JCU ePrints

This file is part of the following reference:

Meek, Susan Denise (1982) *Structure, growth and regeneration in the astrocoeniid scleractinian coral, Acropora formosa.* PhD thesis, James Cook University.

Access to this file is available from:

http://eprints.jcu.edu.au/12114

JCU
JAMES COOK UNIVERSITY

REFERENCES

ABE, N. (1938), On the expansion and contraction of the polyp of a reef coral, Caulastrea furcata. Palao Trop. Biol. Stat. Stud., 1, 79-93.

AIZU, S.,(1968a), The role of interstitial cells in the regeneration of new endodermal cells in Coryne pusilla. Sci. Rep. Tohoku Univ. Ser. IV (Biol.), 34, 91-100.

-------- (1968b), Transformation of the epitheliomuscular cells to the endodermal cells in Aurelia. Sci. Rep. Tohoku Univ. Ser. IV (Biol.), 34, 101-107.

ATODA, K., (1951), Asexual reproduction in some reef corals of Seriatoporidae. Sci. Rep. Tohoku Univ. Ser. IV (Biol.), 19, 178-187.

ALEXANDER, R.M., (1964), Viscoelastic properties of the mesoglea of jellyfish. J. Exp. Biol., 41, 363-369.

ARNIM, S.S., (1935), A method for preparation of serial sections of teeth and surrounding structures of the rat. Anat. Rec., 62, 321-330.

BAK, R.P.M., (1976), The growth of coral colonies and the importance of crustose coralline algae and burrowing sponges in relation with carbonate accumulation. Neth. J. Sea Res., 10, 285-337.

BAK, R.P.M., BROUNS, J.J.W.M. and HEYS, F.M.L., (1977), Regeneration and aspects of spatial competition in the scleractinian corals Agaricia agaricites and Montastrea annularis. Proc. Third Int. Coral Reef Symp., 1, 143-148.

BAK, R.P.M. and STEWARD-van ES, Y., (1980), Regeneration of superficial damage in the scleractinian corals Agaricia agaricites f.purpurea and Porites astreoides. Bull. Mar. Sci., 30, 883-887.

BANCROFT, J.D., (1967), Methyl green as a stain for amyloid. J. Med. Lab. Tech., 24, 306-311.

BARNES, D.J., (1970), Coral skeletons: An explanation of their growth and structure. Sci., 170, 1305-1308.

---------- (1971), A study of growth, structure and form in modern coral skeletons. Ph.D. thesis, University of Newcastle upon Tyne.

---------- (1972), The structure and formation of growth ridges in scleractinian coral skeletons. P. Roy. Soc. (B), 182, 331-350.

---------- (1973), Growth in colonial scleractinians. Bull. Mar. Sci., 23, 280-298.

---------- and CROSSLAND, C.J., (1978), Diurnal productivity and apparent ^{14}C-calcification in the staghorn coral, Acropora acuminata. Comp. Biochem. Physiol., 59A, 133-138.

---------- (1980), Diurnal and seasonal variations in the growth of a staghorn coral measured by time lapse photography. Limnol. Oceanogr., 25, 1113--1117.

BARNES, R.D., (1968), The coelenterates. In "Invertebrate zoology", 2nd Edtn., pp. 77-113, Saunders and Co., London.

BARRINGTON, E. (1979), Movement and hydrostatics. In "Invertebrate structure and function", 2nd Edtn., pp. 65-84, Nelson, London.

BATHAM, E.J., (1960), The fine structure of epithelium and mesoglea in a sea anemone. Q. J. Microsc. Sci., 101, 481-485.

---------- and PANTIN, C.F.A., (1950a), Muscular and hydrostatic action in the sea anemone Metridium senile. J. Exp. Biol., 27, 264 -289.

---------- (1950b), Inherent activity in the sea anemone Metridium senile. J. Exp. Biol.,27, 290-301.

---------- (1951), The organisation of the muscular system of Metridium senile(L). Q. J. Microsc. Sci., 92, 27-54.

BENSON, A.A. and MUSCATINE, L., (1974), Wax in coral mucus: Energy transfer from corals to reef fishes. Limnol. Oceanogr., 19, 810-814.

---------- PATTON, J.S. and ABRAHAM, S., (1978), Energy exchange in coral reef systems. Atoll Res. Bull., 220, 35-54.

BIBB, C. and CAMPBELL, R.D., (1973), Tissue healing and septate desmosome formation in hydra. Tissue and Cell, 5, 24-25.

BLANQUET, R. and LENHOFF, R.M., (1966), A disulphide-linked collagenous protein of nematocyst capsules. Science, 154, 152-153.

BOSCH, H., (1967), Growth rate of Fungia scutaria in Kanehoe Bay, Oahu. M.Sc. thesis, University of Hawaii.

BOUILLON, J., (1968), Introduction to coelenterates. In "Chemical zoology", Vol. I, Eds. M. Florkin and B.T. Scheer, pp. 81-147, Academic Press, N.Y.

BOURNE, G.C., (1887a), On the anatomy of the Madreporarian coral Fungia. Q. J. Microsc. Sci., 27, 293-324.

---------- (1887b), On the anatomy of Mussa and Euphyllia and the morphology of the madreporarian skeleton. Q. J. Microsc. Sci., 28, 21-52.

---------- -- (1899), Studies on the structure and formation of the calcareous skeleton of the Anthozoa. Q. J. Microsc. Sci., 41, 499-563.

BRADBURY, P. and GORDON, K., (1977), Connective tissues and stains. In "Theory and practice of histological techniques", Eds. J.D. Bancroft and A. Stevens, pp. 95-112, Churchill and Livingstone, London.

BRANDT, K., (1883), Uber die morphologische und physiologische Bedeutung des Chlorophylls bei Thieren. Mitt. zool. Sta. Neapol., 4, 191-302.

BRAVERMAN, M., (1969), Studies on hydroid differentiation. IV Cell movements in Podocoryne carnea hydranths. Growth, 33, 99-111.

---------- (1971), Studies on hydroid differentiation. VI Regulation of hydranth formation in Podocoryne carnea. J. Exp. Zool., 176, 361-382.

---------- and SCHRANDT, R., (1969), Studies on hydroid differentiation. V The control of growth in young colonies of Podocoryne carnea. Growth, 33, 241-254.

BROOK, G., (1893), the genus Madrepora. Brit. Mus. (Nat. Hist.) Cat. Madreporarian Corals, Vol. I, Longmans and Co., London, 212 pp.

BRYAN, W.H. and HILL, D., (1941), Spherulites and allied structures. Proc. R. Soc. Queensl., 52, 41-53.

BURNETT, A.L., (1959), Histopathology of growth in Hydra. J. Exp. Zool., 140, 281-342.

---------- DAVIS, L.E. and RUFFING, F.E., (1966), A histological and ultrastructural study of germinal differentiation of interstitial cells arising from gland cells in Hydra viridis. J. Morphol., 120, 1-8.

---------- and HAUSMAN, R.E., (1969), The mesoglea of Hydra. J. Exp. Zool., 171, 15-23.

CAMPBELL, R.D., (1965), Cell proliferation in hydra: An autoradiographic approach. Science, 148, 1231-1232.

---------- (1967a), Tissue dynamics of steady state growth in Hydra littoralis. I Patterns of cell division. Devl. Biol. 15, 487-502.

---------- (1967b), Tissue dynamics of steady state growth in Hydra littoralis. II Patterns of tissue movement. J. Morphol., 121, 19-28.

---------- (1967c), Tissue dynamics of steady state growth of Hydra littoralis. III Behaviour of specific cell types during tissue movements. J. Exp. Zool., 164, 379-392.

---------- (1974), Development. In "Coelenterate biology", Eds. L. Muscatine and H.M. Lenhoff, pp. 179-210, Academic press, N.Y.

CARLGREN, O., (1940), A contribution to the knowledge of structure and distribution of cnidae in the Anthozoa. Kungl. Fysiog. Sallskatets Handl.,N.F. 51, 1-62.

CHALKER, B.E., (1976), Calcium transport during skeletogenesis in hermatypic corals. Comp. Biochem. Physiol., 54a, 455-459.

---------- (1977), Daily variation in the calcification capacity of Acropora cervicornis. Proc. Third Int. Coral Reef Symp., 2, 417-424.

---------- and TAYLOR, D.L., (1975), Light enhanced calcification, and the role of phosphorylation in the calcification of the coral Acropora cervicornis. Proc. R. Soc. Lond. B, 190, 323-331.

