

				(*Porites* and *Lobophyllia*) and thin plate corals (*Montipora* and *Turbinaria*) dispersed in sand 4) *Porites* heads		
Cabioch *et al.*, 2003	Urelapa island, Vanuatu Deglacial and Holocene	1) < 6 m below MLSL	1) Reef crests or upper forereef slopes 2) Outer slopes	1) Branching coral facies of *Acropora* spp., small coral buildups including favids 2) Domal coral facies including *Porites* spp. (related to *P.* gr. *lutea/lobata*) with occasional branching *Acropora* spp.	CCA: *H.* cf. *onkodes* Vermetids	Morton & Challis, 1969; Pichon, 1973; Adey *et al.*, 1982; Faure, 1982; Adey, 1986; Laborel, 1986; Done & Navin, 1990; Veron, 1990; Cabioch *et al.*, 1999; Davies *et al.*, 1985; Montaggioni, 1988; Faure & Laboute, 1984; Kühlman & Chevalier, 1986
Collins *et al.*, 2003	Ningaloo reef, W Australia 1) LIG; 2) Holocene	Refer to literature in the region	1) Forereef 2) Forereef and lagoon	1) Branching *Acropora* coral framestone; 2) *Porites*, *P.* cf. *lobata, Montastrea*, *Acropora*, *Favia*		Zhu *et al.*, 1993, Eisenhauer *et al.* 1993, 1996; Collins *et al.*, 1997a; Stirling *et al.*, 1998
Cutler *et al.*, 2003	1) Huon Peninsula 2) Barbados MIS 5e to Holocene	1) Terrace crest elevation; *Acropora* sp. grew very close to sea-level 2) a few metres from sea-level	Terraces	1) *Acropora* sp., *Favia laxa, Gardineroseris planulata, Montipora* sp., *Porites* sp.; 2) *A. palmata*, *Porites*		1) Stein *et al.*, 1993; Ota *et al.*, 1993; Chappell *et al.*, 1994; Bloom *et al.*, 1974; 2) Mesolella, 1967
Sugihara *et al.*, 2003	Kikai-jima, Ryukyu Islands Holocene	1.5 m for peak of *P. verrucosa*	Upper reef slope	Terrace I. *Acropora* (*A. gemmifera, A. digitifera, A. hyacinthus, A. monticulosa*), *P. verrucosa, G. retiformis* and *F. stelligera*; Terraces II to IV. Same and *P. eydouxi, Pavona minuta, Favites chinensis, Favites abdita, E. gemmacea, L. phrygia, P. daedalea, Montastrea curta, F. pallida, Goniastrea edwardsi*		Own observations, Webster *et al.*, 1998
Webster & Davies, 2003	Ribbon 5, GBR Pleistocene, last 500 ky	< 10 m	Reef edges and upper reef slopes exposed to strong wave action	Assemblage A: robust-branching corals (*Acropora* sp. group 1—*humilis* group; *Acropora* sp. group 2—*robusta* group, *A. palifera, S. pistillata* and *P. verrucosa, P. damicornis*) with associated massive faviids (*Goniastrea* sp. and *Platygyra* sp.)		Done, 1982; Veron, 1986; Bard *et al.*, 1996; Montaggioni *et al.*, 1997; Camoin *et al.*, 1997; Nakamori, 1986; Iryu *et al.*,

						1995; Nakamori *et al.*, 1995; Webster *et al.*, 1998)
			Lower-energy (and perhaps deeper) reef environments	Assemblage B1: massive *Porites* sp. group 1 (*Porites* cf. *lutea*, *P.* cf. *solida*) and faviids (*Favia* sp., *Favites* sp.) with significant encrusting forms (*Porites* sp. group 2 and *Montipora* sp.)		Done, 1982; Veron, 1986, Montaggioni *et al.*, 1997
			Lower-energy environment with perhaps increased turbidity	Assemblage B2: massive *Porites* sp. group 1 (*P.* cf *lutea*) and associated faviids (*Favia* sp., *Favites* sp.) with no encrusting forms		Marshall & Orr, 1931; Manton, 1935; Wells, 1954; Scoffin & Stoddart, 1978; Martin *et al.*, 1989
Yamano *et al.,* (2003)	Ryukyu Islands (Ishigaki Isl.) Holocene	5 m or less	1) Reef crest and spurs 2) Reef pavement and backreef moat	1) Densely packed *in situ* colonies of robust-branching and tabular *Acropora* sp. 2) Ramose-branching *Montipora* sp. and *Acropora* sp.		Takahashi *et al.*, 1985; Yamano *et al.*, 2000, 2001a, 2001b
Braga & Aguirre, 2004	Ribbon 5, GBR Pleistocene, last 500 ky	Mastophoroid assemblage < 10 m	Reef framestone and rhodoliths		CCA: A) Mastophoroid assemblage: *H. onkodes, N. fosliei, Aethesolithon problematicum, Neogoniolithon conicum, H. munitum, Hydrolithon reinboldii*, *Lithophyllum pustulatum* group, *Spongites, Lithophyllum kotschyanum* group, *Lithophyllum incrassatum*. Very minor *Lithoporella, Mesophyllum, Lithothamnion* and *Sporolithon* B) Lithophylloid assemblage: *L.* gr. *pustulatum*, *L. kotschyanum* group, *Lithophyllum incrassatum*. Minor *N. fosliei* and *N. conicum*, *Hydrolithon* (*H. onkodes* and *H. munitum*), *Spongites*, *Lithothamnion*,	Adey, 1979, 1986; Adey *et al.*, 1982; Gordon *et al.*, 1976; Bosence, 1984; Minnery *et al.*, 1985; Minnery, 1990; Verheij & Erftemeijer, 1993; Iryu *et al.*, 1995; Cabioch *et al.*, 1999; Rasser & Piller, 1997; Montaggioni & Camoin, 1993; Monataggioni *et al.*, 1997; Lund *et al.*, 2000

					Mesophyllum and *Lithoporella* C) Melobesioid assemblages: *Mesophyllum* and *Lithothamnion*, minor *L.* gr. *pustulatum, Spongites, Lithoporella* and *Sporolithon*	
Camoin *et al.*, 2004 Submersible data	Mayotte, Seychelles 1) 17,000 to 18,000 yr BP; 2) 13,600	1) 0 to 5 m; 2) 0 to 20 m	Reworked corals on the reef wall in outer barrier reef	1) *G. fascicularis* and *Acropora* 2) Coral assemblage dominated by massive *Porites*	CCA: *Lithophyllum* sp. and *H. onkodes*	
Camoin *et al.*, 2004 Drill core data	1) Reunion; 2) Mauritius; 3) Mauritius; 4) Mahé; 5) Toliara Holocene	1) 0 to 15 m; 2.1) 8 to 15 m; 2.2) 0 to 6 m; 2.3) 2 m; 3) 0 to 5m; 4.1) 5 to 20 m; 4.2) 0 to 6 m; 5.1) 3 to 10 m based on molluscs; 5.2) Upper forereef to reef flat	1) Outer slope or inner reef flat; 2.1) Spur and groove zone; 2.2) Upper part of the spur and groove zone; 2.3) Outer reef flat; 3) High-energy reef edge; 4.1) Lower forereef slopes; 4.2) Reef flat and upper forereef zones; 5.1) Reef slope; 5.2) Upper forereef to reef flat	1) Rubble of branching *Acropora* facies, rubble from *A.* gr. *hyacynthus, A. tenuis* and *A. muricata* 2.1) *E. gemmacea, E. aspera* and massive and tabular branching forms including *P. lutea, P. verrucosa, P. daedalea, C. microphthalma, G. pectinata, F. stelligera, A. hyacinthus, A. danai* and *A. tenuis* 2.2) *A. tenuis, A. hyacinthus, P. verrucosa, P. lutea, C. microphthalma, F. stelligera, G. pectinata, G. retiformis* and *M. platyphylla* associated with robust-branching *A.* gr. *robusta and A. digitifera* 2.3) *A.* gr. *robusta*, *A. digitifera, A. humilis, P. damicornis* ec. *brevicornis, P. lutea, P. daedalea* and *G. fascicularis* 3) Branching *Acropora* dominated by *A.* gr. *robusta* locally associated with scattered massive *G. retiformis*; 4.1) Massive forms *G. fascicularis, F. stelligera, L. phrygia, P. eydouxi, Leptastrea* sp., *Echinopora* sp., *P. daedalea, Porites* sp., *Fungia* sp., *Favia* sp., *Montipora* sp., associated with *A. humilis, A. danai* and *S. pistillata*. 4.2) Robust-branching *A. robusta* group with *G. retiformis, S. pistillata, P. verrucosa, Millepora* sp., *G. fascicularis, L. phrygia, Alveopora* sp., *Porites* sp. and faviids 5.1) *Acropora*, *Pocillopora* and *Galaxea*	4.1) CCA: *Lithophyllum* sp., *Mesophyllum* sp. and *Titanoderma* sp. 4.2) CCA: crusts of *H. onkodes* and *Mesophyllum* sp. 5.1) CCA and molluscs	Montaggioni & Faure, 1997

