

1968

Theses dealing with Echinoderms

In the course of his teaching and research, Dr. John Lawrence has collected a list of Masters and Doctoral theses, most of which have been written during the past 20 years. He kindly made the list available to us and we reproduce it here. Please note that some of these have already been formally published in whole or in part. Photocopies of several of them can be purchased from University Microfilms, Ann Arbor, Michigan, U.S.A.

The list is, of course, far from complete; if you send us additional titles we can include them in the next Newsletter.

Master's theses

- Berrill, M. 1965. The ethology of the synaptid holothuroid Opheodesoma spectabilis. University of Hawaii.
- Bierman, J. A. 1943. Echinoderm larvae of Beaufort, North Carolina. Duke University.
- Burchill, B. R. 1963. Studies on the metachromatic granules in the egg of the sea urchin Lytechinus variegatus. Florida State University.
- Culver, S. 1961. Observations on the biology of the sand dollar Mellita quinquesperforata (Leske). Duke University.
- Doherty, B. 1961. An electrophoretic study of the blood proteins of some marine invertebrates. Stanford University.
- Greenberg, M. J. 1955. Some chemical and physiological properties of the jelly-coat of the egg of Lytechinus variegatus. Florida State University.
- Holland, L. Z. 1964. Variation of perivisceral fluid protein content with reproductive and nutritional state in the purple sea urchin. Stanford University.
- Lyons, R. B. 1960. Antigenic anatomy of the sea urchin Strongylocentrotus purpuratus. University of Oregon.
- McPherson, B. F. 1964. Contributions to the biology of the sea urchin Tripneustes ventricosus. University of Miami.
- Moss, J. A. 1971. Changes in the carbohydrate, lipid and protein levels with age and season in the sand dollar Mellita quinquesperforata. University of South Florida.
- Riesman, A. W. 1965. The histology and anatomy of the intestinal tract of Dendraster excentricus, a clypeastroid echinoid. University of California, Los Angeles.

Serafy, D. K. 1971. Systematic studies of Clypeaster and Ophiopholis (Echinodermata). University of Maine.

Thomas, L. P. 1959. A systematic study of the shallow water brittle stars of the family Amphiuridae of Florida. University of Miami.

Uter, A. 1966. Physiological location of shedding substance in radial nerve complex of starfish (Asterias forbesi). American University.

Ph.D. theses

- Aldrich, F. A. 1956. On the functional morphology of the alimentary canal of the sea star Asterias forbesi (Desor). Rutgers University.
- Alender, C. B. 1964. The venom from the heads of the globiferous pedicellariae of the sea urchin, Tripneustes gratilla (Linnaeus). University of Hawaii.
- Allen, W. V. 1965. Lipogenesis in the seastar Pisaster ochraceus (Brandt). Stanford University.
- Araki, G. S. 1964. On the physiology of feeding and digestion in the sea star Patiria miniata. Stanford University.
- Austin, W. C. 1966. Feeding mechanisms, digestive tracts, and circulatory systems in the ophiuroids Ophiothrix spiculata Le Conte, 1851 and Ophiura luetkeni (Lyman, 1860). Stanford University.
- Berger, J. 1963. The morphology, systematics, and biology of the entocommensal ciliates of echinoids. University of Illinois.
- Blake, D. B. 1966. Skeletal structures in selected asteroids of the Order Phanerozoonia. University of California.
- Boolootian, R. A. 1957. The coagulation of echinoderm body fluids. Stanford University.
- Brumbaugh, J. H. 1965. The anatomy, diet, and tentacular feeding mechanisms of the dendrochirote holothurian, Cucumaria curata Cowles 1907. Stanford University.
- Campbell, J. L. 1966. The haemal and digestive systems of the purple sea urchin Strongylocentrotus purpuratus (Stimpson). University of California, Los Angeles.
- Castro, P. 1969. Symbiosis between Echinoecus pentagonus (Crustacea, Brachyura) and its host in Hawaii, Echinothrix calamaris (Echinoidea). University of Hawaii.

- Holland, N. D. 1965. Cell proliferation in post-embryonic specimens of the purple sea urchin (Strongylocentrotus purpuratus): an autoradiographic method employing tritiated thymidine. Stanford University.
- Hopkins, T. S. 1967. Studies on the biology and carotenoid biochemistry of the sea star Henricia. University of California.
- Lavoie, M. E. 1956. How sea stars open bivalves. Syracuse University.
- Lawrence, J. M. 1966. Lipid levels in the body fluid, blood, and tissues of some marine molluscs and echinoderms in relation to the nutritional and reproductive state. Stanford University.
- Leighton, D. L. 1968. A comparative study of food selection and nutrition in the abalone, Haliotis rufescens Swanson, and the sea urchin, Strongylocentrotus purpuratus (Stimpson). University of California.
- Lohavanijaya, P. 1964. Variation in growth pattern in the sand dollar Echinarachnius parma (Lamarck). University of New Hampshire.
- McPherson, B. F. 1968. The ecology of the tropical sea urchin Eucidaris tribuloides. University of Miami.
- Mauzey, K. P. 1968. The interrelationship of feeding, reproduction, and habitat variability in Pisaster ochraceus. University of Washington.
- Oviatt, C. A. 1967. Effects of artificial light on the movement of the common starfish, Asterias forbesi (Desor). University of Rhode Island.
- Parsley, R. L. 1969. Studies on Middle Ordovician primitive Echinodermata. University of Cincinnati.
- Patent, D. W. 1968. The general and reproductive biology of the basketstar Gorgoncephalus caryi. University of California, Berkeley.
- Pearse, J. S. 1965. Reproductive periodicities in several contrasting populations of Odontaster validus Koehler, a common Antarctic asteroid. Stanford University.
- Profant, R. J. 1964. The morphology, systematics, and distribution of ciliates infesting three species of echinoids in the eastern Pacific Ocean. University of California, Los Angeles.
- Raup, D. M. 1957. Classification and morphological variation in the genus Dendraster. Harvard University.
- Stafford, D. W. 1964. Protein synthesis during the first cleavage cycle in sea urchin eggs. University of Miami.

## Theses dealing with Echinoderms

Here are some additions to the list of recent theses included in Newsletter No. 3.