---------- and TAYLOR, D.L., (1978), Rhythmic variations in calcification and photosynthesis associated with the coral Acropora cervicornis. Proc. R. Soc. B, 201, 179-189.

CHAPMAN, D.M., (1970), Re-extension mechanisms of a scyphistoma's tentacle. Can. J. Zool., 48, 931-943.

---------- (1974), Cnidarian histology. In "Coelenterate biology", Eds. L. Muscatine and H.M. Lenhoff, pp. 2-92, Academic press, N.Y.

CHAPMAN, G., (1949), The mechanism of opening and closing of Calliactis parasitica. J. Mar. Biol. Assoc. U.K., 28, 641-649.

---------- (1953), Studies of the mesoglea of coelenterates. I. Histology and chemical properties. Q. J. Microsc. Sci., 94, 155-176.

---------- (1958), The hydrostatic skeleton of invertebtrates. Biol. Rev., 33, 338-371.

---------- (1959), The mesoglea of Pelagia noctiluca. Q. J. Microsc. Sci., 100, 599-610.

---------- (1974), The skeletal system. In "Coelenterate biology", Eds. L. Muscatine and H.M. Lenhoff, pp. 93-128, Academic press, N.Y.

CHENEY, D.P., (1973), Cell proliferation as an index of growth in corals: Incorporation of ^{3}H-thymidine. Seto Mar. Biol. Lab. Pub., 20, 285-297.

---------- (1974), The influence of temperature, dose level and morphology on the uptake of ^{3}H-thymidine by reef corals. Proc. 2nd. Int. Coral Reef Symp., 1, 69-75.

---------- (1975), Hard tissue tumours of Scleractinian corals. In "Immunologic phylogeny", Eds. W.H. Hildeman and A.A. Benedict, pp. 77-87, Plenum press, N.Y.

CHIAKULAS, J., (1952), The role of tissue specificity in healing of epithelial wounds. J. Exp. Zool., 121, 383-417.

CLARKSON, S., (1969), Nucleic acid and protein synthesis and pattern regulation in hydra. I Regional patterns of synthesis and changes in synthesis during hypostome formation. J. Embryol. Exp. Morphol., 21, 33-54.

COLES, S.L. and JOKIEL, P.L., (1978), Synergistic effects of temperature, salinity and light on the hermatypic coral Montastrea verrucosa. Mar. Biol., 49, 187-195.

---------- and STRATHMAN, R., (1973), Observations on coral mucus flocs and their potential trophic significance. Limnol. Oceanogr., 18, 673-678.

COLLINS, J.D., (1978), A study of the interactive biology of corals. Ph. D. Thesis, James Cook University of North Queensland.

CONNELL, J.H., (1973), Population ecology of coral reefs. In "Biology and geology of coral reefs", Vol 2, Eds. O.A. Jones and R. Endean, pp. 205-245, Academic press, N.Y.

COOK, H.C., (1974), "Manual of histological demonstration techniques", Butterworths and Co., London, 314pp.

CROSSLAND, C.J. and BARNES, D.J., (1974), The role of metabolic nitrogen in coral calcification. Mar. Biol., 28, 325-322

---------- (1977), Gas exchange studies with the staghorn coral Acropora acuminata and its zooxanthellae. Mar. Biol., 40, 185-194.

---------- and BOROWITZKA, M.A., Diurnal lipid and mucus production in the staghorn coral Acropora acuminata. Mar. Biol., 60, 81-90.

---------- COX,T. and DEVEREAUX, M., (1980), Compartmentation and turnover of organic carbon in the staghorn coral Acropora acuminata. Mar. Biol., 59, 181-187.

CULLING, C.F.A., (1974), "Handbook of histopathological and histochemical techniques", 3rd. Edtn., Butterworths and Co., London, 712pp.

DAVID, C.N. and CAMPBELL, R.D., (1972), Cell kinetics and development of Hydra attenuata. I Epithelial cells. J. Cell. Sci., 11, 557-568.

DAVIS, L.E., (1969), Differentiation of neurosensory cells in Hydra. J. Cell Sci., 5, 699-726.

---------- (1970), Further observations on dividing and non-dividing cnidoblasts in the regenerating isolated gastrodermis of Hydra. Z. Zellforsch Mikroskop. Anat., 105, 526-537.

----------, BURNETT, A.L., HAYNES, J. and MUMAW, W., (1966), A histological and ultrastructural study of de-differentiation and re-differentiation of digestive and gland cells in Hydra viridis. Devel. Biol., 14, 307-329.

DIEHL, F.A. and BURNETT, A.L., (1965), The role of the interstitial cells in the maintenance of Hydra. III Regeneration of the hypostome and tentacles. J. Exp. Zool., 158, 299-318.

DREW, E.A., (1972), The biology and physiology of algae-invertebrate symbioses. II The density of symbiotic algal cells in alcyonarians from various depths. J. Exp. Mar. Biol. Ecol., 9, 71-75.

DRURY, R.A.B. and WALLINGTON, E.A., (1967), "Carleton's histological technique", 4th Edtn., Oxford Univ. press, N.Y. 432pp.

DUCKLOW, H.W. and MITCHELL, R., (1979), Bacterial populations and adaptations in the mucus layers on living corals. Limnol. Oceanogr., 24, 715-725.

DUERDEN, J.E., (1902a), The morphology of the Madreporaria. II Increase of mesenteries beyond the protocnemic stage. John Hopkins Univ. Circulars, XXI, 59-66.

---------- (1902b), West Indian Madreporarian polyps, Mem. Nat. Acad. Sci.,8, 1-403.

---------- (1904a), Recent results on the morphology and development of coral polyps. Smithson. Misc. Collect., 47, 93-111.

---------- (1904b), The coral Sidastrea radians and its post larval development. Carnegie Inst. Wash. pub. no. 20.

DUNCAN, P.M., (1884), On the hard structures of some species of Madrepora. Ann. Mag. Nat. Hist., 14, 181-191.

FICHELSON, L.,(1973), Ecological and biological phenomena influencing coral species composition on the Reef Tables at Eilat (Gulf of Aquaba, Red Sea). Mar. Biol., 19, 183-196.

FOWLER, G.H., (1885), The anatomy of the Madrepora: I. Q. J. Microsc. Sci., 25, 577-597.

---------- (1887), Anatomy of the Madreporaria: II. Q. J. Microsc. Sci., 27, 1-16.

---------- (1888), Anatomy of the Madreporaria: III. Q. J. Microsc. Sci., 28, 1-20.

FOWLER, H.W. AND FOWLER, H.G., (1964), The concise Oxford dictionary of current english. p. 1358, Clarendon press, Oxford, England.

FRANZISKET, L., (1970), The atrophy of hermatypic reef corals maintained in darkness and their subsequent regeneration in light. Int. Revue ges. Hydrobiol. Hydrogr., 55, 1-12.

FREUDENTHAL, H.D., (1962), Symbiodinium gen. nov. and Symbiodinium microadriaticum sp. nov., a Zooxanthella: Taxonomy, life cycle, and morphology. J. Protozool., 9, 45-52.

FRICHE, H. and VARESCHI, E., (1982), A scleractinian coral (Plerogyra sinuosa) with "photosynthetic organs". Mar. Ecol. Prog. Ser., 7, 273-278.

GLADFELTER, E.H., (1982), Skeletal development in Acropora cervicornis: I. Patterns of calcium carbonate accretion in the axial corallite. Coral Reefs, 1, 45-52.

---------- MONAHAN, R.K. and GLADFELTER, W.B., (1978), Growth rates of five reef-building corals in the north-eastern Caribbean. Bull. Mar. Sci., 28, 728-734.

GLADFELTER, W.B., (1972), Structure and function of the locomotory system of Polyorchis montereyensis (Cnidaria, Hydrozoa). Helgolander. wiss. Meeresunters., 23, 38-79.

---------- (1975), Sea anemone with zooxanthellae: simultaneous contraction and expansion in response to changing light intensity. Science, 189, 570-571.

GLYNN, P.W., (1973), Ecology of a Caribean reef coral. The Porites reef flat biotope. Part II Plankton community with evidence for depletion. Mar. Biol., 23, 1-21.

---------- and STEWART. R.H., (1973), Distribution of coral reefs in the Pearl Islands (Gulf of Panama) in relation to thermal conditions. Limnol. Oceanogr., 18, 367-379.