				5.2) Branching *Acropora* facies, dominated by *A.* gr. *robusta* with *A.* cf. *humilis, P.* cf. *verrucosa*, *P. eydouxi* and locally scattered massive *F.* cf. *stelligera, Diploastrea* and *Heliopora*		
Sasaki *et al.*, 2004	Ryukyu Islands (Kikai Isl.) Pleistocene MIS 3 to 4	1) 0 to 5m 2) 5 to 20m 3) 20 to 60m 4) 30 to 50m	1) Reef crest to upper reef slope 2) Upper reef slope 3) Middle reef slope? 4) Lower reef slope	1) Tabular/digitate *Acropora*, thick branching *Acropora* 2) Massive Faviid corals 3) Coralline algae (rhodolith), encrusting corals 4) *Leptoseris mycetoseroides*, *Cycloseris costulata*		Nakamori, 1986; Sagawa *et al.*, 2001
Webster *et al.*, 2004a	Huon Gulf, Papua New Guinea middle to late Pleistocene (416 to 20 ka)	< 10 m (< 5 m)	Flat/upper reef slope environment, best developed on windward margins exposed to strong wave activity	Assemblage A: robust branches or ridges of *A. palifera, A. humilis* group, *Acropora grandis* and the tabulate *A. hyacinthus* group with encrusting *Montipora* sp. (*M. tuberculosa, M. informis*), submassive to massive *Porites* sp. (*P. horizontalata, P. lobata*) and minor encrusting colonies of *Siderastrea savignyana, Psammocora superficialis* and faviids (*Favia laxa, Montastrea multipunctata*)	CCA: Mastophoroid assemblage: *N. fosliei, H. onkodes and* associated *L.* gr. *pustulatum*	Done, 1982; Veron, 1986; Bard *et al.*, 1996; Montaggioni *et al.*, 1997; Camoin *et al.*, 1997; Nakamori, 1986; Iryu *et al.*, 1995; Webster *et al.*, 1998; Pandolfi & Minchin, 1995; Borowitzka & Larkum, 1986; Adey, 1986; Montaggioni *et al.*, 1997; Cabioch *et al.*, 1999; Iryu *et al.*, 1995; Matsuda *et al.*, 1994
		Shallow	Shallow, perhaps upper-reef slope environments, lower to moderate energy reef conditions, more sheltered margins	Assemblage B: encrusting *Montipora* (*M. monasteriata, M. corbettensis, M.* cf. *aequituberculata*) and *Porites* sp. (*P. horizontalata*) with associated faviids (*Montastrea salebrosa?, M. curta?, Cyphastrea* sp.*, F. laxa, Echinopora hirsutissima* or *E. gemmacea*) and agariciids (*S. savignyana, Pseudosiderastrea tayamai?, Psammocora* sp.)	CCA: Melobesioid assemblage: thin crusts of *Mesophyllum* sp., with *Lithothamnion* sp.*, Lithoporella* sp.*, Sporolithon* sp.*, Peyssonnelia* sp. (10 to 90 m)	Done, 1982; Veron, 1986; Montaggioni *et al.*, 1997; Pandolfi & Minchin, 1995; Adey, 1979, 1986; Adey *et al.*, 1982; Lund *et al.*, 2000
Webster *et al.,* 2004b	Big Island of Hawaii Deglacial	0 to 20 m	Reef crest	*Porites*		Adey *et al.*, 1982; Marshall *et al.*, 1998; Minnery *et al.*, 1985; Webster *et al.*, 2004a

		60 to 120 m	Deep coralline algal crust, deeper slope		CCA: *Mesophyllum* and *Lithothamnion, Sporolithon, Lithoporella, L.* gr. *pustulatum* and *Peyssonnelia* sp.	Adey, 1979, 1986; Adey *et al.*, 1982; Lund *et al.*, 2000
Montaggioni, 2005	Indo-Pacific Deglacial, Holocene and modern	Very shallow	Windward reef crest and reef flat		CCA facies: *H. onkodes*, *Neogoniolithon* spp., *Mesophyllum* sp. and *Lithophyllum* sp., associated with encrusting foraminifera, vermetids and serpulids.	Many references
		0 to 6 m	High-energy, windward margins (upper forereef to outer reef flat zones)	Robust-branching coral facies: *A.* gr. *robusta: A. robusta, A. danai, A. abrotanoides, A. palmerae; A. (Isopora) palifera; A.* gr. *humilis: A. humilis, A. digitifera, A. gemmifera; A. latistella* and pocilloporids (*P. damicornis, P. eydouxi, P. verrucosa, P. meandrina, S. pistillata, S. mordax*). Subordinate domal *P. lutea*, *P. lobata, L. phrygia, P. daedala, G. retiformis, Goniastrea favulus, F. stelligera, F. pallida, Favia flexuosa, Psammocora* sp., *Astreopora* sp., *Montipora* sp., platy (*M. platyphylla*), tabular (*A. hyacinthus*), columnar (*Porites annae*) and encrusting (*M. tuberculosa*, *E. gemmacea*).		
		0 to 25 m, mainly 10 to 15 m	1) Semi-exposed to sheltered, windward to leeward reef slopes and reef flats; 2) In shallow, higher wave-energy areas; 3) In less agitated or deeper waters	Domal coral facies: 1) The dominant poritids *P. lutea, P. lobata, P. cylindrica*, faviids *F. favus, F. stelligera, F. speciosa, F. abdita*, *Cyphastrea* spp., *G. pectinata*, *G. edwardsi, Diploastrea heliopora, M. curta*, with associated mussids (*Symphillia recta*), merulinids (*Hydnophora microconos*) and acroporids (*A. listeri*, *Acropora* spp.). 2) *P. lobata* and robust-branching *A.* gr. *robusta* and *A. humilis*, *A. palifera, Acropora bruggemanni, S. pistillata*). 3) Domal *P. lobata, P. tayamai, Moseleya latistellata*, tabular *A.* gr. *hyacinthus*, delicate branching *Acropora divaricata, A. splendida, A. muricata, S. hystrix*, and/or foliaceous	2) Thick CCA crusts. 3) CCA poorly developed.	

		Montipora capitata, M. aequituberculata, laminar *M. verrucosa* and columnar *P. nigrescens*.
0 to 20 m, mostly 2 to 15 m	Semi-exposed or sheltered, upper and mid-forereef zones, reef flats and adjacent backreef slopes and patches, usually in mid-shelf situations.	Tabular branching coral facies: *A.* gr. *hyacinthus* (*A. hyacinthus*, *A. cytherea, A. subulata*) and other acroporids (*A. splendida, A. intermedia, A. humilis, A. digitifera, A. nobilis, A. squarrosa, M. digitata, S. pistillata*), pocilloporids (*P. verrucosa, P. damicornis, P. eydouxi*) and poritids (*P. nigrescens, P. lutea*). Subordinate domal *Leptastrea* and *Platygyra*, columnar *Alveopora* and laminar *Echinophyllia* and *Echinopora*.
0 to 20 m	Lower to middle parts of fore-reef zones, inner reef flats and nearby backreef slopes in semi-exposed to sheltered environments.	Arborescent-coral facies: *Acropora* species: *A.* gr. *divaricata* (*A. divaricata, A. clathrata*), *A. aculeus, A. valenciennesi, A. tenuis, S. hystrix and S. pistillata*. In sheltered areas large thickets of *A.* gr. *muricata* (*A. muricata, A. grandis*), *A.* gr. *aspera* (*A. aspera, A. pulchra*), *A. cerealis, A. valida, A. tortuosa, A. austera, A. intermedia, A. microphthalma, A.* gr. *lovelli, S. hystrix, S. pistillata, P. damicornis, Echinopora horrida*, subordinate *A.* gr. *hyacinthus*, *G. pectinata, Acropora squarrosa, P. lutea*.
0 to 15 m	Sheltered, outer to backreef environments	Foliaceus coral facies: *M. aequituberculata*, *Montipora* spp., *P. speciosa, P. rugosa, Turbinaria mesenterina, T. reniformis, T. frondens, Merulina ampliata*, in association with frondose pectiniids (*Pectinia alcicornis*), domal faviids (*Favia* spp., *Favites* spp., *G. pectinata*, *Goniastrea* spp., *Cyphastrea* sp.), poritids (*P. solida*) and merulinids (*H. microconos*), branching pocilloporids (*S. hystrix, S. pistillata, P. damicornis*) and acroporids (*Acropora splendida*).
1) 0 to 10 m; 2) > 20 m	1) High-energy reef crests, outer and inner slopes of ocean-facing fringing reefs, mid- to inner-shelf reefs;	Encrusting coral facies. 1) According to the region, includes *Montipora* species: *M. monasteriata, M. capitata, M. undata, M. patula, M. danai*, the agariciids *L. mycetoseroides*, *P. speciosa*, *E. aspera*, the faviids *Leptastrea purpurea, Echinopora*