Master's theses

- Branstrator, J. 1969. A redescription of hudsonasterid (Asterozoa) types. University of Cincinnati.
- Dartnall, A. J. Taxonomy and biogeography of the sea star genus Patiriella in Tasmania. University of Tasmania.
- Doran, G. S. 1968. Ecology of Echinometra lucuntur (Linnaeus), a West Indian echinoid. McGill University, Montreal, Canada.
- Himmelman, J. H. 1969. Some aspects of the ecology of Strongylocentrotus droebachiensis in eastern Newfoundland. Memorial University of Newfoundland.
- Lees, D. C. 1970. The relationship between available food and movement in the sea urchin Strongylocentrotus franciscanus and S. purpuratus. San Diego State College.
- Stancyk, S. E. 1970. Studies on the biology and ecology of ophiuroids at Cedar Key, Florida. University of Florida, Gainesville.
- Turner, R. L. 1970. Skeletal morphology and general anatomy of the mud star, Ctenodiscus crispatus (Echinodermata: Asteroidea). University of Maine.

Ph.D. theses

- Branstrator, J. W. Generic redescription and ontogeny of North American Ordovician Asteroidea. University of Cincinnati.
- Fricke, H.-W. 1968. Beiträge zur Biologie der Gorgonenhäupter Astrophyton muricatum (Ophiuroidea, Gorgonocephalidae). Free University Berlin.
- Meyer, D. L. 1971. Functional morphology and autecology of shallow water unstalked crinoids (Echinodermata) of the Caribbean Sea. Yale University.
- Singletary, R. L. 1970. The biology and ecology of Amphioplus coniertodes Ophionephtys limicola and Micropholis gracillima (Ophiuroidea: Amphiuridae). University of Miami.
- Sprinkle, J. 1970. Morphology and evolution of blastozoan echinoderms. Harvard University.

## M.A. theses

- Adair, W.S. 1972. Effects of temperature on fertilization in the purple sea urchin Strongylocentrotus purpuratus (Stimpson). California State University, San Diego.
- Allison, C. 1963. Revision of the echinoderm family Mellitidae. Univ. of California, Berkeley.
- Atwood, D.G. 1972. Histological and physiological analysis of neurosecretory substances in Spinulosida and Platyasterida (Echinodermata: Asteroidea). Univ. of South Florida.
- Baker, S.L. 1973. Growth of the red sea urchin Strongylocentrotus franciscanus (Agassiz) in two natural habitats. California State Univ., San Diego.
- Davis, H.S. 1971. The gonad wall of Echinodermata; a comparative study based on electron microscopy. Univ. of California, San Diego.
- Dehn, P.F. 1974. A preliminary study of the rhythmicity and feeding behavior of the sea star Luidia clathrata Say (Echinodermata: Platyasteroidea) from Tampa Bay and Sea Horse Reef, Cedar Key, Florida. DePauw Univ.
- Doran, G. 1968. Ecology of Echinometra lucunter (Linnaeus). McGill Univ.
- Ellington, W.R. 1973. Seasonal temperature characteristics of cytoplasmic malic dehydrogenase in the gut of Mellita quinquiesperforata (Echinoidea: Clypeasteroidea) Univ. South Florida.
- Everingham, J.W. 1961. The intraovarian embryology of Leptosynapta clarki Univ. of Washington.
- Ferber, I. 1973. Contributions to the biology of Lovenia elongata (Gray) Echinodea: Spatangoida) in the Gulf of Elat, Red Sea. The Hebrew Univ. of Jerusalem.
- Himmelman, J.H. 1969. Some aspects of the ecology of Strongylocentrotus droebachiensis in eastern Newfoundland. Memorial Univ. of Newfoundland.
- Imlay, M.J. 1964. Microscopic observations of gamete shedding substance in starfish radial nerve. The American Univ.
- Irvine, G.V. 1973. The effect of selective feeding by two species of sea urchins on the structuring of algal communities. Univ. of Washington.
- Jones, S.A. 1960. The early embryology of Psolus chitonoides Clark. Univ. of Washington.
- Lees, D.C. 1970. The relationship between movement and available food in the sea urchins Strongylocentrotus franciscanus and Strongylocentrotus purpuratus. California State Univ., San Diego.

Lowe, E.F. 1974. Absorption efficiencies, feeding rates and food preferences of Lytechinus variegatus (Echinodermata: Echinoidea) for various marine plants. Univ. of South Florida.

Mitchell, B.P. 1972. Rediscovery of Gregory's diverticulum in the scutellid sand dollars. Western Washington State College.

Niessen, T.M. 1968. Population structure, dynamics, breeding cycles and ecotypic variation in San Diego populations of the sand dollar Dendraster excentricus (Eschscholtz). Calif. State Univ., San Diego.

Polls, I. 1970. Behavioral aspects of righting in the asteroid echinoderms Henricia leviuscula (Stimpson) and Leptasterias aequalis (Stimpson) Oregon State Univ.

Prim, P.P. 1973. Utilization of marine plants and their constituents by enteric bacteria of echinoids (Echinodermata). Univ. of South Florida.

Stancyk, S.E. 1970. Studies on the biology and ecology of ophiuroids at Cedar Key, Florida. Univ. of Florida.

Ulbricht, R.J. 1970. Oxygen consumption of three species of sea urchins at different temperatures. Oregon State

Zinn, D.J. 1937. The growth and development of starfish in Narragansett Bay in relation to temperature and food supply. Rhode Island State College.

#### Ph.D. dissertations

Alexander, R.R. 1972. Autoecological studies of the brachiopod Rafinesquina (Upper Ordovician), the bivalve Anodora (Pliocene), and the echinoid Dendraster (Pliocene). Indiana Univ.

Bell, B. McC. 1972. A study of North American Edrioasteroidea. Univ. Cincinnati.

Boylan, E.S. 1972. Aspects of gene activity during oogenesis in the amphibian Xenopus laevis, and the starfish, Asterias forbesi. Cornell Univ.

Cayer, M.L. 1973. Ciliogenesis in sea urchin embryos. Univ. of Miami.

Chang, C.W.J. 1964. Structure and function of spinochrome H. Univ. of Hawaii.

Chartock, M.A. 1972. The role of detritus in a tropical marine ecosystem: niche separation in congeneric ophiuroids, food partitioning in cryptic invertebrates, and herbivore detritus production at Eniwetok, Marshall Islands, Univ. Southern California.

Chatlynn, L.G. 1972. An ultra-structural study of oogenesis in the sea urchin Strongylocentrotus purpuratus. Oregon State Univ.