GOREAU, T.F., (1956), A study of the biology and histochemistry of corals. Ph.D. thesis, New Haven, Yale University.

---------- (1959), The physiology of skeleton formation in corals. I A method for measuring the rate of calcium deposition by corals under different conditions. Biol. Bull. 116, 59-75.

---------- (1961a), On the relation of calcification to primary production in reef building organisms. In "The biology of Hydra", Eds. H.M. Lenhoff and W.F. Loomis, pp. 269-285, Univ. of Miami press, Coral Gables, Fla.

---------- (1961b), Problems of growth and calcium deposition in reef corals. Endeavour, 20, 32-39.

---------- (1963), Calcium carbonate deposition by coralline algae and corals in relation to their roles as reef builders. Ann. N.Y. Acad. Sci., 109, 126-167.

---------- (1964), Mass expulsion of zooxanthellae from Jamaican reef communities after Hurricane Flora. Science, 145, 383-386.

---------- (1965), The regulation of form in reef building corals as a function of depth and light intensity. Abs: Symp. on Growth, Univ. of W. Indies, April, 24-25th.

---------- and GOREAU,N.I., (1959), The physiology of skeleton formation in corals. II Calcium deposition by hermatypic corals under various conditions in the reef. Biol. Bull., 117, 239-250.

---------- (1960), Distribution of labelled carbon in reef building corals with and without zooxanthellae. Science, 131, 668-669.

---------- and YONGE, C.M., (1971), Reef corals: Autotrophs or heterotrophs? Biol. Bull., 141, 247-260.

---------- and NEUMAN, N.Y. (1970), On feeding and nutrition of Fungia eilatensis (Bivalvia, Mytilidae), a commensal living in the fungiid corals. J. Zool., 160, 159-172.

---------- and PHILPOTT, D.E., (1956), Electron micrographic study of flagellated epithelia in Madreporarian corals. Exptl. Cell Res., 10, 552-556.

---------- and WELLS, J.W., (1967), The shallow water Scleractinia of Jamaica: revised list of species and their vertical distribution. Bull. Mar. Sci., 17, 442-453.

GOREAU, N.I. and HAYES, R.L. (1977), Nucleation catalysis in coral skeletogenesis. Proc. 3rd Int. Coral Reef Symp. 2, 439-445.

GRAVIER, Ch-J., (1915), Sur les phénomènes de réparation après mutilation chez les Coreaux des grandes profondeurs sous-marine. CR. Acad. Sci. Paris, 160, 718-720.

GRIMSTONE, A.V., HORNE, R.W., PANTIN, C.F.A. and ROBSON, E.A., (1958), The fine structure of the mesenteries of the sea anemone Metridium senile. Q. J. Microsc. Sci., 99, 523-540.

HALE, L.J., (1964), Cell movements, cell division,and growth in the hydroid Clytia johnstonii. J. Embryol. Exp. Morphol., 12, 517-538.

HAM, R.G. and EAKIN, R.E., (1958), Time sequence of certain physiological events during regeneration in hydra. J. Exp. Zool., 139, 33-53.

HAND, C., (1961), In "The biology of hydra", Eds H.M. Lenhoff and W.F. Loomis, pp. 187-202, Univ. of Miami press, Coral Gables, Fla.

-------- (1966), On the evolution of the actiniaria. Symp. Zool. Soc. Lond., 16, 135-146.

HARRIGAN, J., (1972), The planula and larvae of Pocillopora damicornis, lunar periodicity of swarming and substratum selection behaviour. Ph.D. thesis, University of Hawaii.

HARRISON, P.L., (1980), The fine structure of Acropora formosa (Dana, 1846). Honours thesis, James Cook University of North Queensland.

HAYNES, J.F. and BURNETT, A.L., (1963), De-differentiation and redifferentiation of cells in Hydra viridis. Science, 142, 1481-1483.

HICKSON, S.J., (1924), "An introduction to the study of recent corals", University press, Longmans, Green and Co., 259pp.

HILWIGG, I. and GROPP, A., (1972), Staining of constitutive heterochromatin in mammalian chromosomes with a new fluorochrome. Exptl. Cell Res., 75, 122-126.

HORRIDGE, G.A., (1957), The co-ordination of the protective retraction of coral polyps. Phil. Trans. R. Soc. Lond. B, 240, 495-528.

HYMAN, L.H., (1940), "The invertebrates", Vol. 1, McGraw Hill Book Co. Inc., N.Y., 726pp.

JAAP,W.C., (1979), Observations on zooxanthellae expulsion at Middle Sambo reef, Florida Keys. Bull. Mar. Sci., 29, 414-422

JELL, J.S., (1974), The microstructure of some scleractinian corals. Proc. 2nd Int. Coral Reef Symp., 2, 301-310.

JENNISON, B.L., (1979), Gametogenesis and reproductive cycles in the sea anemone Anthopleura elegantissima (Brandt, 1835). Can. J. Zool., 57, 403-411.

JOHANNES, R.E. and TEPLEY, L., (1974), Examination of feeding of the reef coral Porites lobata in situ using time lapse photography. Proc. 2nd Int. Coral Reef Symp., 2, 127-131.

JOHNSON, F. and McMINN, R., (1960), The cytology of wound healing of body surfaces in mammals. Biol. Rev., 35, 364-412.

JOHNSTON, I.S., (1977), Aspects of the structure of a skeletal organic matrix, and the process of skeletogenesis in the reef coral Pocillopora damicornis. Proc. 3rd Int. Coral Reef Symp., 2, 447-453.

---------- (1980), The ultrastructure of skeletogenesis in hermatypic corals. Int. Rev. Cytol., 67, 171-214.

JOKIEL, P.L. and COLES, S.L., (1974), Effects of heated effluent on hermatypic corals at Kahe Point, Oahu. Pacific Sci., 28, 1-18.

---------- (1977), Effects of temperature on the mortality of Hawaiian reef corals. Mar. Biol., 43, 201-208.

KAWAGUTI, S., (1937a), Regeneration and phototropism in reef corals. Palao Trop. Biol. Stat. Stud., 1, 209-216.

---------- (1937b), On the physiology of reef corals. II The effect of light on colour and form of reef corals. Palao Trop. Biol. Stat. Stud., 1, 199-208.

---------- (1944a), Zooxanthellae as a factor of positive phototropism in those animals containing them. Palao Trop. Biol. Stat. Stud., 2, 681-682.

---------- (1944b), On the physiology of reef corals. VII Zooxanthellae of the reef corals is Gymnodinium sp., Dinoflagellata, its culture in vitro. Palao Trop. Biol. Stat. Stud., 2, 675-679.

---------- (1954), Effect of light and ammonium on the expansion of polyps in the reef corals. Biol. J. Okayama Univ., 2, 45-50.

---------- (1964a), Electron microscopic study of the nerve plexus in the polyp of a reef coral. Proc. Japan Acad., 40, 121-124.

---------- (1964b), Zooxanthellae in the corals are intercellular symbionts. Proc. Japan Acad. Sci., 40, 545-548.

---------- (1964c), An electron microscopic proof for a path of nutritive substances from zooxanthellae to reef coral tissue. Proc. Japan Acad. Sci., 40, 832-835.

---------- (1966), Electron microscopy on the fluorescent green cells of reef corals with a note on mucous cells. Biol. J. Okayama Univ., 12, 11-21.

---------- and NAKAYAMA, T., (1970), Population densities of zooxanthellae in reef corals. Biol. J. Okayama Univ., 16, 67-71.

---------- and SATO, K., (1968), Electron microscopy on the polyp of staghorn corals with special reference to its skeletal formation. Biol. J. Okayama Univ., 14, 87-98.

---------- and YOKAYAMA, T., (1966), Electron microscopy on the polyp pigment granules of an ahermatypic coral Dendrophyllia cribrosa. Biol. J. Okayama Univ., 12, 69-80.

KAWAKAMI, I., (1941), Asexual reproduction in some reef corals. Palao Trop. Biol. Stat. Stud., 2, 147-156.

KENNEY, R.P., (1974), Inshore surface sea temperatures at Townsville. Aust. J. Freshwater Res., 25, 1-5.

KEVIN, M.J., HALL, W.T., McLAUGHLIN, J.A. and ZAHL, P.A., (1969), Symbiodinium microadriaticum Freudenthal, a revised taxonomic description, ultrastructure. J. Phycol., 5, 341-350.

KINCHINGTON, D., (1980), Calcification processes in cool temperate scleractinian corals. Ph.D. thesis, University of London.