			2) Deep outer shelf-reef slopes	*lamellosa*, *E. gemmacea, Cyphastrea serailia, C. microphthalma, C. ocellina*, the poritid *Alveopora daedala*, the merulinid *M. ampliata*; may be mixed with dome-shaped faviids (*F. pallida, F. speciosa, Oulophyllia crispa*), acroporids (*A. myriophthalma, A. ocellata, Astreopora* spp.), poritids (*P. lutea, P. lobata, Goniopora lobata, G. columna*), mussids (*Lobophyllia corymbosa, Lobophyllia hemprichii, Acanthastrea echinata*), with finely branching (*Acropora echinata, S. hystrix*) or with meandroid forms (*Plerogyra sinuosa*). Also free-living corals (*Fungia* spp., *Halomitra* sp., *Herpolitha* sp.) 2) Predominance of *Montipora*, *Pachyseris*, *Leptoseris* and/or *Echinophyllia*. The dominant species may be *M. aequituberculata, M. verrucosa, P. speciosa, Leptoseris (L. incrustans, L. hawaiiensis, L. scabra, L. mycetoseroides), E. aspera, E. echinata, O. crispa*, in association with *P. lobata, P. lutea, Oxypora lacera, Pectinia lactuca, Horastrea indica, Blastomussa merleti, Gardinoseris planulata, Lobophyllia costata, P. stellata, G. pectinata, G. palauensis, L. purpurea, Pavona maldivensis, C. microphthalma, H. microconos, Goniopora* sp., *E. gemmacea* and *D. heliopora*. Subordinate *F. pallida, F. speciosa, F. abdita, L. hemprichii, P. damicornis* and *P. eydouxi*	
Collins *et al.*, 2006	Houtman Abrolhos, Western Australia Holocene	0.4 m for coral pavement, exposed in extremely low tides	Coral pavement of fringing reefs	*Acropora* spp.	
Frank *et al.*, 2006	New Caledonia Holocene, MIS 5.5, MIS 7.5 and more	Not specified	Barrier reef	*Acropora, Porites, Porites lutea, Favia, Favites, Echinopora, Astreopora* and *Goniopora*, fungiids, faviids, branching and robust coral	
Webster *et al.,* 2006, 2007	Off Lanai, Hawaiian Islands	0 to 5 m	Ooids and LBF		CCA: *H. onkodes, Amphiroa*

	MIS 3 to Deglacial					
		< 30 to 60 m		*Porites, Leptoseris.*	CCA: *Lithothamnion prolifer, L. incrassatum, Spongites* and *H. munitum*	Iryu *et al.*, 1995; Sagawa *et al.*, 2001; Keats *et al.*, 1996; Lund *et al.* 2000
		60 to 120 m			CCA: *Lithothamnion* sp.*, Sporolithon, Lithoporella, Mesophyllum* and thin laminar thalli	Adey *et al.*, 1982; Davies *et al.*, 2004; Lund *et al.*, 2000; Marshall *et al.*, 1998; Iryu *et al.* 1995
Andersen *et al.*, 2008	Henderson Island, equatorial Pacific MIS 15	0 to 5 m	Patch reef in lagoon	Branching *Pocillopora, Acropora, Pavona, Stylophora, Astropora* and head Faviidae, *Porites*		no reference
Cabioch *et al.*, 2008	Marquesas, French Polynesia LGM and deglacial	1) High-energy, shallow-water reef settings; 3) Deeper-water organisms	1) High- and moderate-energy outer reef zones, probably on inner reef flats. 2) Inner reef flats and backreef or protected, deeper outer slopes	1) Mainly *Porites* gr. *lobata*	1) 2 to 3 cm-thick crusts of *H. onkodes, H. reinboldii* and *L. pustulatum* group. 2) Algae: *Halimeda* associated with *Amphiroa* Foraminifera (*Amphistegina* and Nummulitids) 3) deep-living CCA (*Mesophyllum* sp., *M. erubescens*)	Braga & Aguirre, 2004; Montaggioni *et al.* 1997; Montaggioni, 2005
Webster *et al.*, 2009	1) Huon Gulf, Papua New Guinea 2) Hawaii Last 500 ka	1.1) 0 to 5 m 1.2) Shallow, < 20 m 2.1) < 10 to 15 m	1.1) Shallow high energy reef 1.2) Less exposed, lower energy reef 2.1) Shallow coralgal frameworks	1.1) Robust-branching *Acropora* spp. (i.e., *A. palifera*, *A. humilis* group) 1.2) Encrusting *Montipora* spp. 2.1) Massive *P. lobata*, robust branching *Porites compressa*, encrusting *Montipora* and *Leptastrea*	CCA: *N. fosliei* and *H. onkodes* Foraminifera: *Amphisorus, Peneroplis*	Iryu *et al.*, 1995; Davies *et al*., 2004; Webster *et al*., 2004a, b, 2006, 2007
		20 to 60 m	intermediate fore-reef slope	Encrusting/foliaceous corals (*Leptoseris, Pavona, Montipora*)	CCA: thick fruticose *L. prolifer, M. erubescens, Lithophyllum acrocamptum* and *H. munitum* Foraminifera*: Heterostegina depressa, Amphistegina radiata, A. lessonii* and *Operculina*	

		60 to 120 m	deep fore-reef slope		CCA: open framework of *Lithothamnion, Mesophyllum, Sporolithon, Lithoporella* and *Peyssonnelia* Foraminifera: *Cycloclypeus carpenteri*	
Hongo & Kayanne, 2009	Ishigaki Island, Ryukyu Islands Holocene	Assemblage A) 0 to 2 m; Assemblage B) 2 to 5 m	Barrier reef crest	Assemblage A) Corymbose, digitate *A. digitifera, G. aspera, P. sinensis* Assemblage B) Corymbose, tabulate with minor massive *A. digitifera, A. hyacinthus, G. retiformis, M. curta, P. verrucosa, P. australiensis*		Own observations in living reef
Humblet *et al*., 2009	Okinawa Island and Kikai Island, Ryukyu Islands Middle Pleistocene		1) Shallow upper reef slope 2) Upper reef slope 3) Back-reef shallow lagoon? 4) Reef Edge to shallow upper reef slope, or low-turbidity back-reef lagoon 5) Reef edge to shallow upper reef slope 6) Middle reef slope 7) Middle to lower reef slope	1) *Acropora* (*Isopora*) *palifera*, associated with *A.* gr. *monticulosa*, *Galaxea fascicularis* and *Favia* gr. *Pallida* 2) Various faviids, associated with (depending on location) *Acropora* (*Isopora*) *palifera*, *A* gr. *monticulosa*?, tabular *Acropora*, *Gardineroseris planulata*, *Pachyseris rugosa*, *Lobophyllia hemprichii*, *Porites*, submeandroid *Goniastrea*, *Cyphastrea*, corymbose and tabular *Acropora*. 3) Corymbose and tabular *Acropora*, associated with *Merulina*, *Favites*, *Cyphastrea* (+fragments of *Galaxea horescens*) 4) Tabular *Acropora*, associated with *Montipora*, *Porites* and various faviids 5) Pocilloporids, associated with *Platygyra* (incl. *Platygyra ryukyuensis*) and various other faviids 6) Laminar *Porites* and/or *Montipora*, associated with *Galaxea astreata*, small		Sheppard, 1982; Kühlmannn, 1983; Nakamori, 1986; Chou & Yamazato, 1990; Iryu *et al*., 1995; Veron, 1992; Nishihira & Veron, 1995; Nakamori *et al*., 1999; Veron, 2000; Sagawa *et al*., 2001; JCRS, 2004;