Conway, C.M. 1972. Characterization of the heavy bodies of the sea urchin egg. Univ. of Miami.

Ph.D. dissertations

Craig, III., S.P. 1970. Mitochondria and the development of sea urchin embryos. California Institute of Technology.

Dayton, III, P.K. 1971. Competition, predation, and community structure: the allocation and subsequent utilization of space in a rocky intertidal community. Univ. of Washington. (includes Pisaster, Pycnopodia and Strongylocentrotus).

Dearborn, J.H. 1965. Ecological and faunistic investigations of the marine benthos at McMurdo Sound, Antarctica. Stanford Univ. (includes crinoids, asteroids, ophiuroids and echinoids).

Dixit, D.B. 1973. Uptake of amino acids and development in the sea urchin. Univ. of California, Irvine.

Eastwood, J.L.J. 1972. The development of photic behavior of Lytechinus variegatus echinoplutei larvae. Lchigh Univ.

Ellis, Jr., C.H. 1966. Genetic control of sea urchin development: a chromatographic analysis of protein synthesis in the Arbacia punctulata embryo. The Johns Hopkins Univ.

Gentleman, S.B. 1971. Respiratory studies of a sea cucumber. Duke Univ.

Halpern, J.A. 1970. A monographic revision of the goniasterid sea stars of North Atlantic. Univ. of Miami.

Hathaway, R.R. 1961. Studies on interactions between spermatozoa and eggs of Arbacia punctulata and other echinoderms. Florida State Univ.

Hendler, G.L. 1973. Northwest Atlantic amphiuroid brittlestars, Amphioplus abditus (Verrill), Amphioplus macilentus (Verrill) and Amphioplus scpultus n. sp. (Ophiuroidea: Echinodermata): systematics, zoogeography, annual periodicities, and larval adaptations. Univ. of Connecticut.

Hinegardner, R. T. 1961. Studies on the sea urchin egg nucleus: its isolation, structure, physical properties and DNA content. Univ. of Hawaii.

Jordan, A.J. 1972. On the ecology and behavior of Cucumaria frondosa (Echinodermata: Holothuroidea) at Lamoine Beach, Maine. Univ. of Maine.

Kelso, D.P. 1970. A comparative morphological and ecological study of two species of the sea urchin Echinometra in Hawaii. Univ. of Hawaii.

Landenberger, D.E. 1967. A study of predation and predatory behavior in the Pacific starfish, Pisaster. Univ. of California, Santa Barbara.

McLean, R.F. 1962. Mechanical and biological erosion of beachrock in Barbados, West Indies. McGill Univ. (includes Echinometra)

Medes, G. 1917. A study of the causes and the extent of variations in the larvae of Arbacia punctulata. Bryn Mawr.

Ph.D. dissertations

- Mangan, J. 1966. Early sea urchin development: constant and changing features of ultrastructure and protein synthesis. Brown Univ.
- Menge, B.A. 1970. The population ecology and community role of the predacious asteroid Leptasterias hexactis (Stimpson) Univ. of Washington.
- Meyer, D.L. 1971. Functional morphology and autecology of shallow-water unstalked crinoids (Echinodermata) of the Caribbean Sea. Yale Univ.
- Mintz, L.W. 1966. The origin, phylogeny, descendants of the echinoid family Disasteridae A. Grac 1848. Univ. Calif., Berkeley.
- Nace, III., A.G. 1971. The digestive system and lantern complex of Thyonella gemmata (Poutalca): structure and regeneration. Florida State Univ.
- Nichols, F.H. 1972. Carbon and energy flow through populations of a numerically dominant macroinvertebrate, Pectinaria californiensis Hartman, in Puget Sound, Washington, with reference to larger, rarer, and coexisting species. Univ. of Washington. (includes Brisaster and Molpadia)
- O'Brien, F.X. 1972. Some aspects of the biology of a brooding starfish, Leptasterias littoralis (Stimpson) 1853. Univ. of New Hampshire.
- Onuf, C.P. 1972. Aspects of the population biology of the intertidal snail Olivella biplicata: distribution, nutrition, and effects of natural enemies. Univ. of California, Santa Barbara. (includes Astropecten)
- Piatigorsky, J.P. 1967. Studies on nucleosides and amino acid uptake and on RNA and protein synthesis by growing oocytes, unfertilized and fertilized sea urchin eggs. California Institute of Technology.
- Percy, J.A. 1971. Thermal acclimatization and acclimation in the echinoid Strongylocentrotus droebachiensis (O.F. Müller, 1776). Memorial Univ. of Newfoundland.
- Singletary, R.L. 1971. The biology and ecology of Amphioplus confortodes, Ophionophthys himicola, and Micropholis gracillima (Ophiuroidea: Amphiuridae). Univ. of Miami.
- Smith, Jr., G.N. 1971. Regeneration in the apodous holothurian Leptosynapta crassipatina. Florida State Univ.
- Smith, R.H. 1971. Reproductive biology of a brooding sea star Leptasterias pusilla (Fisher) in the Monterey Bay region. Stanford Univ.
- Stevens, M.E. 1972. Protein synthesis and respiration during maturation and fertilization in starfish oocytes. Stanford Univ.
- Stewart, W.C. 1970. A study of the nature of the attractant emitted by asteroid hosts of the commensal polychaete, Ophiodromus pugettensis. Univ. of California, Santa Barbara
- Strathman, R.R. 1970. The behavior of planktotrophic echinoderm larvae: mechanisms, feeding. Univ. of Washington



Ph.D. dissertations

Vadas, R.L. 1968. The ecology of Agarum and the kelp bed community. Univ. of Washington. (includes Strongylocentrotus spp.)

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Theses and Dissertations

Addendum to the lists of Ph.D. Dissertations and Masters' Theses concerning echinoderms. Previous lists published in the Newsletter: No. 3 (April 1971); No. 4 (December 1972); No. 6 (April 1975). Prepared by John M. Lawrence.

Ph.D. Dissertations:

Annala, J. H. 1974. Foraging strategies and population effects of Asterias rubens and Nucella lapillus. Univ. of New Hampshire.

Anderson, C.L.R. 1974. Determination of tubulin pool size and patterns of synthesis during early sea urchin development. Purdue.

Asterita, H.L. 1962. Pressure-temperature studies on the hyaline membrane of sea urchin eggs. New York U.