KINSMAN, D.J.J., (1964), Reef coral tolerance of high temperatures and salinities. Nature, 202, 1280-1282.

KINZIE, R.A., (1973), The zonation of West Indian gorgonians. Bull. Mar. Sci., 23, 93-155.

---------- (1974), Experimental infection of aposymbiotic gorgonian polyps with zooxanthellae. J. Exp. Mar. Biol. Ecol., 15, 335-345.

KOPRIWA, B. and LEBLOND, C.P., (1962), Improvements in the coating technique of autoradiography. J. Histochem. Cytochem., 10, 269-284.

KRAWCZYK, W., (1971), A pattern of epidermal cell migration during wound healing. J. Cell Biol., 49, 247-263.

KRIJGSMAN, B.J. and TALBOT, F.H., (1953), Experiments on digestion in sea anemones. Arch. int. Physiol., 61, 277-291.

LANG, J., (1971), Interspecific aggression by scleractinian corals. I The re-discovery of Scolymia cubensis (Milne, Edwards and Haime). Bull. Mar. Sci., 21, 952-959.

-------- (1973), Interspecific aggression by scleractinian corals. II. Why the race is not only to the swift. Bull. Mar. Sci., 23, 260-279.

LASKER, H.R., (1976), Intraspecific variability of zooplankton feeding in the hermatypic coral Montastrea cavernosa. In "Coelenterate ecology and behaviour", Ed. G.O. Mackie, pp. 101-109, Plenum press, N.Y.

---------- (1977), Patterns of zooxanthellae distribution and polyp expansion in the reef coral Montastrea cavernosa. Proc. 3rd Int. Coral Reef Symp., 1, 607-613.

---------- (1979), Light dependent activity patterns among reef corals Montastrea cavernosa. Biol. Bull., 156, 196-211.

LATT, S.A., (1973), Microfluorometric detection of deoxyribonucleic acid replication in human metaphase chromosomes. Proc. Nat. Acad. Sci. U.S.A., 70, 3395-3399.

LEGHISSA, S., (1965), Nervous organisation and the problem of the synapse in Actinia equina. Am. Zool., 5, 411-424.

LENHOFF, H.M., (1968), Chemical perspectives on the feeding response, digestion and nutrition of selected Coelenterates. In "Chemical zoology", Vol. I, Eds. M. Florkin and B.T. Sheer, pp. 158-221, Academic press, N.Y.

LESH, G.E., (1970), Role of inductive factors in interstitial cell differentiation in hydra. J. Exp. Zool., 173, 371-382.

LENTZ, T.L., (1965), The fine structure of differentiating interstitial cells of hydra. Z. Zellerforsch. mikrosk. Anat., 67, 547-560.

LEWIS, J.B., (1971), Effect of crude oil and oil dispersant on reef corals. Marine Pollutn. Bull., 2, 59-62.

----------, AXELSEN, F., GOODBODY, I., PAGE, C. and CHISLETT, G., (1968), Comparative growth rates of some reef corals in the Caribbean. Mar. Sci. Ms., No. 10, McGill Univ., 26pp.

---------- and PRICE, W.S., (1975), Feeding mechanisms and feeding strategies of Atlantic reef corals, J. Zool., Lond., 176, 444-527.

LIN, M.S., LATT, A. and DAVIDSON, R.L., (1974), Identification of human and mouse chromosomes in human-mouse hybrids by centromere fluorescence. Exptl. Cell Res., 87, 429-433.

LIISBERG, M.F., (1961), A new and easy method for a differential staining of the α and β cells in the Langerhans islets of the pancreas. Acta.anat., 44, 137-145.

LILLIE, R.D., (1977), "H.J. Conn's biological staining", Williams and Wilkins, Baltimore, 692pp.

---------- and FULLMER, H.M., (1976), "Histopathological technic and practical histochemistry", McGraw-Hill book Co., N.Y., 942pp.

LOWELL, R.D. and BURNETT, A.L., (1969), Regeneration of complete hydra from isolated epidermal explants. Biol. Bull., 137, 312-320.

LOWRY, O.H., ROSEBROUGH, A.L., FARR, A.L. and RANDALL, R.J., (1951), Protein measurement with the Folin phenol reagent. J. Biol. Chem., 193, 265-275.

LOYA, Y., (1976), Skeletal regeneration in a Red Sea scleractinian coral population. Nature, 261, 490-491.

LYONS, K.M., (1973a), Evolutionary implications of a collar cell ectodermis in coral planulae. Nature, Lond., 245, 50-51.

---------- (1973b), Collar cells in planula and adult tentacle ectoderm of the solitary coral Balanophyllia regia, Anthozoa Eupsamiidae. Z. Zellforsch. mikrosk. Anat., 145, 57-74.

McFARLANE, I.D., (1974), Exitatory and inhibitory control of inherent contractions in the sea anemone Calliactis parasitica. J. Exp. Biol.,60, 397-422.

---------- (1978), Multiple conducting systems and the control of behaviour in the brain coral Meandrina meandrites (L). Proc. R. Soc. B, 200, 193-216.

---------- and LAWN, I.D., (1972), Expansion and contraction of the oral disc in the sea anemone Telia felina. J. Exp. Biol., 57, 633-649.

McLAUGHLIN, J.J.A. and ZAHL, P.A., (1959), Axenic zooxanthellae from various invertebrate hosts. Ann. N.Y. Acad. Sci., 77, 55-72.

MARISCAL, R.N., (1971), Effect of a disulphide reducing agent on the nematocyst capsules from some coelenterates, with an illustrated key to nematocyst classification. In "Experimental Coelenterate Biology", Eds. H.M. Lenhoff and L.V. Davis pp 157-168, Univ. of Hawaii press, Honolulu.

---------- (1974), Nematocysts. In "Coelenterate biology", Eds. L. Muscatine and H.M. Lenhoff, pp 129-178, Academic press, N.Y.

MARSHALL, N., (1972), Notes on mucus and zooxanthellae discharged from reef corals. Proc. Symp. on Corals and Coral Reefs, Mandapam Camp, India, 12-16th January, 1969. Eds. C. Mukudan and C.S.P. Pillai, pp. 55-65, Mar. Biol. Assoc. of India, Cochin.

MARSHALL,S.M. and STEPHENSON, T.A., (1933), The breeding of reef animals. Part I. The corals. Sci. Rep. Gt. Barrier Reef Exped. (1928-1929), 3, 21-246.

MASHANSKI, V.F., LI, S.E., MIRKIN, A.S. and LABAS, Y.A., (1977), Possible structural bases of non-nervous transmission in epithelia. Dokl. Biol. Sci. (English transl. Dokl. Acad. Nauk. S.S.S.R. Ser. Biol., 235, 1-6), 315-317.

MATTES, O., (1925), Die histologischen Vorgaenge bei der Wundheilung und Regeneration von Hydra. II Die histologischen Betunde. Zool. Anz., 63, 33-40.

MATTHAI, G., (1918), On reactions to stimuli in corals. Camb. Phil. Soc. Proc., 19, 164-166.

---------- (1923), Histology of the soft parts of astreid corals. Q. J. Miscrosc. Sci., 67, 101-122.

MAYER, A.G., (1924), Growth rate of Samoan corals. Pap. Dept. Mar. Biol. Carnegie Inst. Wash., 19, 51-72.

MEGLITSCH, P.A., (1972), The radiata. In "Invertebrate zoology", pp. 105-154. Oxford University press, London.

MITCHISON, J.M., (1971), "The biology of the cell cycle". Cambridge University press, London, 313pp.

MOORE, R.C., HILL, D. and WELLS, J.W., (1956), Glossary of morphological terms applied to corals. In "Treatise on invertebrate paleontology", Part F: Coelenterata, Ed. R.C. Moore, pp. F245-F251, Geol. Soc. Amer., University of Kansas press, Kansas.

MUSCATINE, L., (1973), Nutrition of corals. In "Biology and ecology of coral reefs", Vol. II: Biology, Eds. O.A. Jones and R. Endean, pp. 77-115, Academic press, N.Y.

---------- (1974), Endosymbiosis of cnidarians and algae. In "Coelenterate biology", Eds L. Muscatine and H.M. Lenhoff, pp 359-395, Academic press, N.Y.

---------- and POOL, R.R.., (1979), Regulation of intracellular algae. Proc. R. Soc. Lond. B, 204, 131-139.