			8) Distal/off-reef setting (soft bottom)	fungiids, *A*. (*Isopora*) *palifera* and *Pachyseris speciosa* 7) *Echinophyllia*, associated with laminar *Porites* and/or *Montipora*, *Pachyseris speciosa* and *Turbinaria reniformis*? 8) Small fungiids (incl. *Cycloseris*, *Diaseris*?), associated with *Favia*, *Montastrea* and *Porites*		
Thomas *et al.*, 2009	Tahiti MIS 6; MIS 3	0 to 6 m; 0 to 25 m for *Porites*; > 20 m for *Montipora-Pachyseris*	Reef front to forereef	Tabular *Acropora* and massive *Porites*; *Montipora* and foliaceous *Pachyseris*		Montaggioni, 2005
Hongo & Kayanne, 2010	Ishigaki Island, Ryukyu Islands Holocene	Ibaruma reef: *A. digitifera*: 4.8 ± 2.5 m and *G. retiformis:* 5.6 ± 1.5 m Fukido reef: *A. digitifera*: 2.5 m, *G. retiformis*: 2.3 m	Barrier reef crest	Ibaruma reef: *P. verrucosa, A. hyacinthus, A. digitifera, G. retiformis, Leptoria* sp. cf. *L. phrygia, Coeloseris mayeri, S. recta, L. corymbosa, C. serailia* and *F. chinensis*; Fukido reef: *A. nasuta, A. pulchra, A. digitifera, A. aspera, G. retiformis, P. lutea, Montipora peltiformis and P. ryukyuensis*		Own observations in living reef
Andersen *et al.*, 2010a	Henderson Island, equatorial Pacific MIS 7.5 and MIS 9.1 and 9.3	0 to 6 m when *Acropora*; 0 to 15 only Faviids and *Porites*	Reef crest and patch reef lagoon	Faviidae and *Porites*, *Montastrea*, with branching *Acropora*		Cabioch *et al.*, 1999; Montaggioni, 2005
Bard *et al.*, 2010	Tahiti Deglacial	< 6 m for *Acropora* and *Pocillopora*, < 10 to 20 m for *Porites* and Faviidae	Barrier reef	*Acropora* (some of them *A. danai* and *A. robusta/danai*) and *Pocillopora* (some *P.* cf. *verrucosa*), *M. annuligera*, *Porites* and Faviidae		no references
Iryu *et al.,* 2010	Tahiti (Maraa) MIS 6 to 5e	1) 6 to 15 m 2) Deep forereef A) 0 to 20 m B) 0 to 25 m C) 35 to 50 m D) Deep forereef		1) Massive *Porites* 2) Branching *Porites* and encrusting agariciids	A) *H. onkodes* B) *Neogoniolithon myriocarpum* or *L. insipidum* with absence of *H. onkodes* C) Absence of *H. onkodes*, *N. myriocarpum* and *L. insipidum*	Lemoine, 1911; Foslie, 1929; Lee 1967; Gordon *et al.*, 1976; Adey *et al.*, 1982; Iryu & Matsuda, 1988; Iryu, 1992; Verheij, 1994; Cabioch *et al.*, 1999; Baba, 2000; Payri *et*

					D) Rhodoliths and absence of *H. onkodes, N. myriocarpum* and *L. insipidum*	*al.*, 2000; Ringeltaube & Harvey, 2000; Montaggioni *et al.*, 1997
Shen *et al.,* 2010	Luzon, Philippines Holocene	0 to 6 m	1) Outer reef flat, upper reef slope or patch reef, high energy; 2) Deeper and calmer water in lagoon or forereef	1) Robust-branching coral facies: *A. robusta, A. digitifera* and *P. eydouxi*; 2) Domal/*Heliopora* subfacies: domal corals, such as *Porites* and Faviids as well as *Heliopora*		Nakamori *et al.*, 1995; Kayanne *et al.*, 2002; Montaggioni, 2005; Wallace, 1999; Veron, 2000
Abbey *et al.*, 2011	Tahiti (Maraa, Tiarei) Deglacial	0 to 10 m, high energy	Fringing to barrier	cA1: massive and encrusting *Montipora* (e.g., *M. aequituberculata, M. tuberculosa*), robust *Pocillopora* (e.g., *P. eydouxi*), branching *Porites* and associated encrusting *Porites* and Faviids (e.g., *M. curta*)	CCA: aA1 thick *H. onkodes* (locally *Mastophora* species) Vermetids	Pirazzoli & Montaggioni, 1988; Montaggioni *et al.*, 1997; Sugihara *et al.*, 2006; Bouchon, 1985; Cabioch *et al.*, 1999
		0 to 25 m, turbid 0 to 20 m for CCA		cA2: massive *Porites*, *Montipora*, associated branching *Porites*, *Acropora* and *Pocillopora*	CCA: aA2 thin *H. onkodes, Hydrolithon gardineri, Pneophyllum conicum* Vermetids	Moberg *et al.*, 1997; Veron, 2000
		0 to 30 m		cA3: branching *Porites* (e.g., *P. lichen/rus*), *Pocillopora*, *P. maldivensis*, associated encrusting *Porites*, *Montipora* (e.g., *M. tuberculosa, M. aequituberculata*) and Faviids (e.g., *L. transversa*).	Vermetids	Montaggioni, 2005; Cabioch *et al.*, 1999; Bouchon, 1985
		0 to 10 m		cA4: Robust-branching *Acropora* and associated *Pocillopora*	CCA: aA1 thick *H. onkodes* (locally *Mastophora* species)	Done, 1982; Montaggioni & Faure, 1997; Cabioch *et al.*, 1999; Bouchon, 1985; Sugihara *et al.*, 2006; Pirazzoli & Montaggioni, 1988; Montaggioni & Camoin, 1993; Montaggioni *et al.*, 1997
		0 to 20 m		cA5: tabular and rare branching *Acropora* (e.g., *A. secale*), branching and encrusting *Porites*,	Vermetids	Done, 1982; Montaggioni, 2005;

				Montipora (e.g., *M.* cf. *aequituberculata, M. venosa*), Faviids (e.g., *L.* cf. *transversa*), Agariciids (e.g., *P. varians*) and associated *Pocillopora*.		Sugihara *et al.*, 2006; Montaggioni *et al.*, 1997; Cabioch *et al.*, 1999
		0 to 30 m		cA6: branching and encrusting *Porites* (e.g., *P. lobata*), *Montipora* (e.g., *M. aequituberculata, M. tuberculosa, M. verrucosa*), Agariciids (e.g., *P. maldivensis, P. varians*, rare *Pachyseris speciosa*), Faviids (e.g., *L. transversa, M. curta*). Tabular *Acropora* (e.g., *A. cytherea*) and massive *Porites* (Maraa)	CCA: aA3 *Mesophyllum erubescens* (depth range 15 to 30 m), *Lithophyllum prototypum*	Bouchon, 1985; Cabioch *et al.*, 1999; Keats *et al.*, 1996
		> 20 m, turbid		cA7: *Montipora* (e.g., *M. tuberculosa*), Agariciids (e.g., *P. varians*, *Pachyseris* sp., Leptoseris solida), Faviids (e.g., *M. curta, L. transversa*)	CCA: aA4 *Mesophyllum funafutiense, Lithoporella*	Montaggioni, 2005; Sugihara *et al.*, 2006; Bouchon, 1985
Hongo & Kayanne, 2011	Palau Islands and Yoron Island, in Ryukyu Islands Holocene	0 to 7 m	High energy, low turbidity and reef crest and upper reef slope	Corymbose and tabular *Acropora* (*A. digitifera*) and robust *Acropora* (*A. robusta/A. abrotanoides*) with associated arborescent *Acropora*, *A. hyacinthus*, also *I. palifera, P. damicornis, Pocillopora* sp. *Cyphastrea*, *Montipora*	CCA	Cabioch *et al.*, 1999; Done, 1982; Montaggioni & Faure, 1997; Sugihara *et al.*, 2003; Hongo & Kayanne, 2010b
		0 to 20 m	Low to moderate energy, low turbidity and inner reef slope or leeward reef slope	Arborescent *Acropora* (*A. muricata/A. intermedia*) with associated *P. damicornis, Porites, Lobophyllia*	CCA	Done, 1982; Hongo & Kayanne, 2010b; Montaggioni, 2005; Nakamori, 1986
		0 to 5 m	Low energy, high turbidity and shallow lagoon or lagoon	*In situ* massive *Porites* sp. with associated *H. coerulea* fragments		Montaggioni, 2005
Faichney *et al.*, 2011	Maui Nui Complex, Middle Pleistocene	1) < 10 m 2) 20 to 80 m	1) Reef framework 2) Forereef slope	1*) P. compressa* and *Porites* sp. 2) Thin foliaceous *Leptoseris*.	1) CCA: thick *H. onkodes, L. prototypum* and *Neogonolithon* 2) CCA: thin *L. prototypum, L. pustulatum, Spongites* sp. and *L. prolifer*.	Engels *et al.*, 2004; Grigg, 2006; Kahng & Kelley, 2007; Adey *et al.*, 1982; Cabioch *et al.* 1999
Deschamps *et al.*, 2012	Tahiti Deglacial	1) < 10 m 2) < 5 m 3) < 10 m for corals, < 5 m with vermetids 4) < 5 m	Fringing reef	1) Robust-branching *Pocillopora* 2) Encrusting *Montipora* associated 3) *Montipora*, *Pocillopora* in coral assemblage 4) *Pocillopora* 5) Branching *Porites*	2) Vermetids 3) Vermetids 4) With and without vermetids	Cabioch *et al.* 1999