Badman, W.S. 1968. Serological studies of embryogenesis in echinoids. U. of Florida.

Berry, C.F. 1934. Miocene and Recent Ophiura skeletons. Johns Hopkins.

Boylan, E.S. 1972. Aspects of gene activity during oogenesis in the amphibian Xenopus laevis and the starfish, Asterias forbesi. Cornell.

Brandriff, B.F. 1975. Parthenogenesis in the sea urchin Lytechinus pictus. U. of California, Santa Cruz.

Brehm, P.H. 1975. Bioluminescence: the anatomy and physiology of its nervous control in Ophiopsila californica (Echinodermata: Ophiuroidea). U. of California, Los Angeles.

Brett, C.E. 1963. Relationships between marine invertebrate infauna distribution and sediment type in Bogue Sound, North Carolina. U. of North Carolina. (Includes Ophiura and Moira).

Brower, J.C. 1965. Evolution and Classification of primitive actinocrinitids. U. of Wisconsin.

Cameron, R.A. 1975. The initiation and early events of metamorphosis of sea urchins. U. of California, Santa Cruz.

Candelas, G.C. 1966. A study of sea urchin polyribosomes in their relation to the control of protein synthesis. U. of Miami.

Case, S.E. 1974. Dynamic properties of chromosomal D.N.A. isolated from sea urchin embryos. U. Southern California.

Chase, D.G. 1967. Inhibition of the cortical reaction with high hydrostatic pressure and its effects on the fertilization and early development of sea urchins. U. of Washington.

Cochran, R.C. 1974. Spawning induced by radial nerve and gonad factors during the temperature-regulated reproductive cycle of the purple sea urchin

- Cohen, P.H. 1968. Sea urchin polysomes and their function during embryogenesis. U. of Miami.
- Colon, D.D. 1974. Comparison of the biological activities of crude and purified holothurin from the tubules of the Bahamian sea cucumber Actinopyga agassizi Selenka. New York U.
- Davidson, J.M. 1974. On the role of the epithelial basal lamina in echinoid morphogenesis. Stanford.
- Dubroff, L.M. 1975. Molecular classes of heterogeneous nuclear R.N.A. in sea urchin embryos. U. of Pennsylvania.
- Eckberg, W.R. 1975. Altered pattern of gene activity in abnormal sea urchin morphogenesis. Michigan State U.
- Elder, C.C. 1912. The relation of the zona pellucida to the formation of the fertilization membrane in the egg of the sea urchin (Strongylocentrotus purpuratus). U. of California, Berkeley.
- Engstrom, N.A. 1974. Population dynamics and prey-predator relations of a dendrochirote holothurian, Cucumaria lubrica, and sea stars in the genus Solaster. U. of Washington.
- Estes, J.A. 1974. Population numbers, feeding behavior and the ecological importance of sea otters in the western Aleutian islands, Alaska. U. of Arizona (Includes effect of predation on Atronyx centrotus)
- Wylers, F.P. 1975. Functional morphology of the skeleto-muscular system of the starfish, Asterias forbesi. Duke.
- Fowler, M.L. 1972. Distribution of magnesium and strontium in the skeletons of modern regular echinoids from the United States Atlantic coast and the Caribbean Sea. Indiana U.
- Fry, H. 1925. Asters in artificial parthenogenesis. I. The origin of the amphiasar in eggs of Echinarchnius parma. Columbia.
- George, J.F. 1967. Polysome differences during the first division cycle of the sea urchin egg. U. of Miami.
- Goldstone, S.F. 1968. Local activation and inactivation experiments on flagella. California Inst. of Technology. ("sea urchins")
- Hand, C.S. 1967. Correlations between germ layer differentiation and sequential synthesis of ribonucleic acid during embryogenesis of the starfish Asterias forbesi. U. of North Carolina.
- Hanson, J.C. 1968. The effects of versene on dividing sea urchin eggs. Oregon State U.
- Hart, G.E. 1967. The effect of spermatozoan senescence on embryonic mortality in Rana pipiens and Arbacia punctulata. U. of Illinois.

- Hartmann, J.F. 1968. The isolated mitotic apparatus: studies on nucleoproteins. U. of Toronto.
- Hibbard, H. 1921. Cytoplasmic inclusions in the egg of Echinarachnius parma. Bryn Mawr.
- Hudson, J.L. 1974. Translational modulation of protein synthesis by sea urchin transfer R.N.A. U. of Miami.
- Karlson, R.H. 1975. The effects of predation by the sea urchin, Arbacia punctulata, on a marine epibenthic community. Duke.
- Kastendiek, J.E. 1975. The role of behavior and interspecific interactions in determining the distribution and abundance of Renilla kollikeri Pfeffer, a member of a subtidal sand bottom community. U. of California, Los Angeles. (includes roles of Dendraster and Astropecten).
- Kew, W.S.W. 1917. Cretaceous and Cenozoic Echinoidea of the Pacific Coast of North America. U. of California, Berkeley.
- Krischer, K.N. 1967. Studies in proteolytic enzymes in the sea urchin egg. U. of Miami.
- Low, C.J. 1975. The effect of grouping on Strongylocentrotus franciscanus, the giant red sea urchin, on its population biology. U. of British Columbia.
- Macurda, D.B. 1963. Studies on the blastoid genus Orophocrinus U. of Wisconsin.
- Mayo, P. 1974. Ecological, chemical and behavioural studies of avoidance responses in sea-stars. U. of Aberdeen.
- Mastrangelo, M.F. 1965. A study of the vegetalizing action of tyrosine on the sea urchin embryo. Yale.
- Meeker, G.L. 1968. Some effects of intracellular potassium deficiency on cleavage in echinoid eggs. Washington State U.
- Myers, A.C. 1973. Sediment reworking, tube building, and burrowing in a shallow subtidal marine bottom community: rates and effect. U. Rhode Island.
- Mundell, R.D. 1965. Immunological studies on the starfish oocyte nucleus. U. of Pittsburgh.
- Nicotri, M.E. 1974. Resource partitioning; grazing activities and influence of the microflora by intertidal limpets. U. of Washington (includes Leptasterias, Pisaster).
- Niesen, T.M. 1973. Population and reproductive biology of the six-rayed sea star Leptasterias hexactis on the protected outer coast. U. of Oregon.
- Ozaki, H. 1975. Differentiation in esterases in the development of echinoderms and their hybrids. U. of Washington.
- Perkins, D.L. 1968. The response of unfertilized sea urchin eggs to continuous direct current stimulation. U. of California, Los Angeles.