---------- and PORTER, J.W., (1977), Reef corals - mutualistic symbioses adapted to nutrient poor environments. Bioscience, 27, 454-460.

NICOL, J.A.C., (1959), Digestion in sea anemones. J. Mar. Biol. Assoc. U.K., 38, 469-476.

NORMANDIN, D.K., (1960), Regeneration of Hydra from the endoderm. Science, 132, 678.

OGILVIE, M.M., (1896), The microscopic and systematic study of Madreporarian types of corals. Phil. Trans. R. Soc., 187B, 83-345.

OLIVER, J.K. (1979), Temporal and spatial variations in the growth of Acropora formosa (Dana, 1840) on a North Queensland fringing reef. Honour thesis, James Cook University of North Queensland.

OVERTON, J. (1963), Intercellular connections in the outgrowing stolon of Cordylophora. J. Cell Biol., 17, 661-671.

PAPENFUSS, E., (1934), Reunition of pieces of hydra with special reference to the role of the three layers, and the fate of the differentiated parts. Biol. Bull., 67, 233-243.

PARDY, R.L., (1976), The morphology of green hydra endosymbionts as influenced by host strain and host environment. J. Cell Sci., 20, 655-669.

PARK, H.D., ORTMEYER, R.A. and BLANKENBAKER, R.D., (1967), Mitotic activity in Hydra pseudogalactis during regneration of apical structures. Amer. Zool., 7, 750-751 (Abstr.).

---------- (1978), Cell division during regeneration in hydra. Nature (Lond.), 227, 617-619.

PATTON, J.S., ABRAHAM, S. and BENSON, A.A., (1977), Lipogenesis in the intact coral Pocillopora capitata and its isolated zooxanthellae evidence for a light driven carbon cycle between symbiont and host. Mar. Biol. (Berl.), 44, 235-248.

PEARSE, V.B. and MUSCATINE, L., (1971), Role of symbiotic algae (zooxanthellae) in coral calcification. Biol. Bull., 141, 350-363.

PEARSON, R.G., (1981), Recovery and colonisation of coral reefs. Mar. Biol., 4, 105-122.

POLTEVA, D.G., (1970), Morphogenetic processes in somatic embryogenesis of Metridium senile. Vestn. Leningrad Univ., Biol., 25, 96-105, Biol. Abstr., 51, 128150 (1970).

---------- (1972), Regeneration and somatic embryogenesis in sea anemones. Tr. Leningr. O-VA Estevoispyt, 78, 171-232. Transl. from Ref. Z.H. Biol., 1972(rec'd 1973), No. 12038. Biol. Abstr., 56, 61317 (1973).

---------- and BORISOVA, T.M. (1974), Development of the hydroid Coryne lovenii M. sars from an ectoderm fragment. Vestn. Leningr. Univ. Ser. Biol, 1, 27-34. Biol. Abstr., 58, 66889, (1974).

PORTER, J.W., (1974), Zooplankton feeding by the Caribbean reef building coral Montastrea cavernosa. Proc. 2nd Int. Coral Reef Symp., 1, 111-125.

---------- (1976), Autotrophy, heterotrophy and resource partitioning in Caribbean reef corals. Am. Natur., 110, 731-742.

----------, PORTER, K.G. and BATAC-CATALAN, Z., (1977), Quantitative sampling of Indo-Pacific demersal reef plankton. Proc. 3rd Int. Coral Reef Symp., 1, 105-112.

van-PRAËT, M., (1977), Etude histocytologique d'Hoplangia durotrix Gosse (Anthozoa, Scleractinaria). Ann. Sci. nat. Zool. animale 19, 279-299.

---------- (1978), Etude histochimique et ultrastructural des zones digestives d'Actinia equina L. (Cnidaria, Actiniaria). Cahiers de Biologie Marine, XIX, 415-432.

PRAZDNIKOV, E.V. and MIKHAILOVA, I.G., (1962), A note on the problem of character of the early inflammatory reaction in some coelenterates (Staurophora mertensii Brandt 1935, Aurelia aurita L., Beroe cucumis Fabr.). Tr. Murmansk. Morsk. Biol Inst. 4, 221-228; Biol. Abstr., 44, 12963 (1963).

PUSEY, W. and EDWARDS,C.A., (1978), A modification of the martius yellow-scarlet red-aniline blue method for fibrin. Stain Tech., 53, 58-59.

RAND, H., (1900), The regulation of graft abnormalities in hydra. Arch. Entw. Mech. Org.,9, 161-214.

REIMER, A.A., (1971), Observations on the relationship between several species of tropical zoanthids (Coelenterata, Zoanthidae) and their zooxanthellae. J. Exp. Mar. Biol. Ecol., 7, 207-214.

RICART Y MENDENEZ, F.O. and FRIEDMAN, G.M. (1977), Morphology of the axial corallite of Acropora cervicornis. Proc.3rd Int. Coral Reef Symp., 1, 453-456.

RICHARDSON, C.A., DUNSTAN, P. and LANG, J.C., (1979), Maintenance of living space by sweeper tentacles of Montastrea cavernosa, a Caribbean reef coral. Mar. Biol., 55, 181-186.

RINKEVITCH, B. and LOYA, Y., (1979), The reproduction of the Red Sea coral Stylophora pistillata. I Gonads and planulae. Mar. Ecol. Progr. Ser., 1, 133-144.

ROBSON, E.A., (1957), The structure and hydromechanics of the musculo-epithelium in Metridium. Q. J. Microsc. Sci., 98, 265-278.

ROGERS, A.W., (1979), "Practical autoradiography", The Radiochemical Centre, Amersham, Rev. No. 20, Garrod and Lofthouse, London, 74pp.

ROOS, P.J. (1967), Growth and occurence of the reef coral Porites astreoides Lamarck in relation to submarine radiance distribution. Drukkerij Elinkwijk Utrecht, 72pp.

ROWLEY, H. (1902), Histological changes in H. viridis during regeneration. Amer. Nat., 36, 578-583.

SCHINDEWOLF, O.H., (1942), Zur Kenntnis der Polycoelien und Plerophylten. Abh. Reichamst.Bodenf., Neue Folge, Heft 204, 324pp.

SCHMITZ, K. and KREMER, B.P., (1977), Carbon fixation and analysis of assimilates in a coral dinoflagellate symbiosis. Mar. Biol., 42, 305-314.

SCHOENBERG, D.A. and TRENCH, R.K., (1980a), Genetic variation in Symbiodinium (=Gymnodinium) microadriaticum Freudenthal, and specificity in its symbiosis with marine vertebrates. I Isoenzyme and soluble protein patterns of axenic cultures of Symbiodinium microadraticum. Proc. R. Soc. Lond. B, 207, 405-427.

---------- (1980b), Genetic variation in Symbiodinium (Gymnodinium) microadriaticum Freudenthal, and specificity in its symbiosis with marine invertebrates. II Morphological variation in Symbiodinium microadriaticum. Proc. R. Soc. Lond. B, 207, 429-444.

---------- (1980c), Genetic variation in Symbiodinium (Gymnodinium) microadriaticum Freudenthal, and specificity in its symbiosis with marine invertebrates. III Specificity and infectivity of Symbiodinium microadriaticum. Proc. R. Soc. Lond. B, 207, 445-460.

SEBENS, K.P. and deREIMER, K., (1977), Diel cycles of expansion and contraction in coral reef anthozoans. Mar. Biol., 43, 247-256.

SERRA, J.A., (1946), Histochemical tests for protein and amino acids; the characterisation of basic proteins. Stain Tech., 21, 5-18.

SHINN, E.A., (1966), Coral growth rate, an environmental indicator. J. Paleont., 40, 233-240.

---------- (1972), Coral reef recovery in Florida and in the Persian Gulf. Environmental Conservation Dept., Shell Oil Co., Houston, Texas, 9pp.

SINGER, I.I., (1971), Tentacular and oral disc regeneration in the sea anemone Aiptasia diaphana. III Autoradiographic analysis of patterns of ^{3}H-thymidine uptake. J. Embryol. Exp. Morphol., 26, 253-270.

---------- (1974), An electron microscope and autoradiographic study of mesogleal organisation and collagen synthesis in the sea anemone Aiptasia diaphana. Cell Tiss. Res., B49, 537-554.

---------- and PALMER, J.D., (1969), Tentacular and oral disc regeneration in the sea anemone Aiptasia diaphana. I Sequential morphological events in distal end restitution. J. Morphol., 127, 373-382.