		5) 0 to 20 m				
Abbey *et al.*, 2013	Great Barrier Reef Deglacial and Holocene	< 60 m (45 to 60 m)	Fore-reef slope	1. Massive/tabular corals: flat and thick *Porites*, *Montipora* and faviids	CCA: dominated by lithophylloids and secondary or minor mastophoroids.	Reed, 1985; Bak *et al.*, 2005; Bridge *et al.*, 2011a
		60 to 100 m	Fore-reef slope	2. Platy/encrusting corals: thinner (< 2 cm), platy and encrusting *Porites*, *Montipora* and agariciids.	CCA: dominated by melobesioids and *Sporolithon*	
		> 100 m	Fore-reef slope	3. Octocorals	Algal-foraminiferal communities. *Peyssonnelia* and *Sporolithon*, no lithophylloids and mastophoroids.	Bridge *et al.*, 2012
Guillaume *et al.,* 2013	MIS 5e	1.5 m	Reef flat	*Isopora palifera*, with short branched *Acropora* sp. and *Goniastrea retiformis* colonies, *Leptastrea* cf. *transversa*, *Acropora* cf. *monticulosa, Stylocoeniella* cf. *guentheri*		Own observation
Humblet & Iryu, 2014	Irabu Island in Ryukyu islands, Middle Pleistocene	1) <20 m	1) Upper reef slope	1) *Isopora palifera*, associated with *Porites*, *Montipora*, *Acropora* gr. *microphthalma*, *Seriatopora*, *Goniopora* and various faviids		Yamazato, 1972; Veron *et al.*, 1977; Kühlmann, 1983; Nakamori, 1986; Veron, 1992; Iryu *et al*., 1995; Veron, 2000; Sagawa *et al*., 2001; Kahng & Maragos, 2006; Loya & Sakai, 2008; Bridge *et al*., 2012
		2) <20 m	2) Upper reef slope (protected?)	2) *Acropora* gr. *microphthalma*, associated with *Porites*, *Isopora palifera*, *Seriatopora* and various faviids		
		3) >30 m	3) Lower reef slope	3) *Porites* and *Montipora*, associated with *Leptoseris*, *Echinophyllia*, *Stylocoeniella*, *Montastrea* and *Cycloseris*		
		4) <30 m	4) Shallow unconsolidated bottom substrate	4) *Fungia*, associated with *Porites* and various faviids		
		5) <30 m?	5) Shallow reef setting?	5) *Coscinarea columna*, associated with *Cyphastrea*, *Lobophyllia*, agariciids and fungiids		
Dechnik *et al.,* 2015	Capricorn Bunker Group, Great Barrier Reef Holocene	0 to 10 m	High wave energy, shallow-water upper reef slopes and outer reef flats.	A1: fine-medium branching *Acropora* sp. Corymbose branching *Acropora* sp. (*A. humilis* gr., *latistella* gr., *nasuta* gr., *aspera* gr.), associated massive *Goniastrea* sp. and fine branching *Millepora*	CCA: *P. onkodes* assemblage. *P. onkodes* (= *H. onkodes*), minor *H. reinboldii* with secondary *Lithophyllum* sp., *Spongites*	Done, 1982, 1983; Veron, 1986; Cabioch *et al*., 1999; Davies & Montaggioni, 1985;

					sp. and *Neogoniolithon* sp. Algal crusts > 5 mm, Abundant vermetids	Montaggioni, 2005; Woesik & Done, 1997; Inoue *et al.*, 2011; Hongo & Kayanne, 2011; Hamanaka *et al.* 2012; Adey, 1986; Webster & Davies, 2003.
		0 to 10 m but more often < 7 m.	Similar to A1 high energy, shallow environments	A2: massive/Robust *Isopora* and branching Pocilloporids. Associated branching *Acropora* sp.	CCA and vermetids as above	
		0 to 15 m	Lower energy, semi-exposed to sheltered back reef margins, inner reef flats or deeper environments	B1: predominantly massive *Porites* sp., *P. lutea, P. australiensis* and faviids (*Favia* sp., *Leptoria* sp.) with branching *Porites* sp. and laminar *Montipora* sp.		
			Low energy similar to assemblage B1, but with increased turbidity such as in lagoons and leeward inner reef flats.	B2: massive *Favia* sp. (gp 3) and *Goniopora* sp. Associated massive *H. microconos*, free living *Fungia* sp. and laminar *Echinopora* sp.		
Dutton *et al.,* 2015	Granitic Seychelles LIG (MIS 5e) and modern	maximum 2 m, probably < 1 m for some corals	Outcrops of reef framework and rubble attcahed to granite	*G. retiformis, Cyphastrea, Favites, Pavona/Leptastrea, Favia, A.* gr. *humilis, Stylophora*		Montaggioni & Hoang, 1988
Hamanaka *et al.*, 2015	Kodakara Island, NW Pacific Holocene	0 to 5 m	High-wave energy, shallow upper-reef slope	Facies A. Thick-plate/encrusting and tabular *Acropora* spp. with well-consolidated reefal detritus. Massive and encrusting faviid corals.	Thick CCA	Iryu *et al.*, 1995; Sagawa *et al.*, 2001
		5 to 20 m	Upper reef slope	Facies B. Massive and encrusting *Porites* spp., *Goniopora* spp. and faviid corals, tabular and encrusting *Acropora* spp. and encrusting *Montipora* spp.	CCA rare	
		Approximately 5 to 30 m	Upper tomiddle reef slope	Facies C. Encrusting *Goniopora* spp., encrusting *Montipora* spp. and encrusting and foliaceous faviid corals, such as *Echinopora* spp.		
		more than 5 m to deep	Reef slope with turbidity	Facies D. Massive *Hydnophora* spp. and branching *Caulastrea* spp.		McClanahan & Obura, 1996; Perry *et al.*, 2009

Hongo & Montaggioni, 2015	Mauritius, Madagascar Holocene	0 to 10 m	Moderate–high wave energy, from reef crest to upper reef slope	Corymbose *Acropora* and robust-branching *Isopora* facies: *A. digitifera*, corymbose *Acropora*, A. *robusta/abrotanoides* complex, *I. palifera, Favites* sp. cf. *F. chinensis, P. eydouxi, Pavona clavus*, branching *Porites* and massive *Porites*, associated with other corals (*Acropora retusa/gemmifera* complex, *Acropora* sp. cf. *A. humilis* and *D. stelligera*)	Other calcareous organisms (shells, echinoids) and sand	Montaggioni & Faure, 1997; Cabioch *et al.*, 1999; Camoin *et al.*, 2004; Montaggioni, 2005; Hongo & Kayanne, 2011, Hongo, 2012
		0 to 15 m	Low–moderate wave energy, from upper reef slope to lower reef slope	Massive *Porites* facies: massive corals (massive *Porites* and *Cyphastrea* sp.), associated with other corals (branching *Acropora* and *D. stelligera*)	Other calcareous organisms (shells, echinoids) and sand	
		0 to 15 m	Low–moderate wave energy, from lower reef slope to the outermost of back reef	Arborescent *Acropora* facies: arborescent *Acropora*, associated with *P. daedalea*, corymbose *Acropora*, *Cyphastrea* sp., *E. gemmacea, Porites* and *A. robusta/abrotanoides* complex.		
		0 to 10 m	Low energy, middle part of back reef	Reworked foliaceous corals: *P. cactus, Pavona decussata* and *Pavona frondifera*).		
Solihuddin *et al.*, 2015	Cockatoo Island, NW Australia Holocene		Subtidal reef	Branching *Acropora*, massive domal *Porites* and other		Own observations of modern coral assemblages and zonation
Puga-Bernabeu *et al.*, 2016	Hawaii Island, MIS 6, 5e, 5a, Deglacial	1) < 10 to 15 m 2) 20 to 60 m	1) Shallow reef 2) Intermediate forereef slope	1) *Porites, Acropora* and *Cyphastrea*. 2) Encrusting and laminar (possibly agaricid) corals.	CCA: 1) thick *P. onkodes* and *'P. conicum'* 2) fruticose and warty *Lithophyllum acrocamptum, L. prolifer, H.* gr. *munitum*, *Hydrolithon* gr. *breviclavium* and *H. reinboldii*	Webster *et al.*, 2009
Gischler *et al.,* 2016	Bora Bora, Society Islands, Holocene	0 to 10 m 0 to 6 m with vermetids	High-energy reef flat	A1: dominated by *Acropora* with medium-sized to robust branches, including *A.* gr. *humilis* and *A.* gr. *robusta*, *Pocillopora*.	CCA: thick *P. onkodes* crusts Vermetids Foraminifera: *Homotrema*	Montaggioni *et al.*, 1997; Cabioch *et al.*, 1999; Montaggioni, 2005
		0 to 10 m	High-energy reef flat	A2: dominated by *Pocillopora* and various *Acropora* species. Encrusting *Porites* and faviids.	CCA: *P. onkodes* crusts	
		0 to 20 (10 to 20) m	Intermediate-energy fore reef, sheltered reef flat or back reef	A3: Dominated by agariciids, mainly massive to columnar *Gardinoseris planulata* and *Pavona maldivensis*.	CCA: occasional thin crusts of *P. onkodes*	Abbey *et al.* 2011; IUCN red list website

