

Table 5. Ages of Pleistocene Corals Correlated with Deep-Sea Oxygen-Isotope Stages and Substages

Coral site	Depth (m)	Age (ka) ± 2 sigma	Stage/substage	Authors
Carysfort Reef	21.0	77.8 ± 0.40 [†]	5a	Multer et al., 2002
Sand Key outlier reef	~9.8	80.9 ± 1.70	5a	Ludwig et al., 1996
Sand Key outlier reef	~12.3	82.7 ± 0.58	5a	Toscano and Lundberg, 1999
Sand Key outlier reef	~5.5	83.2 ± 0.90	5a	Ludwig et al., 1996
Sand Key outlier reef	~14.3	84.5 ± 0.82	5a	Toscano and Lundberg, 1999
Carysfort outlier reef	~15.2	85.3 ± 1.70	5a	Toscano and Lundberg, 1999
Sand Key shelf	~17.9	85.9 ± 1.19	5a	Toscano and Lundberg, 1999
Sand Key outlier reef	reworked	86.2 ± 1.01	5a	Toscano, 1996
Sand Key outlier reef	~7.5	86.6 ± 0.90	5a	Ludwig et al., 1996
Conch Reef	~29.7	87.0 ± 0.40	5b	Multer et al., 2002
Sand Key outlier reef	15.9	90.6 ± 1.58	5b	Toscano and Lundberg, 1999
Looe Key Reef	26.2	91.1 ± 0.60	5b	Multer et al., 2002
Sand Key shelf	19.2	91.8 ± 1.05	5b	Toscano and Lundberg, 1999
Looe Key Reef	25.6	92.3 ± 0.50	5b	Multer et al., 2002
Key Largo core 5	22.7	92.3 ± 0.70 [†]	5b	Multer et al., 2002
Carysfort outlier reef	19.8	94.4 ± 4.80	5b	Toscano and Lundberg, 1999
Sand Key outlier reef	21.7	106.5 ± 1.00	5c	Toscano and Lundberg, 1999
Conch Reef	35.0	112.4 ± 1.30	5c	Multer et al., 2002
Key Largo core 4	15.9	124.2 ± 0.60	5e	Multer et al., 2002
Top of Q5 Unit	varies	~125.0 [‡]	5e	Hoffmeister et al., 1967
Basin Hill Shoals	22.0	128.1 ± 0.50	6	Multer et al., 2002
Top of Q4 Unit	varies	>360.0	7(?)	Muhs et al., 1992
Top of Q3 Unit	varies	~366.8	9(?)	Multer et al., 2002
Top of Q2 Unit	varies	?	11(?)	Multer et al., 2002
Top of Q1 Unit	varies	?	11(?)	Multer et al., 2002

Notes: Table is arranged chronologically. Depths are individual core depths in meters below present sea level and are not related to each other. Q1 and Q2 Units are non-coraline.

[†]Dates based on multicollector inductively coupled plasma mass spectrometry (MC-ICP-MS). The date of ~77.8 ka represents the youngest age obtained so far for Pleistocene corals on the Florida shelf. All other dates with statements of precision are based on thermal ionization mass spectrometry (TIMS).

[‡]Dates based on epimerization reaction of isoleucine in the pelecypod *Mercenaria*. No statements of precision were reported. The isoleucine dates for the Q1-Q4 Units may be too young. Because the racemization age-dating method is sensitive to temperature, pH, and other environmental factors, the method is considered unreliable (Schroeder and Bada, 1976). Uranium-series dates on corals from a core on Key Largo yielded an age of ~144 ka for the Q5 Unit and >360 ka for the underlying Q4 Unit (Muhs et al., 1992). Thermal-ionization mass-spectrometry dates of ~370 and 366 ka from the top of a core at Pleasant Point on Key Largo are biased old due to open-system behavior (Multer et al., 2002; open-system behavior in a chemical system occurs when matter is added or removed). Multer et al. (2002) correlated the Pleasant Point core to the Q3 Unit. Assignments of isotope stages to the Q1-Q4 Units are tentative (Multer et al., 2002).