SINGH, A.P. and MERCER, E.H., (1976), Algal symbiont of a soft coral. J. Phycol., 12, 464-467.

SLAUTTERBACK, D.B., (1961), Nematocyst development. In "The biology of Hydra", Eds. H.M. Lenhoff and W.F. Loomis, pp. 77-129, University of Miami Press, Coral Gables, Fla.

---------- and FAWCETT, D.W., (1959), The development of cnidoblasts of Hydra. An electron microscope study of differentiation. J. Biophys. Biochem. Cytol., 5, 441-452.

SMITH, F.G.W., (1971), "Atlantic reef corals", 2nd Edtn. Univ. of Miami press, Fla., 164pp.

SMITH, D.C., MUSCATINE, L. and LEWIS, D.H., (1969), Carbohydrate movement from autotrophs to heterotrophs in parasitic and mutualistic symbiosis. Biol. Rev. Cambridge Phil. Soc., 44, 17-90.

SPANGENBERG, D.B., (1961), A study of normal and abnormal regeneration of hydra. In "The biology of Hydra", Eds. W.F. Loomis and H.M. Lenhoff, pp. 413-423, University of Miami press, Fla.

---------- and EAKIN, R.E., (1961), Effect of lipoic acid on the regeneration of Chlorhydra viridissima. J. Exp. Zool., 147, 211-217.

---------- (1962), Histological studies of mechanisms involved in hydra regeneration. J. Exp. Zool., 151, 85-94.

SPIRO, B.F., (1974), Ultrastructure of Acropora. Bull. Geol. Soc. Den., 23, 76-80.

SORAUF, J.E., (1970), Microstructure and formation of dissepiments in the skeleton of the recent Scleractinia (hexacorals). Biomineralisation, 2, 1-22.

---------- (1972), Skeletal microstructure and microarchitecture in scleractinia (Coelenterata). Paleontol., 15, 88-107.

STEEDMAN, H.F., (1976), General and applied data on formaldehyde fixation and preservation of marine zooplankton. In "Zooplankton fixation and preservation", pp. 103-171, The Unesco press, Paris.

STEELE, R.D., (1975), Stages in the life history of a symbiotic zooxanthella in pellets extruded by its host Aiptasia tagetes Duch. and Mich. (Coelenterata, Anthozoa). Biol. Bull., 149, 590-600.

---------- (1976), Light intensity as a factor in the regulation of the density of symbiotic zooxanthellae in Aiptasia tagetes (Coelenterata, Anthozoa). J. Zool., Lond., 179, 387-405.

---------- (1977), The significance of zooxanthellae-containing pellets extruded by sea anemones. Bull. Mar. Sci., 27, 591-594

STEINBERG, S., (1963), The regeneration of whole polyps from ecto- dermal fragments of Scyphistomae larvae of Aurelia aurita. Biol. Bull., 124, 337-343.

STEPHENSON, T.A., (1920), On the classification of the Actiniaria. I Forms with acontia and forms with a mesogleal sphincter. Q. J. Microsc. Sci., 64, 443-445.

---------- and STEPHENSON, A., (1933), Growth and asexual reproduction in corals. Gt. Barrier Reef Exped. Sci. Rep., (1928-1929), 3, 167-217.

STEPHENSON, W., ENDEAN, R. and BENNET, I., (1958), An ecological survey of the marine fauna of the Low Isles, Queensland. Aust. J. Mar. Freshwater Res., 9, 261-318.

STEVENS, N.M., (1903), Regeneration in Tubularia mesmebryanthemum II. Wilhelm Roux Arch. Entw. Mech. Org., 15, 319-326.

STIMSON, J.S., (1978), Mode and timing of reproduction in some common hermatypic corals of Hawaii and Enewetak. Mar. Biol., 48, 173-184.

SZMANT-FROELICH, A., YEVICH, P. and PILSON, M.E.Q., (1980), Gametogenesis and early development of the temperate coral Astrangia danae (Anthozoa:Scleractinia). Biol. Bull., 158, 257-269.

TARDENT, P.E., (1954), Axiale Verteilungs - Gradienten der Interstitiellen Zellen bei Hydra und Tubularia und ihre Bedeutung fur die Regeneration. Wilhelm Roux Arch., 146, 593-649.

---------- (1962), Morphogenetic phenomena in the hydrocaulis of Tubularia. Pubbl. Staz. zool., Napoli, 33, 50-63.

TAYLOR, D.L., (1968), In situ studies on the cytochemistry and ultrastructure of a symbiotic marine dinoflagellate. J. Mar. Biol. Assoc. U.K., 48, 349-366.

---------- (1969), Some aspects of the regulation and maintenance of algal numbers in zooxanthellae - coelenterate symbiosis, with a note on the nutritional relationship in Anemonia sulcata. J. Mar. Biol. Assoc. U.K., 49, 1057-1065.

---------- (1973), Algal symbionts of invertebrates. Ann. Rev. Microbiol., 27, 171-187.

---------- (1977), Intra-colonial transport of organic compounds and calcium in some Atlantic reef corals. Proc 3rd Int. Coral Reef Symp., 1, 431-436.

---------- (1978), Nutrition of algal-invertebrate symbiosis. 2. Effects of exogenous nitrogen sources on growth, photosynthesis and the rate of excretion by algal symbionts in vivo and in vitro. Proc. R. Soc. Lond. B, 201, 401-412.

TRENCH, R.K., (1974), Nutrition potentials in Zoanthus sociatus (Coelenterata, Anthozoa). Helgolander wiss Meeresunters 26, 174-216.

TUNNICLIFFE, V., (1981), Breakage and propagation of the stony coral Acropora cervicornis. Proc. Natl. Acad. Sci., 78, 2427-2431.

VANDERMEULEN, J.H., (1975), Studies on reef corals. III Fine structural changes of the calicoblastic cells in Pocillopora damicornis during settling and calcification. Mar. Biol., 31, 69-71.

----------, DAVIS, N. and MUSCATINE, L., (1972), The effect of inhibitors of photosynthesis on zooxanthellae in corals and other marine invertebrates. Mar. Biol., 16, 185-191.

---------- and MUSCATINE, L., (1974), Influence of symbiotic algae on calcification in reef corals. In "Symbiosis in the sea", Ed. W.B. Vernberg, pp. 1-19, Belle W Branch Library in Marine Science, No. 2, Univ. of S. Carolina press, Columbia

---------- and WATABE, N., (1973), Studies on reef corals. I Skeleton formation by newly settled planula larvae of Pocillopora damicornis. Mar. Biol., 23, 47-57.

VAUGHAN, T.W. and WELLS, J.W., (1943), Revision of the suborders, families and genera of the Scleractinia. Geol. Soc. Amer. Sp. Pap., 44, 363pp.

WAINWRIGHT, S.A., (1963), Skeletal organisation in the coral Pocillopora damicornis. Q. J. Microsc. Sci., 104, 169-183.

---------- (1964), Studies of the mineral phase of coral skeletons. Expl. Cell Res., 34, 213-230.

WALLACE, C.C., (1978), The coral genus Acropora (Scleractinia: Astrocoeniina: Acroporideae) in the central and southern Great Barrier Reef province. Mem. Qd. Mus., 18, 273-319.

---------- (1979), Patterns within assemblages of the coral genus Acropora on the Great Barrier Reef, Queensland. Ph.D. thesis, University of Queensland.

WEBER, J.N., (1974), Basis for skeletal plasticity among reef building corals. Geology (Boulder), 2, 153-154.

WEBSTER, G., (1971), Morphogenesis and pattern formation in hydroids. Bio. Rev., 46, 1-46.

WELLS, J.W., (1956), Scleractinia. In "Treatise on invertebrate paleontology", Part F: Coelenterata. Ed. R.C. Moore, pp. F328-F440, Geol. Soc. Amer., University of Kansas press, Lawrence, Kansas.

---------- (1966), Evolutionary development in the scleractinian family Fungiidae. In "The Cnidaria and thier evolution", Ed. W.J. Rees, pp. 223-246, Symp. Zool. Soc. Lond., No. 16, Academic press, London.

---------- WELLS, A.H. and van der WALKER, J.G., (1973), In situ studies in benthic reef communities. Helgolander wiss. Meeresunters., 24, 78-81.

WELLS, M.M., (1932), "The collection and preservation of animal forms", pp. 16-18, General Biological Supply House, Chicago.