		10 to 20 m	Relatively protected setting	A4: dominated by laminar *Montipora* and fine-branched *Acropora*.	CCA: *Lithophyllum* gr. *prototypum, Amphiroa* and occasional thin crusts of *P. onkodes*	
	Pleistocene	> 20 m or shallower turbid	Low-energy reef settings	A5: laminar *Montipora* and laminar agariciids.	CCA: *L.* gr. *pustulatum* and *Lithoporella*	Abbey *et al.* 2011; Done, 1982
Siringan *et al.*, 2016	Luzon, Philippines Holocene	0 to 6 m	Reef flat	*Acropora* in digitate or corymbose forms, likely *A. robusta* or *A. digitifera*		
Solihuddin *et al.*, 2016	Buccaneer Archipelago, Kimberley, NW Australia Holocene		Subtidal to intertidal reefs	Branching *Acropora*, massive domal *Porites* and other, CCA bindstone		Own observations of modern coral assemblages and zonation
Humblet & Webster, 2017	Ribbon 5, Great Barrier Reef Pleistocene		Mid to lower reef slope habitat or turbid environment	1) Encrusting to massive *Porites*, encrusting *Montipora* and faviids (Po-Mo-Fa)		Done, 1982; Veron, 2000; Sanders & Baron-Szabo, 2005
			2.1) Shallow exposed reef fronts 2.2) Protected settings	2.1) Pocilloporids (Poc) – *S. pistillata* 2.2) *S. hystrix*		Done, 1982; Veron, 2000; Bridge *et al.*, 2012; Abbey *et al.*, 2013
		< 10 m	3.1) Shallow exposed reef settings 3.2) Lower-energy reef slope or lagoonal settings	3.1) Massive or branching *Isopora* and mediumto robust-branching *Acropora* (Acro-Iso) – (*Isopora*-*A*. gr. *humilis*-*A*. gr. *robusta*) 3.2) *A.* gr. *formosa*		Cabioch *et al.*, 1999; Hongo & Kayanne, 2010; Hongo, 2012; Done, 1982; Oliver *et al.*, 1983; Wallace, 1999
Dechnik *et al.,* 2017	Great Barrier Reef LIG (MIS 5e) and modern	0 to 10 m (< 6 m with aA1 and vermetids)	High energy, shallow water environments, characteristic of upper reef slopes and outer reef flats	Coral Assemblage A (cAA-*Acropora*/*Isopora*): corymbose and robust-branching *Acropora* and *Isopora* sp. (*A.* gr 7; *A.* gr. 21; *A.* gr. 25; *A.* gr. 26; *I. palifera*) with associated branching *Pocillopora* and *Stylophora* sp.	CCA: aA1 (*Porolithon* assemblage): thick crusts (2 to 4 cm) of *P. onkodes* with secondary thinner crusts of *P. gardineri* and *Harveylithon* gr. *munitum* and minor *Lithophyllum, Neogoniolithon* and *'Pneophyllum'* species.	Done, 1982, 1983; Veron, 1986, 2000; Bouchon, 1985; Montaggioni & Faure, 1997; Montaggioni *et al.*, 1997; Cabioch *et al.*, 1999; Camoin *et al.*, 2001; Humblet *et al.*, 2009; Abbey *et al.*, 2011; Hongo & Kayanne, 2010a, 2010b; Hongo, 2012;
		Shallow water (< 3 m)	High energy leeward reef flat margin	Coral Assemblage B (cAB-*Isopora/Stylophora*): robust-branching *Isopora, Stylophora* and corymbose *A.* gr. 21 with associated *A.* gr. 7 and *Pocillopora*		

		0 to 30 m	Semi-exposed environment characteristic of mid-upper reef slope or shallow back reef margin	Coral Assemblage C (cAC-Faviid/*Montipora*): Sub-massive *Montipora* and massive Faviids (*Favites* sp., *Platygyra* sp.) with associated branching *Porites* sp.	CCA: aA2 (*Lithophyllum* assemblage): dominated by *Lithophyllum* species (*L.* gr. *pustulatum, L.* gr. *prototypum, L.* gr. *acrocamptum, L.* gr. *kotschyanum*) with associated *Peyssonnelia* sp., *Mesophyllum* sp. and minor *Porolithon* sp.	Adey *et al.*, 1982; Adey, 1986; Braga & Davies, 1993; Littler & Littler, 2003; Cabioch, 2003 and own information
		0 to 30 m	Low energy similar to Assemblage B but with increased turbidity such as lagoons or inner reef flats	Coral Assemblage D (cAD-*Millepora*/*Goniopora*): branching *Millepora* sp. and massive *Goniopora* sp. with associated *Caulastrea* and *Galaxea* sp.		
		3 to 30 m	Deep turbid lagoonal environment	Coral Assemblage E (cAE-*Symphyllia/Lobophyllia*/*Favia*): massive *Symphyllia, Lobophyllia* and *Favia* sp. *with associated Alveopora and Turbinaria* sp.		
		0 to 10 m	High energy, shallow water upper reef slopes and outer reef flats	Coral Assemblage F (cAF-*Acropora*/*Platygyra*): corymbose branching *Acropora* and massive *Platygyra* sp. with associated massive *Porites*.		
Sanborn *et al.,* 2017	Big Island of Hawaii Deglacial	0 to 10 m to 20 m	Shallow-water framestone, reef crest	*P. compressa, P. lobata*, *Pocillopora* spp. and *Montipora* spp.	CCA: thin to thick (up to 5 cm) crusts *P. onkodes, 'P.' conicum* and *L.* gr. *prototypum* Vermetids	Adey *et al.*, 1982; Braga & Aguirre, 2004; Webster *et al.*, 2009; Dechnik *et al.*, 2017
		20 to 60 m	Intermediate coralgal bindstone, slope	*Porites* spp. and *Montipora* spp.	CCA: fruticose *L. prolifer, L.* gr. *prototypum, L. insipidum, 'P.' conicum* and *H.* gr. *munitum*	Adey *et al.*, 1982; Braga & Aguirre, 2004; Webster *et al.*, 2009; Dechnik *et al.*, 2017
		60 to 120 m	Deep coralline algal crust, deeper slope		CCA: *Lithothamnion* spp.*, Mesophyllum* spp.*, Sporolithon episoredion* and *Peyssonnelia*	Webster *et al.*, 2009; Braga *et al.*, 2005
Gischler *et al.,* 2018a	Bora Bora, Society Islands, south Pacific Holocene	0 to 10 m	Fringing reef	*Acropora* assemblage	CCA: thick crusts of *P. onkodes*	Adey *et al.*, 1982; Cabioch *et al.*, 1999; Payri *et al.*, 2000;

		0 to 10 m	Fringing reef	*Pocillopora*	CCA: thick crusts of *P. onkodes*	Dechnik *et al*., 2017; Gischler *et al*., 2016
		0 to 10 m	Windward barrier reef	*Acropora* with medium to robust branches	CCA: Thick crusts of *P. onkodes*	
		0 to 6 m	Windward barrier reef	*Acropora* with medium to robust branches	CCA: thick crusts of *P. onkodes* Vermetids Foraminifera*: Homotrema*	
	Pleistocene MIS 6	0 to 10 m	Fringing reef	*Pocillopora*	CCA: thick crusts of *P. onkodes*	Adey *et al*., 1982; Cabioch *et al*., 1999; Payri *et al*., 2000; Dechnik *et al*., 2017; Gischler *et al*., 2016
		0 to 10 m	Fringing reef	Encrusting to massive *Porites* colonies	CCA: thick crusts of *P. onkodes*	
Gischler *et al.,* 2018b	Rasdhoo Atoll, Maldives Pleistocene (MIS) 5e	0 to 10 m	Upper reef slope to reef flat	*I. palifera*, possibly *A.* gr. *robusta,* encrusting *Porites* sp., *Echinophyllia?*	CCA: *P. onkodes*, *P. gardineri, Lithophyllum* gr. *cuneatum, Dawsoniolithon conicum, N.* gr. *fosliei, H.* gr. *munitum, L.* gr. *pustulatum, Lithophyllum* sp. and *Amphiroa* sp.	Cabioch *et al*., 1999; Abbey *et al*., 2011; Dechnik *et al*., 2017; Ciarapica & Passeri, 1993
Shen *et al.,* 2018	Lutao Holocene	0.5 to 1.5 m	Edge of reef flat or upper reef slope	Encrusting or thick branching coral *I. palifera*, occasional massive *Leptoria*, *Favia* and *Favites* spp.		Dai & Horng, 2009; Inoue *et al*., 2011
Vyverberg *et al.,* 2018	Granitic Seychelles LIG (MIS 5e)	0 to 2 m	Outcrops of reef framework and rubble attcahed to granite	Assemblage A: massive/sub-massive and encrusting *Goniastrea* (*G. minuta, G. aspera* and most commonly *G. retiformis*), with the rare occurrence of other taxa		Taylor, 1968; Lewis, 1968; Braithwaite, 1971; Rosen, 1971; Veron, 2000
		1 to 2 m.		Assemblage B: Faviidae. massive to sub-massive *Favites* sp. and *Favia* sp., commonly *Stylophora* sp. and *Cyphastrea* sp. Rare massive *Platygyra* sp., *Porites* sp.		
		0 to 6m		Assemblage C: draping, encrusting plates of *Siderastrea* sp. and encrusting platy *Pavona* sp. with less common platy *Favites* sp. and *Millepora* sp.		
		0 to 6m		Assemblage D: encrusting *Porites* sp. and encrusting faviids with coralline algae (coralgal encrusting complex)		
Webster *et al*., 2018	Great Barrier Reef	Shallow, high energy reef edge < 10 m;		Assemblage A (mIsoAcro). Massive/robust-branching *Isopora* and corymbose/digitate *A.* gr. *humilis*.	CCA: aA1 assemblage: thick cm-scale crusts of *P.*	Done, 1982, 1983; Cabioch *et al*., 1999; Abbey *et al*., 2011