- Phillips, D.W. 1974. Distance chemoreception and avoidance of the predatory starfish Pisaster ochraceus by the gastropods Acmaea (Collisella) primatula and Acmaea (Notoacmaea) scutum. Stanford.
- Pickering, R.M. 1966. Correlation of magnesium uptake with development and protein synthesis in embryos of Strongylocentrotus purpuratus. U. of California, Berkeley.
- Porter, J.W. 1973. Biological, physical and historical forces structuring coral reef communities on opposite sides of the isthmus of Panama. Yale. (Includes Acanthaster)
- Rokop, P.J. 1975. Breeding patterns in the deep sea. U. of California, San Diego. (Includes Ophiomusium, Ophiacantha).
- Rutherford, J.C. 1975. Electrophoretic, morphological and reproductive variation in the sea cucumber Cucumaria pseudocurata. U. of California Berkeley.
- Singh, H.T. 1974. The nature, distribution and function of steroid glycosides in the starfish, Marthasterias glacialis. U. of Aberdeen.
- Slater, D.W. 1967. On the role of R.N.A. in early echinoid embryogenesis. U. of Illinois.
- Sloboda, R.D. 1974. Cyclic A.M.P. and microtubule assembly in the sea urchin embryo. Rennselaer Polytechnic Inst.
- Smith, K.D. 1965. Genetic control of macromolecular synthesis during regulating and mosaic development. Johns Hopkins.
- Smiser, J.S. 1931. A study of the echinoid fragments in the Cretaceous rocks of Texas. Princeton.
- Sofer, H.H. 1967. Protein synthesis in the sea urchin egg during the first division cycle. U. of Miami.
- Tegner, M.J. 1974. Sea urchin sperm-egg interactions and the block against polyspermy: a scanning electron microscope and experimental study. U. of California, San Diego.
- Therapsen, C.E. 1926. The origin and nature of cleavage centers in echinoderm eggs. An experimental and cytological study of astral phenomena in artificial parthenogenesis of sea urchin eggs. Columbia U.
- Ulbricht, R.J. 1974. Metabolic adjustment to temperature in Strongylocentrotus purpuratus (Stimpson). Oregon State U.
- Vacquier, V.D. 1968. The twinning of echinoid embryos by treatment with dithiothreitol and the structural basis for the interaction of blastomeres. U. of California, Berkeley.
- Verhey, C.A. 1965. A comparison of fine structural and functional changes during oogenesis and cleavage in regulative and mosaic embryos. U. of Illinois.
- Waldo, A.E. 1974. The effects of benzimidazole and certain enzymes on sea urchin and sand dollar zygotes. Washington State U.

Webster, S.K. 1972. The respiratory physiology of Strongylocentrotus purpuratus Stimpson with particular reference to the reproductive cycle. Stanford.

Yingst, J.Y. 1974. The utilization of organic detritus and associated microorganisms by Parastichopus parvimensis, a benthic deposit-feeding holothurian. U. of Southern California.

Masters' Theses:

Ahearn, G.A. 1967. Phosphorus kinetics in Holothuria atra. U. of Hawaii.

Bader, R.G. 1952. A quantitative study of physical, chemical and biological variants of modern sediments. Chicago. (Includes Echinarachnius).

Brooks, E.J. 1973. Some aspects of the taxonomy and biology of the genus Leptosyapta (Holothuroidea) in British Columbia. U. of Victoria, B.C.

Caldwell, J. 1972. Substrate selection by Mellita quinquiesperforata. U. of Florida.

Engstrom, N.A. 1970. The reproductive cycles, systematic status, and general biology of Holothuria (Halodeima) floridana Pourtales, 1859 and H. (H.) mexicana Ludwig, 1875. U. of Miami.

Greer, L. 1961. Feeding behavior and morphology of the digestive system of the sea star Pycnopodia helianthoides (Brandt) Stimpson. U. of Washington

Gregg, W.W. 1966. A comparison of fertilizin and cytofertilizin from eggs of Arbacia punctulata. Emory U.

Hylander, B.L. 1975. An ultrastructural analysis of the gametes and the early events of gamete interaction. U. of Maine.

Muscat, A.M. 1975. Reproduction and growth in the ophiuroid Ophionereis annulata. San Diego State U.

McConnell, M.G. 1971. The fine structure of venom glands in globiferous pedicellariae from the purple sea urchin, Strongylocentrotus purpuratus (Stimpson). California State U., Long Beach.

Reinschmidt, D.C. 1969. Regeneration in the sea cucumber Thyonella gemmata. Florida State U.

Rutherford, J.C. 1971. Population biology of the holothurian Cucumaria pseudo-curata. U. of California, Berkeley.

Wahlman, G. 1974. Stratigraphy, structure, paleontology and paleoecology of the Silurian Reef at Montpelier, Indiana. Indiana U.

Walker, C.W. 1973. Morphology and histology of the reproductive system of Asterias vulgaris. Cornell.

Wells, G.G. 1969. Relationship of two physicochemical parameters to the intragastric distribution of the entocommensal ciliate fauna of Strongylo-

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Addendum to the lists of Ph. D. Dissertations and Masters' Theses concerning echinoderms. Previous lists published in the Newsletter: no. 3 (April 1971); No. 4 (December 1972); No. 6 (April 1975); No. 7 (July 1976).

Ph.D. Dissertations:

Carney, R.S. 1976. The patterns of abundance and relative abundance of benthic holothurians (Echinodermata: Holothurioidea) on Cascadia Basin and Tufts Abyssal Plain in the Northeast Pacific Ocean. Oregon State Univ.

Ellington, W.R. 1976. Metabolic compensation of the sea cucumber Sclerodactyla briareus to reduced oxygen tensions. University of Rhode Island.

Gorzula, S. 1976. Biology of Ophiocomina nigra in the Clyde. (Univ. of London).

Himmelman, J.H. 1976. Factors regulating the reproductive cycles of some west coast invertebrates. (Deals, in part, with Strongylocentrotus purpuratus and S. droebachiensis). Univ. of British Columbia.

Tommasi, L.R. 1968. Echinoderms of the Ilha Grande region (State of Rio de Janeiro). University of S. Paulo.

Wagner, C.D. 1970. Evolution among some Clypeasteroid echinoids. Univ. of California, Berkeley.