WERNER, B., (1965), Die Nesselkapseln der Cnidaria, mit besonderer Berucksichtigung der Hydroidia. I Classification und Bedeutung fur die Systematik und Evolution. Helgolander wiss. Meeresunters., 12, 1-39.

WESTFALL, J.A., (1966), The differentiation of nematocysts and associated structures in the Cnidaria. Z. Zellforsch. Mikrosk. Anat., 75, 381-403.

---------- (1970), The nematocyst complex in a hydromedusan, Gonionemus vortens. Z. Zellforsch. Mikrosk. Anat., 110, 457-470.

---------- (1973), Ultrastructural evidence for neuromuscular systems in coelenterates. Am. Zool., 13, 237-246.

WILSON, H.V., (1888), On the development of Mancinia areolata. J. Morphol., 2, 191-252.

WIND, F.H. and WISE, S.W.Jr., (1976), Organic and inorganic processes in archeogastropod shell mineralisation. In "The mechanisms of mineralisation in the invertebrates and plants", pp. 369-388, Univ. S. Carolina press, Columbia.

WISE, S.W.Jr., (1969), Organisation and formation of fasiculi in the skeletons of scleractinian corals. Geol. Soc. Amer., Abstr. Programs, 1, 241.

---------- (1970), Scleractinian coral exoskeletons: Surface microarchitecture and attachment scar patterns. Science, 169, 978-980.

---------- (1972), Observations of fasiculi on developmental surfaces of scleractinian coral exoskeletons. Biomineralisation, 6, 160-175.

---------- and HAY, W.W., (1965), Ultrastructure of the septa of scleractinian corals. Geol. Soc. Amer. Spec. Pap., 87, 187pp.

WOOD, R.L., (1979), The fine structure of the hypostome and mouth of hydra. II Transmission electron microscopy. Cell Tiss. Res., 199, 319-338.

WOOD-JONES, F., (1907), On the growth forms and supposed species in corals. Proc. Zool. Soc. Lond., 75, 518-556.

---------- (1910), "Corals and atolls", Lovell Reeve and Co. Ltd., 392pp.

YONGE, C.M., (1930a), Studies on the physiology of corals. I Feeding mechanisms and food. Sci. Rep. Gt. Barrier Reef Exped. (1928-1929), 1, 13-57.

---------- (1930b), Studies on the physiology of corals. II Digestive enzymes. With a note on the speed of digestion by A.G. Nicholls. Sci. Rep. Gt. Barrier Reef Exped. (1928-1929), 1, 59-81.

---------- (1931), Studies on the physiology of corals. III Assimilation and excretion. Sci. Rep. Gt. Barrier Reef Exped. (1929-1929), 1, 83-91.

---------- (1937), Evolution and adaptation in the digestive system of the Metazoa. Biol. Rev.,12, 87-115.

---------- (1940), The biology of reef building corals. Sci. Rep. Gt. Barrier Reef Exped. (1928-1929), 1, 353-391.

---------- (1968), Living corals (life history). Proc. R. Soc. Lond., 169, 329-344.

---------- (1973), The nature of reef building (hermatypic) corals. Bull. Mar. Sci., 23, 1-16.

---------- and NICHOLLS, A.G., (1931a), Studies on the physiology of corals. IV The structure, distribution and physiology of the zooxanthellae. Sci. Rep. Gt. Barrier Reef Exped. (1928-1929), 1, 135-176.

---------- (1931b), Studies on the physiology of corals. V The effect of starvation in light and darkness on the relationship between corals and zooxanthellae. Sci. Rep. Gt. Barrier Reef Exped. (1928-1929), 1, 213-251.

YOUNG, J.A.C., (1974), The nature of tissue regeneration after wounding in the sea anemone Calliactic parasitica (Couch). J. Mar. Biol. Assoc. U.K., 54, 599-617.

YOUNG, S.D., O'CONNOR, J.D. and MUSCATINE, L., (1971), Organic material from scleractinian coral skeletons. II Incorporation of ^{14}C into protein, chitin and lipid. Comp. Biochem. Physiol., 40B, 945-958.

ZAHL, P.A. and McLAUGHLIN, J.J.A., (1957), Isolation and cultivation of zooxanthellae. Nature Lond., 180, 180-199.

ZWILLING, E., (1963), Formation of endoderm from ectoderm in Cordlophora. Biol. Bull., 124, 368-378.

APPENDIX A

Statistical analyses of results of autoradiographic studies of ^{3}H-thymidine incorporation into tips of *A. formosa*

Table I (a-d): Chi-square tests to determine the probability that the ratio of labelled to unlabelled cells following incubation with ^{3}H-thymidine is constant at different times over a 24 hour period. (Experimental procedure as described in Figure 73).

Sample No.	Incubation Period	Experiment 1		Experiment 2		Experiment 3		Experiment 4	
		% Labelled cells	Standard error	% Labelled cells	Standard error	% Labelled cells	Standard error	% Labelled cells	Standard error
1	0800-0900	9.01	0.83	17.72	2.27	0	-	1.97	0.45
2	0900-1000	10.83	1.62	19.88	1.76	0	-	7.50	1.66
3	1000-1100	14.53	1.49	26.50	2.27	0.85	0.02	19.23	4.71
4	1100-1200	9.50	1.47	14.16	2.46	1.51	0.52	10.68	1.80
5	1200-1300	13.74	0.99	26.40	1.00	11.91	2.10	10.82	0.30
6	1300-1400	14.80	1.13	24.22	1.61	8.20	2.46	11.98	2.01
7	1400-1500	17.16	0.96	14.60	1.30	0	-	11.71	3.53
8	1500-1600	13.41	2.70	19.80	4.50	4.37	0	19.47	1.66
9	1600-1700	20.40	1.87	25.80	3.10	10.94	0.28	29.80	1.24
10	1700-1800	33.69	1.73	14.90	2.30	14.49	1.18	11.76	1.03
11	1800-1900	25.18	1.66	34.60	0.80	20.58	1.25	17.98	1.28
12	1900-2000	33.74	1.43	24.00	0.60	23.08	1.30	19.92	1.00
13	2000-2100	23.00	0.25	22.30	2.60	17.99	4.59	16.67	1.49

...contd next page

Table I (a-d): (contd)

Sample No.	Incubation Period	Experiment 1 % Labelled cells	Experiment 1 Standard error	Experiment 2 % Labelled cells	Experiment 2 Standard error	Experiment 3 % Labelled cells	Experiment 3 Standard error	Experiment 4 % Labelled cells	Experiment 4 Standard error
14	2100-2200	24.68	2.97	12.56	0.65	12.36	0.60	14.84	1.05
15	2200-2300	15.00	1.91	11.57	0.65	18.70	0.71	13.13	2.50
16	2300-2400	16.92	2.31	21.44	3.77	9.03	1.67	16.14	0.94
17	2400-0100	11.66	2.05	4.62	0.70	9.35	1.56	5.46	0.84
18	0100-0200	5.55	2.51	7.21	0.77	6.17	0.52	3.76	0.76
19	0200-0300	1.28	0.65	11.20	0.50	3.34	1.50	4.69	0.20
20	0300-0400	0	-	11.94	0.50	0	-	7.60	0.64
21	0400-0500	1.04	0	15.43	1.90	0	-	1.06	0.21
22	0500-0600	7.52	1.08	15.15	0.40	0.89	0	5.88	0.66
23	0600-0700	5.79	0.94	16.71	0.54	0	-	14.38	1.47
24	0700-0800	7.33	1.29	11.47	0.99	0	-	14.75	2.30
		χ^2=688.8 (p<0.001)		χ^2=2.794 (p<0.001)		χ^2=611.9 (p<0.001)		χ^2=372.9 (p<0.001)	

Table II (a-d): t-test of grouped data from Table I. Groups tested:- (i) 3h period incorporating ±1h of sunset, (ii) 3h period incorporating sunset + 9h.