	Late glacial to deglacial	< 5 m with aA1 CCA and vermetids		*onkodes* Abundant vermetids	
		Protected reef down to 20 m; <10 m if associated with thick crusts of aA1 CCA and vermetids.	Assemblage B (bSeriAcro). Fine branching *Seriatopora* (*S. hystrix*?) and diverse *Acropora* sp., often associated with *Isopora*	CCA: aA2 assemblage: thin *P. onkodes, P. gardineri, H.* gr. *munitum*	
		Protected to turbid reefs to 30 m-deep; 0 to 10 m with aA1 CCA and vermetids	Assemblage C (meMer). Massive and encrusting meruliniids (*Dipsastrea, Cyphastrea, Platygyra*)		Cabioch *et al.*, 1999; Done, 1983; Veron, 1986
		Deeper forereef slope >20 m to 100 m, when absence of *P. onkodes* and vermetids	Assemblage D (mP). Massive *Porites*	CCA: aA3 assemblage: thin crusts mainly *Mesophyllum* and *Lithothamnion*, with no records of *P. onkodes*	Cabioch *et al.*, 1999; Abbey *et al.*, 2011; Bridge *et al.*, 2011a; Bridge *et al.*, 2011b; Bridge *et al.*, 2012; Abbey *et al.*, 2013
		Deeper forereef slope >20 m to 100 m, when absence of *P. onkodes* and vermetids	Assemblage E (esmPM). Encrusting and submassive *Porites* and *Montipora*		
		Deeper forereef slope >20 m to 100 m	Assemblage F (eAg). Encrusting and foliaceous agariciids (*Leptoseris, P. speciosa*).		
Yokoyama *et al.*, 2018	Great Barrier Reef Late glacial to deglacial	0 to 5 m	cA. Massive/robust-branching *Isopora* and corymbose *A.* gr. *humilis*	CCA: aA1. *P. onkodes* Vermetids	Webster *et al.*, 2018
		0 to 10 m	cB. Branching *Seriatopora* and *Acropora* sp.	CCA: aA1. *Porolithon onkodes*	
		10 to 20 m	cC. Massive/encrusting meruliniids;	CCA: aA2. Thin *P. onkodes, Porolithon gardineri, H.* gr. *munitum*	
		> 20 m	cD. Encrusting to massive *Porites* and encrusting *Montipora*	CCA: aA3. *Mesophyllum*, *Lithothamnion*	

Humblet *et al.,* 2019	Great Barrier Reef Late glacial to deglacial	0 to 5 m vermetid (0 to 10 m) coralgal	Fringing reef, barrier reef	Assemblage cA1. Massive *Isopora* and branching corymbose to digitate *A.* gr. *humilis* associated occasionally with *A. monticulosa* and encrusting *Porites*.	CCA: aA1. Thick crusts of *P.* gr. *onkodes* Vermetid gastropods	Cabioch *et al*., 1999; Done, 1982, 1983; Veron, 1986; Montaggioni & Braithwaite, 2009; Dechnik *et al*., 2015; Gischler *et al*., 2016;
		0 to 5 m vermetid (0 to 10 m) aA1	Fringing reef, barrier reef	Assemblage cA2. Robustly branching and massive *Isopora*. Accessory constituents are *A.* gr. *humilis* and *A.* gr. *robusta*.	CCA: aA1. Thick crusts of *P.* gr. *onkodes* Vermetid gastropods	Montaggioni, 2005
		0 to 10 m aA1 and vermetids; 0 to 20 to 40 m coral	Fringing reef	Assemblage characterised by massive *Isopora* and branching *Acropora* species. Accessory encrusting *Porites*.	CCA: aA1. Thick crusts of *P.* gr. *onkodes* Vermetid gastropods	Done, 1982; Muir *et al*., 2015
		0 to 10 m aA1 and vermetids; 0 to 10 m if *Isopora* present; 0 to 20 m coral	Fringing reef	Assemblage cB. Branching *Seriatopora* and a diverse *Acropora* species with branch diameters ≤1 cm. Associated massive *Isopora*, branching *Stylophora*, encrusting *Porites* and *Montipora*, massive *Tubipora* and minor encrusting to massive merulinids.	CCA: aA1. Thick crusts of *P.* gr. *onkodes* Vermetid gastropods	Done, 1982; Bridge *et al*., 2012
		0 to 10 m aA1 and vermetids; 0 to 30 m coral	Fringing reef, barrier reef	Assemblage cC. Encrusting to massive merulinids, mainly *Dipsastraea* and less commonly *Cyphastrea* and *Platygyra*. Associated finely branching *Acropora*, encrusting *Porites* and *Montipora* and *Hydnophora*.	CCA: aA1. Thick crusts of *P.* gr. *onkodes* Vermetid gastropods	Done, 1982; Cabioch *et al*., 1999; Veron, 1986; Perry *et al.*, 2009
		0 to 60 m coral; 0 to 20 m aA2	Fringing reef, barrier reef	Assemblage cD. Massive *Porites* (5 to 20 cm-thick) associated mainly with encrusting *Montipora* and encrusting merulinids.	CCA: aA2. Thin *P. onkodes, P. gardineri, H.* gr. *munitum*	Veron & Pichon, 1982; Done, 1982; Potts *et al*., 1985; Bridge *et al*., 2012
		> 20 to 100 m aA3; shallower turbid or steep slopes	Fringing reef, barrier reef	Assemblage cE. Encrusting *Montipora* and *Porites* associated with encrusting merulinids (mainly *Cyphastrea*) and small finely branching *Acropora* colonies.	CCA: aA3. Knobby *Melyvonnea* gr. *erubescens*, thin crusts of *Mesophyllum* and *Lithothamnion*	Abbey *et al*., 2013; Bridge *et al*., 2012; Done, 1982; Browne *et al*., 2012
		> 20 m aA3	Fringing reef	Assemblage cF. Agariciids (e.g. *L.* gr. *yabei*, *P. speciosa*) associated with encrusting *Montipora* and *Porites*.		
Jaramillo-Vogel *et al*., 2019	Danakil Depression, Afar, Ethiopia MIS 7, MIS 5	intertidal reef flat and shallow subtidal	Red algal framestone (patches, biostromes) on top of corals	.	CCA: *L.* gr. *kotschyanum* with minor *L.* gr. *prototypum, L.* gr. *pustulatum* and *P. onkodes*	Rasser & Piller, 1997