Wilke, I. 1976. Autonomy and properties of connective tissue in Ophiocomina nigra. University of Glasgow.

Masters' Theses:

Ausich, W.I. 1976. The functional morphology and evolution of Bisocrinus (Crinoidea: Silurian). Indiana University, Bloomington.

Gras, H. 1976. Physiological and pharmacological studies on the motility of isolated pigment cells in Centrostephanus. University of Cologne.

Lewis, R.L. 1974. Studies in the inadunate crinoid family Pirasocrinidae. The University of Iowa.

Moreno, E.F. 1976. Estudio descriptivo y de distribucion de los asteroideos de la Islas Canarias. Universidad de La Laguna (Tenerife), Canary Islands, Spain.

Precious, M. 1976. Studies on the Biology of the sea urchin, Paracentrotus lividus (Lamarck) in Bantry Bay, Southwest Ireland. University College.

Wagner, C.D. 1963. Revision of the echinoid family Mellitidae. U. of Calif.

1977  
Requests, con't.

Wilkie, I.C.- interested in breakage patterns at ophiuroid autotomy plane; requests anyone else interested to induce autotomy (by pinching with forceps) in arms of brittlestars, preserve in formalin or oven-dry both distal and proximal parts of arm about breakage plane, and send arm pieces with species identifications. Will reimburse mailing costs.

#### Theses and Dissertations

Addendum to the lists of Ph.D. Dissertations and Masters' Theses concerning echinoderms. Previous lists published in the Newsletter: no.3 (April 1971); no.4 (December 1972); no.6 (April 1975); no.7 (July 1976); no.8 (February 1977).

#### Ph.D. Dissertations:

Keller, B.D. 1976. Sea Urchin Abundance Patterns in Seagrass Meadows: The Effects of Predation and Competitive Interactions. Johns Hopkins Univ.

Tyler, P.A. 1976. The ecology and reproductive biology of the genus Ophiura with special reference to the Bristol Channel. Univ. of Wales.

#### Masters' Theses:

Carrera, C.J. 1974. The shallow-water amphiurid brittle stars (Ophiuroidea: Echinodermata) of Puerto Rico. Univ. of Puerto Rico at Mayaguez.

Cunningham, C.B. 1977. Aspects of the Reproductive Biology of Intertidal Amphiurids from Monterey Bay. San Jose State University.

Garcia-Talavera, F. 1970. Essays on the numerical taxonomy of the Eocene echinoids of Villafranca (Alicante). University of Madrid.

Green, J.D. 1976. Seasonal reproductive biology of Leptosynapta tenuis (Echinodermata: Holothuroidea). University of North Carolina at Chapel Hill.

Littrell, J.A. 1977. Field and Laboratory Studies of the Pedicellariae of Lytechinus variegatus (Lamarck, 1816). (Echinodermata: Echinoidea). University of Puerto Rico at Mayaguez.

Wilkie, I.C. 1976. A study of the process of ophiuroid arm autotomy (includes investigation of connective tissue organization and mechanical properties). University of Glasgow.

Witzke, B.J. 1976. Echinoderms of the Hopkinton Dolomite (Lower Silurian), eastern Iowa. University of Iowa.



Ph.D. Dissertations

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- Ackerman, J. McG. 1972. The demography of the marine Mussel, *Mytilus californianus*. Univ. of California, Berkeley. (*Pisaster ochraceus* as predator).
- Ahlfield, T.E. 1977. A disparate seasonal study of the reproduction of eight deep-sea macroinvertebrate species from the northwestern Atlantic Ocean. Florida State Univ. (includes three species of ophiuroids, one species of echinoid).
- Amy, C. McD. 1976. Properties of adenylate cyclase studied in early development in the sea urchin. Univ. of Virginia.
- Barnes, J.R. 1972. Ecology and reproductive biology of *Tonicella lineata* (Wood, 1815) (Mollusca, Polyplacophora). Oregon State Univ. (*Pisaster ochraceus* and *Leptasterias hexactis* as predators).
- Belanger, A.M. 1963. Movement of echinochrome pigment granules in sea urchin embryos. Case Western Reserve Univ.
- Bowlus, R.D. 1979. Solute compatibility with biological macromolecules: the influence of the major intracellular solutes of marine invertebrates on enzyme structure and function. Univ. of California, San Diego. (includes *Parastichopus*).
- Brandis, J.W. 1978. Translational efficiency: part of the mechanism accelerating the rate of protein synthesis following fertilization of the sea urchin egg. Indiana Univ.
- Brett, C.E. 1978. Systematics and palaeoecology of late Silurian (Westlockian) pelmatozoan echinoderms from western New York and Ontario. Univ. of Michigan.
- Carroll, A.G. 1978. An electrophoretic analysis of the fate of sperm and egg histones of the sea urchin *Strongylocentrotus purpuratus* after fertilization, with an analysis of the possible role that proteolytic enzymes play in the fate of gamete histones. Michigan State Univ.
- Cohen, G.H. 1968. Sea urchin polysomes and their function during embryogenesis. Univ. of Miami.
- Crandall, D.E. 1975. Pyrimidine metabolism and its regulation in the sea urchin (*Arbacia punctulata*). Univ. of Rhode Island.
- Cross, C.M. 1975. Growth and reproduction in small populations of a marine macroalga in the intertidal zone of a rocky shore. Univ. of Oregon. (refers in general to role of echinoids).
- Defenbaugh, R.E. 1976. A study of the benthic macroinvertebrates of the continental shelf of the northern Gulf of Mexico. Texas A&M Univ. (includes 30 species of echinoderms).
- DeGroff, R.C. 1974. The effect of marine toxin holothurin-A on squid axon membrane. Duke Univ.
- Devlin, R.B. 1976. Mitochondrial messenger RNA synthesis during early sea urchin development. Univ. of Virginia.