Expt. no.	Group no.	Sample Nos	Total Period Incubation	Group mean % labelled cells	Std error of diff. of means	t-test results
1	1	1-3	0800-1000	0.1135	0.0308	9.86 Reject H_o, $p<0.001$
	2	4-6	1100-1300	0.1275		
	3	7-9	1400-1600	0.1710		
	4	10-12	1700-1900	0.3091		
	5	13-15	2000-2200	0.2060		
	6	16-18	2300-0100	0.1111		
	7	19-21	0200-0400	0.0057		
	8	22-24	0500-0700	0.0676		
2	1	1-3	0800-1000	0.249	0.0615	2.21 Reject H_o, $p<0.05$
	2	4-6	1100-1300	0.252		
	3	7-9	1400-1600	0.234		
	4	10-12	1700-1900	0.287		
	5	13-15	2000-2200	0.181		
	6	16-18	2300-0100	0.128		

..../contd next page

Table II(a-d): (contd)

Expt. no.	Group no.	Sample Nos	Total Period Incubation	Group mean % labelled cells	Std error of diff. of means	t-test results
2	7	19-21	0200-0400	0.151		
	8	22-24	0500-0700	0.163		
3	1	1-3	0800-1000	0.0044	0.0281	6.53 Reject H_o, $p<0.001$
	2	4-6	1100-1300	0.0711		
	3	7-9	1400-1600	0.0523		
	4	10-12	1700-1900	0.1948		
	5	13-15	2000-2200	0.1639		
	6	16-18	2300-0100	0.0892		
	7	19-21	0200-0400	0.0116		
	8	22-24	0500-0700	0.0018		
4	1	2-4	0900-1100	0.1223	0.0394	3.34 Reject H_o, $p<0.05$
	2	5-7	1200-1400	0.1115		
	3	8-10	1500-1700	0.2034		
	4	11-13	1800-2000	0.1796		
	5	14-16	2100-2300	0.1480		
	6	17-19	0100-0200	0.0464		
	7	20-22	0300-0500	0.0482		
	8	23-1	0600-0800	0.1035		

Table III: Analysis of variance of grouped data (Table II) testing for significant variation in ^{3}H-thymidine incorporation at different times of the day.

Expt	Source of Variance	degrees of freedom	sum of squares	mean sum of square	Variance ratio (F value)	Conclusion
1	Group	7	0.1767	0.0252	17.767	Reject H_o,
	Residual	16	0.0227	0.0014		$p<0.001$
	Total	23	0.1994	0.0087		
2	Group	7	0.0686	0.0098	1.727	Accept H_o,
	Residual	16	0.0908	0.0057		$p>0.05$
	Total	23	0.1594	0.0069		
3	Group	7	0.1120	0.0160	13.553	Reject H_o,
	Residual	16	0.0189	0.0012		$p<0.001$
	Total	23	0.1309	0.0057		
4	Group	7	0.0666	0.0095	4.091	Reject H_o,
	Residual	16	0.0372	0.0023		$p<0.001$
	Total	23	0.1038	0.0045		

Table IV: Analysis of variance of grouped data (Table II) to test for:-

(i) seasonal variation in the rate of ^{3}H-thymidine incorporation.

(ii) variation in the rate of ^{3}H-thymidine incorporation between two key periods of the diel cycle:-

Period 1 - incorporates $\pm$1h of sunset

Period 2 - incorporates sunset + 9h.

Expt	Source of Variance	degrees of freedom	sum of squares	mean sum of squares	Variance ratio	Conclusion
All	Diel	1	0.2286	0.2286	65.771	
	Seasonal	3	0.4555	0.0152	4.369	Reject H_1, $p<0.05$
	Interaction	3	0.0256	0.0086	2.459	Accept H_2, $p>0.05$
	Residual	16	0.0556	0.0035		
	Total	23	0.3554	0.0155		

Table V (a-d): Chi square tests to determine the probability that the ratio of labelled to unlabelled cells is constant in branch ends incubated with ^{3}H-thymidine following maintenance either in natural illumination or continuous darkness (Experimental procedures as described in Figure 75).

Sample No.	Incubation Period	Experiment 5 (light control) % Labelled cells	Experiment 5 (light control) Standard error	Experiment 6 (dark test) % Labelled cells	Experiment 6 (dark test) Standard error	Experiment 7 (light control) % Labelled cells	Experiment 7 (light control) Standard error	Experiment 8 (dark test) % Labelled cells	Experiment 8 (dark test) Standard error
1	0900-1000	15.04	1.29	6.27	0.35	7.10	1.19	2.27	0.63
2	1100-1200	21.39	0.71	13.12	2.01	19.37	0.99	5.69	0.65
3	1300-1400	18.65	1.46	14.14	1.36	16.42	2.40	5.38	0.64
4	1500-1600	19.27	1.83	4.19	0.94	12.91	1.48	8.33	2.04
5	1700-1800	19.24	0.87	20.59	1.72	13.83	1.56	13.31	0.61
6	1900-2000	17.84	3.13	7.34	0.92	30.64	2.87	3.55	2.25
7	2100-2200	25.36	1.55	12.78	0.76	8.80	1.60	6.93	0.72
8	2300-2400	17.63	0.86	14.70	0.85	6.99	0.47	1.10	0.31
9	0100-0200	12.84	1.06	9.79	1.76	7.03	1.73	10.09	1.88
10	0300-0400	13.93	2.58	7.28	0.69	4.02	0.21	10.05	0.37
11	0500-0600	17.50	0.80	11.84	1.26	7.72	1.83	3.49	0.31
12	0700-0800	17.72	1.47	0.99	0.55	5.90	1.26	4.15	1.16
		χ^2=31.65 (p<0.001)		χ^2=131.90 (p<0.001)		χ^2=77.90 (p<0.001)		χ^2=96.21 (p<0.001)	

Table VI: t-test of grouped data from Table V. Groups tested:-

(i) 4h period incorporating ± 1h of sunset. (ii) 4h period incorporating sunset + 9h,

for branch ends previously maintained either in natural daylight or in continuous darkness.

Expt. no.	Group no.	Sample Nos	Incubation periods	Group mean % labelled cells	Std error of diff. of means	t-test results
5	1	1-2	0900-1000 1100-1200	0.1822	0.0290	1.75 Accept H_o,
	2	3-4	1300-1400 1500-1600	0.1900		$p>0.05$
	3	5-6	1700-1800 1900-2000	0.1840		
	4	7-8	2100-2200 2300-2400	0.2161		
	5	9-10	0100-0200 0300-0400	0.1334		
	6	11-12	0500-0600 0700-0800	0.1754		
6	1	1-2	0900-1000 1100-1200	0.096	0.0617	0.859 Accept H_o,
	2	3-4	1300-1400 1500-1600	0.096		$p>0.05$
	3	5-6	1700-1800 1900-2000	0.139		
	4	7-8	2100-2200 2300-2400	0.137		
	5	9-10	0100-0200 0300-0400	0.084		
	6	11-12	0500-0600 0700-0800	0.064		

..../contd next page

Table VI: (contd)

Expt. no.	Group no.	Sample Nos	Incubation periods	Group mean % labelled cells	Std error of diff. of means	t-test results
7	1	1-2	0900-1000 1100-1200	0.131	0.0408	2.67 Reject H_o, $p<0.05$
	2	3-4	1300-1400 1500-1600	0.147		
	3	5-6	1700-1800 1900-2000	0.165		
	4	7-8	2100-2200 2300-2400	0.078		
	5	9-10	0100-0200 0300-0400	0.056		
	6	11-12	0500-0600 0700-0800	0.066		
8	1	1-2	0900-1000 1100-1200	0.039	0.0367	0.57 Accept H_o, $p>0.05$
	2	3-4	1300-1400 1500-1600	0.068		
	3	5-6	1700-1800 1900-2000	0.082		
	4	7-8	2100-2200 2300-2400	0.040		
	5	9-10	0100-0200 0300-0400	0.103		
	6	11-12	0500-0600 0700-0800	0.038		

Table VII: Analysis of variance of grouped data (Table VI) to test for diel variation in the rate of ^{3}H-thymidine incorporation in branch ends previously maintained either in natural illumination or in continuous darkness.

Expt. no.	Source of Variance	degrees of freedom	sum of squares	mean sum of square	Variance ratio (F value)	Conclusion
5	Group	5	0.0103	0.0021	1.947	Accept H_o,
	Residual	6	0.0064	0.0011		$p>0.05$
	Total	11	0.0167	0.0015		
6	Group	5	0.0089	0.0018	0.469	Accept H_o,
	Residual	6	0.0228	0.0038		$p>0.05$
	Total	11	0.0318	0.0029		
7	Group	5	0.0214	0.0043	2.567	Accept H_o,
	Residual	6	0.0101	0.0017		$p>0.05$
	Total	11	0.0314	0.0029		
8	Group	5	0.0074	0.0015	1.101	Accept H_o,
	Residual	6	0.0081	0.0013		$p>0.05$
	Total	11	0.0155	0.0014		