Montaggioni & Martin-Garin, 2020	West Indian Islands Holocene	< 5 to 6 m	Shallow, high-energy	Robust-branching type. *A. robusta–abratanoides* group, *A. (I.) palifera, A. humilis, A. digitifera*, together with *P. verrucosa, P. eydouxi, P. damicornis*.	CCA: thick veneers (up to 2 to 4 cm) over corals. *H.* cf. *onkodes*, *D.* cf. *tessellatum* and *N.* cf. *fosliei*.	Pirazzoli & Montaggioni, 1988; Montaggioni & Faure, 1997; Cabioch *et al.,* 1999; Montaggioni, 2005
		0 to 20 m	Inner, low to medium water-energy zones, rarely on reef edge Back reef protected	Tabulate and thinly branching coral facies. *A. hyacinthus*, *A. cytherea, A. muricata, M. digitata*. Foliaceous coral facies. *P. divaricata, P. decussata, P. cactus, M. foliosa*.	CCA: *Lithophyllum*, *M.* cf. *prolifer, Dermatolithon* and more rarely, *H.* cf. *onkodes*. CCA: thin veneers over foliaceous coral of *Mesophyllum* and *Lithoporella*	
		0 to 10 to 15 m	Semi-exposed to protected settings	Massive (domal) coral facies. *P. lutea*, *P. lobata, G. retiformis, G. fascicularis, F. stelligera, F. pallida, L. phrygia, G. pectinata, Leptastrea* sp., *P. daedalea*.	CCA: thin crusts of *H.* cf. *onkodes* or *D.* cf. *tessellatum*	Cabioch *et al.,* 1999; Montaggioni, 2005
		15 to 25 m	Low-energy	Encrusting- laminar coral facies. *E. gemmacea*, *E. aspera*, *P. speciosa*.	CCA: thin veneers of *Mesophyllum* and *Lithophyllum*.	Montaggioni, 2005
Hallmann *et al.,* 2020	Central South Pacific Holocene	A few tens of centimetres to 1 m and up to 1.5 m-deep in areas typified by a greater tidal range	High-energy reef flat	Reef flat units: robust-branching *Acropora* and *Pocillopora*, massive *Porites* and foliaceous merulinids, subordinate *Millepora* and solitary *Fungia*.	CCA: thick crusts of *Porolithon* gr. *onkodes*	
Sanborn et al., 2020	One Tree Reef, Southern Great Barrier Reef Holocene	< 10 m	High-energy and clear water	Coral A1. Massive or columnar *Isopora* spp. with tabular or corymbose *Acropora* spp. Secondary encrusting *Montipora* spp. and *Porites* spp., *Stylophora* spp. and *Pocillopora* spp.	CCA 1. *P.* gr. *onkodes*. Secondary *Neogoniolithon* spp., *H.* gr. *munitum, Hydrolithon* sp., *L.* gr. *pustulatum*, *L.* gr. *prototypum*, *L.* gr. *kotschyanum* and *D. conicum* Vermetid gastropods.	Done, 1983; Davies & Montaggioni, 1985; Veron, 1986; Montaggioni, 2005; Hongo and Kayanne, 2011; Inoue *et al.*, 2011; Dechnik *et al.*, 2015, 2017; Adey, 1986; Braga & Davies, 1993; Cabioch *et al.*, 1999
		< 10 to 15 m	High-energy	Coral A2. Corymbose or staghorn *Acropora* spp. Secondary tabular *Acropora* spp., encrusting *Montipora* spp. and *Porites* spp., *Stylophora* spp. and *Pocillopora* spp.	CCA 1 Vermetid gastropods	

		< 10 m	High-energy	Coral A3. Branching *Pocillopora*. Secondary *Seriatopora* spp. and *Acropora* spp.	CCA 1 Vermetid gastropods.	Done, 1982; Fan & Dai, 1996; Hongo & Kayanne, 2011; Pratchett *et al.*, 2015; Humblet & Webster, 2017
		0 to 15 m	Lower-energy, semi-exposed to sheltered environments and turbid water	Coral B1. Encrusting to submassive or branching *Porites* spp. and/or encrusting to columnar *Montipora* spp. Secondary encrusting *Cyphastrea* spp. and *Pavona* spp., *Symphyllia* spp., *Lobophyllia* spp., corymbose *Acropora* spp., *Galaxea* spp. and encrusting *Millepora* spp.	CCA 2. *D. conicum, H.* gr. *munitum, L.* gr. *prototypum, L.* gr. *kotschyanum* and *L.* gr. *acrocamptum*	Done, 1982; Potts, 1985; Stafford-Smith, 1993; Cabioch *et al.*, 1999; Montaggioni, 2005; Sanders & Baron-Szabo, 2005; Hongo & Kayanne, 2011; Browne *et al.*, 2012; Erftemeijer *et al.*, 2012; Humblet & Webster, 2017; Dechnik *et al.*, 2017; Precht, 2019
		0 to 15 m	Lower-energy, semi-exposed to sheltered environments and turbid water	Coral B2. Encrusting to massive *Goniopora* spp. Encrusting to submassive *Goniastrea* spp., *Cyphastrea* spp., *Favites* spp., *Dipsastraea* spp., *Leptoria* spp., tabular *Acropora* spp., encrusting *Montipora* spp. and *Porites* spp.	CCA 2	Bull, 1982; Done, 1982, 1983; Stafford-Smith, 1993; Browne *et al.*, 2012; Erftemeijer *et al.*, 2012; Dechnik *et al.*, 2015, 2017
		0 to 15 m	Lower-energy, semi-exposed to sheltered environments and turbid water	Coral B3. Massive Merulinidae, particularly *Goniastrea* spp., *Platygyra* spp., *Dipsastraea* spp., *Favites* spp., and *Leptoria* spp.	CCA 2	
		>20 m	Deep and/or in low light		CCA 3. *M.* gr. *funafutiense, M.* gr. *erubescens*, and *Peyssonnelia* sp. Secondary *Lithoporella* sp., *Lithothamnion* spp. and *Spongites* sp.	Cabioch *et al.*, 1999; Davies *et al.*, 2004; Abbey *et al.*, 2011; Dechnik *et al.*, 2017
Gischler *et al.*, This volume	Southern Cook Islands, Pleistocene	1) Shallow, high energy 2) Deeper 0 to 30 m	Reef terraces		1) *Porolithon* gr. *onkodes, Harveylithon* gr. *munitum, Lithophyllum* gr. *pustulatum, Lithophyllum* gr.	

					kotschyanum and Lithophyllum gr. *prototypum* 2) *Lithothamnion, Mesophyllum, Neogoniolithon, Spongites*	
Webster *et al*., This volume	northwest shelf of Australia, MIS 3 to Holocene	C1, C3, CCA A1 and foraminifer Assemblage 1 and abundant vermetids < 10 m C2, C4, CCA A2 and foraminifer Assemblage 2 is 0 to 30 m		C1. Robust-branching (corymbose/digitate) *Acropora* (i.e., *A. humilis, A. monticulosa, A. gemmifera*), branching *S. pistillata* and *Porites* (*P. cylindrica, P. nigrescens*), *I. palifera* and *Montipora,* with rare massive *Goniastrea, Goniopora* and *Cyphastrea* spp. C2. Corymbose branching *Acropora* spp. and merulinids (*Dipsastrea* gr. 2), *Montipora* and *Seriatopora* C3. Corymbose/digitate *Acropora*, such as *A. digitifera* and robust-branching species (*A.* gr. 21 - *A. humilis, A. gemmifera, A. monticulosa*) and massive *Porites* (gr. 1 - *P. lutea, P. australiensis*), with merulinid *Dipsastrea* gr. 1) C4. Columnar *P. clavus* with branching digitate *Acropora, Pocillopora*, encrusting *Montipora* and *Pavona explanulata*	CCA: A1. Thick crusts of *P.* gr. *onkodes, Lithophyllum* gr. *cuneatum, L.* gr. *pustulatum*, *L.* gr. *prototypum* and *Harveylithon* spp. A2. *L.* gr. *kotschyanum, L.* gr. *acrocamptum* and *L.* gr. *pustulatum*, *Harveylithon* gr. *rupestre, H.* gr. *munitum,* thin crusts of *Hydrolithon* sp. A3. *Lithothamnion* spp. thin crusts of *L.* gr. *pustulatum*, *Lithoporella* sp. and *Peyssonnelia* Foraminifera: Assemblage 1. *Schlumbergerella floresiana Amphistegina lobifera, Amphisorus* spp.and *Calcarina hispida* gr. and *Peneroplis* spp. Assemblage 2. *Amphistegina radiata* and *Heterostegina depressa* Vermetid gastropods	Adey *et al*., 1982; Verheij, 1994; Iryu *et al*., 1995; Cabioch *et al*., 1999; *Payri et al*., 2000; Dechnik et al., 2017; Kospartov *et al*., 2006; Richards *et al*., 2009; *Ceccarelli et al*., 2011; Twiggs & Collins, 2010; Glenn & Collins, 2005; Renema & Troelstra, 2001
Harper *et al*., This volume	southeast Papua New Guinea Peninsula outer shelf Late glacial to deglacial	1) Shallow < 5 m 2) 0 to 20 m (0 to 10 m) 3) > 20 m	1) Shallow reef crest 2) Shallow fore reef 3) Deeper fore reef	1) *G. retiformis* framework 2) Debris of *Acropora, Astreopora, Favites abdita, Stylophora and Galaxaura* 3) Debris of *Echinophyllia, Montipora and Porites*	Foraminifera: *Marginopora vertebralis*	Webster *et al*., 1998; Veron, 2000; Montaggioni, 2005; Montaggioni & Braithwaite, 2009 Dutton *et al*., 2015; Vyverberg *et al*., 2018

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