- Dimock, R.V., Jr. 1971. Ecology and physiological aspects of host recognition by a symbiont polychaete. Univ. of California, Santa Barbara. (symbionts on holothuroids and asteroids).
- Edwards, B.F. 1978. Hatching enzyme in the sea urchin *Strongylocentrotus purpuratus*: purification, characterization, and time of synthesis. Univ. of California, Davis.
- Fansler, B.S. 1972. The reversible association of DNA-polymerase with the nucleus in early development of the sea urchin. Univ. of Pennsylvania.
- Fell, F.J. 1976. The Cidaroida (Echinodermata: Echinoidea) of Antarctica and the southern oceans. Univ. of Maine.
- Garnas, R.L. 1975. Comparative metabolism of pesticides by marine invertebrates. Univ. of California, Davis. (includes *Pisaster ochraceus*).
- Gerard, V.A. 1976. Some aspects of material dynamics and energy flow in a kelp forest in Monterey Bay, California. Univ. of California, Santa Cruz.
- Glabe, C.G. 1977. The isolation and characterization of the vitelline layer of the sea urchin egg and its role in fertilization. Univ. of California, Davis.
- Grainger, J.L. 1978. Activation of the sea urchin egg: the role of the cell surface and the intracellular environment. Univ. of California, Berkeley.
- Greenway, M. 1976. The production and utilization of *Thalassia testudinum* König in Kingston Harbour, Jamaica. Univ. of the West Indies. (includes *Lytechinus variegatus*).
- Hamada, S.H. 1976. The morphological events during the self-reassembly of the sea urchin embryo in culture. Oregon State Univ.
- Harpold, M.M. 1976. The evolution of repetitive and non-repetitive DNA sequences in sea urchins. Tulane Univ.
- Hobart, P.M. 1978. DNA polymerase in sea urchin embryos: purification, properties, and changes during early development. Wesleyan Univ.
- Innis, M.A. 1976. Regulation of mitochondrial biosynthetic activity in early sea urchin development. Tulane Univ.
- Kaumeyer, J.R. 1978. Messenger ribonucleoprotein particles in unfertilized sea urchin eggs. Indiana Univ.
- Kidd, P.M. 1976. The ultrastructure of the sea urchin egg surface complex before and after isolation. Univ. of California, Berkeley.
- Lane, J.M. 1977. Bioenergetics of the sand dollar, *Mellita quinquiesperforata*. Univ. of South Florida.
- Lee, H., II. 1978. Seasonality, predation, and opportunism in high diversity soft bottom communities in the Gulf of Panama. Univ. of North Carolina, Chapel Hill (includes ophiuroids).
- Lesink, C. 1962. The history and status of sea otters in Alaska. Purdue Univ.

- Lessner, A.L. 1978. Factors affecting the distribution and abundance of the sea urchin *Centrostephanus coronotus*. Univ. of Southern California.
- Lessios, H.A. 1979. Molecular, morphological and ecological divergence of shallow-water sea urchins separated by the Isthmus of Panama. Yale Univ.
- Lilly, G.R. 1975. The influence of diet on the growth and bioenergetics of the tropical sea urchin, *Tripneustes ventricosus* (Lamarck). Univ. of British Columbia.
- Lloyd, M.C. 1972. The biology of *Searlesia dira* (Mollusca: Gastropoda) with emphasis on feeding. Univ. of Michigan (echinoderms eaten).
- Lowe, E.F. 1978. Relationships between biochemical and caloric composition and reproductive cycle in *Asterias vulgaris* (Echinodermata: Asteroidea) from the Gulf of Maine. Univ. of Maine.
- Maxon, W.R. 1978. Histone mRNA metabolism during early sea urchin development. Univ. of California, Berkeley.
- McColl, R.S. 1976. Patterns of gene expression in the developing sea urchin. Purdue Univ.
- Nishioka, D.J. 1976. The initiation of cell cycle events in ammonia-treated eggs and merogons of the sea urchin. Univ. of California, Berkeley.
- Overton, G.C. 1978. An analysis of the structure and heterogeneity of histone genes in the sea urchin, *Strongylocentrotus purpuratus*. Johns Hopkins Univ.
- Pace, D.R. 1976. Environmental control of the red sea urchin, *Strongylocentrotus franciscanus*, vertical distribution in Berkeley Sound, British Columbia, Simon Fraser Univ.
- Palmisano, J.F. 1975. Sea otter predation: its role in rocky intertidal community structure at Amchitka and other Aleutian Islands. Univ. of Washington.
- Patent, D.W. 1968. The general and reproductive biology of the basketstar *Gorgoncephalus caryi*. Univ. of California, Berkeley.
- Pointer, D.A. 1978. Blastocoelic fluid of the sea urchin embryo: its components and their significance in development. Univ. of California, Berkeley.
- Rapraeger, A.C. 1978. A postulated mechanism for zinc-animalization of sea urchin embryos. Univ. of California, Berkeley.
- Revlin, R.B. 1976. Mitochondrial messenger RNA synthesis during early sea urchin development. Univ. of Virginia.
- Rodgers, W.H. 1979. RNA sequence information in early determined blastomeres of the sea urchin embryo. Univ. of Rochester, N.Y.
- Rosenberg, M.P. 1978. Relationship of changes in the cortical layers to the resumption of meiosis in starfish-oocytes: hormonal and cation requirements. Univ. of Toledo, Ohio.
- Sammarco, P.W. 1977. The effects of grazing by *Diadema antillarum* Philippi on a shallow-water coral reef community. State Univ. of New York, Stony Brook.

Schroeter, S.C. 1978. Experimental studies of competition as a factors affecting the distribution and abundance of purple sea urchins, *Strongylocentrotus purpuratus* (Stimpson). Univ. of California, Santa Barbara.

Serafy, D.K. 1973. The systematics and ecology of the Gulf of Mexico echinoids collected during Project Hourglass, August 1965 through November 1967. Univ. of Maine.

Showman, R.M. 1979. The nature of the echinoid hatching enzyme and the time of origin of its messenger RNA. Univ. of Washington, Seattle.

Sittman, D.B. 1978. The DNA-dependent RNA-polymerase of the sea urchin, *Lytechinus variegatus*. Univ. of North Carolina, Chapel Hill.

Sluder, 1976. Spindle microsomes and the cell cycle in the eggs of the sea urchin *Lytechinus variegatus*. Univ. of Pennsylvania.

Smith, D.P. 1975. Studies on sea urchins: I. Movement and behavior in the long-spines Caribbean sea-urchin *Diadema antillarum* (Echinodermata: Echinoidea); II. Straight-line conduction without straight-line connection: a model for the echinoid nerve net. Univ. of Wisconsin, Madison.

Spies, R.B. 1971. Contribution on the morphology, reproduction and development of *Flabelliderma commensalis* (Moore, 1909) (Annelida: Polychaeta: Flabelligeridae). Univ. of California, Santa Barbara. (commensal on asteroids)

Smith, R.H. 1971. Reproductive biology of a brooding sea star *Lepasterias pusilla* (Fisher) in the Monterey Bay region. Stanford Univ.

Sousa, W.P. 1977. Disturbance and ecological succession in marine intertidal boulder fields. Univ. of California, Santa Barbara. (includes *Strongylocentrotus purpuratus*).

Speel, J.A. 1976. Comatulid crinoids from R/V Eltanin cruises in the southern oceans. Univ. of Maine.

Stancyk, S.E. 1974. Life history patterns of three estuarine brittlestars (Ophiuroidea) at Cedar Key, Florida. Univ. of Florida.

Timko, P.L. 1975. High density aggregation in *Dendraster excentricus* (Eschscholtz): analysis of strategies and benefits concerning growth, age structure, feeding, hydrodynamics and reproduction. Univ. of California, Los Angeles.

Turk, T.R. 1978. The ecological role of the predatory seastar *Astrometis sertulifera* in a San Diego rocky intertidal community. Univ. of California, Riverside/San Diego State Univ.

Turner, R.L. 1977. Composition of echinoderm eggs and juveniles: a nutritional approach to the study of life history patterns. Univ. of South Florida.

Vanblaricom, G.R. 1978. Disturbance, predation, and resource allocation in a high-energy sublittoral sand-bottom ecosystem: experimental analysis of critical structuring processes for the infaunal community. Univ. of California, San Diego (includes *Astropecten*).

Van Veldhuizen, H.D. 1978. Feeding biology of subtidal *Pisaster brevispinus* on soft substrate in Redwood Harbor, California. Univ. of California, Santa Barbara.

Williams, A.H. 1977. Three-way competition in a patchy back-reef environment. Univ. of North Carolina, Chapel Hill. (includes *Diadema antillarum*).

Wold, B.J. 1978. Studies of structural gene transcripts in sea urchin embryos and adult tissues. California Inst. Technology.

Zimmerman, A.M. 1972. Cell division: pressure-temperature analysis of effects of sulfhydryl reagents on the cortical plasmagel structure and furrowing strength of dividing eggs (*Arbacia* and *Chaetopterus*). New York Univ.

#### M.A. Theses

Blackman, L.D. The determination of adenosine 3':5' monophosphate in unfertilized *Strongylocentrotus purpuratus* (Stimpson) eggs by a competitive protein binding assay. California State Univ., Long Beach.

Bros, W.E. 1978. Vertical zonation of three species of California limpets (*Acmaeidae*) as a function of predation. Univ. of the Pacific. (includes *Pisaster ochraceus*).

Bryon, R.R. 1972. The effect of globiferous pedicellariae toxin from the sea urchin, *Strongylocentrotus purpuratus* (Stimpson), on the peripheral nervous system in the lined shore crab, *Pachygrapsus crassipes* (Randall). California State Univ., Long Beach.

Diehl, W.J., III. 1978. Effect of nutrition on the excretion rate of soluble nitrogenous products of *Luidia clathrata* (Echinodermata; Asteroidea). Univ. of South Florida.

Eaton, C.M. 1971. The reproductive and feeding biology of the prosobranch gastropod *Fusitriton oregonensis* (Redfield) (Family *Cymatidae*). Univ. of Washington. (includes predation on *Strongylocentrotus*).

Fraser, R.C. 1973. The isolation of a cholinometric compound from the globiferous pedicellariae of *Lytechinus pictus* (Verrill). California State Univ., Long Beach.

Greer, M.B. 1966. The absorption of amino acids across the guts of chitons and sea cucumbers. Univ. of Houston.

Jacobs, G.P. 1975. Effect of sea urchin toxins on electrophysiology and ultra-structure of *Pachygrapsus crassipes* (Randall) neuromuscular system. California State Univ., Long Beach.

Jillson, D. 1973. The predatory behavior of *Pisaster ochraceus*. Univ. of the Pacific.

Lewis, R.L. 1974. Studies in the inadunate crinoid family *Piracrinidae*. Univ. of Iowa.

Littrell, J.A. 1977. Field and laboratory studies of the pedicellariae of *Lytechinus variegatus* (Lamarck, 1816) (Echinodermata: Echinoidea). Univ. of Puerto Rico, Mayaguez.

Mann, M.L. 1964. Comparative embryonic temperature tolerances of two species of sea urchin and related acclimation studies. Duke Univ.

Maxon, W.R. 1972. Responses of selected molluscs to the feeding behavior of the seastar, *Pisaster ochraceus*. California State Univ., Fullerton.

McEdward, L.R. 1979. Respiratory electron transport activity during larval development of *Lytechinus variegatus* Lamarck (Echinodermata: Echinoidea). Univ. of South Florida.

Messing, C.G. 1975. The systematics and distribution of the Crinoidea Comatulida (exclusive of the Macrophreatina) collected by the R/V CERDA in the Straits of Florida and adjacent waters. Univ. of Miami.

Murdoch, J.D. 1976. The importance of substratum characteristics on the ability to burrow of two species of amphiuroid ophiuroids (Echinodermata). Univ. of South Florida.

Nash, W.W. 1978. The uptake and intracellular distribution of lead in sea urchin embryos. California State Univ., Long Beach.

Rosenberg, V. 1978. Isozyme variation and genetic differentiation in the decorator sea urchin, *Lytechinus variegatus* (Lamarck, 1816). Univ. of South Florida.

Schultz, T.W. 1973. Changes in the adenine nucleotide levels during 1-methyl-adenine induced maturation of starfish oocytes. California State Univ., Fullerton.

Smith, R.D. The feeding habits of the sand-dollar *Echinarachnius parma* (Lamarck). Univ. of Maine.

Sumich, J.L. 1970. Growth of a sea urchin, *Allocentrotus fragilis*, at different depths off the Oregon coast. Oregon State Univ.

Webman, E.J. 1978. Measurements of the levels of cyclic AMP and cyclic GMP in sea urchin eggs treated with ammonium. California State Univ., Long Beach.

A complete list of all dissertation and theses titles which has been compiled is available by sending \$1.00 to cover copying and mailing charges to:

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Masters' and Ph.D. Dissertations

Supplement

M.A. or M.S.

Corry, Barbara G. 1974. An ultrastructural study of muscle in tube feet of selected ophiuroids. University of Victoria.

Emerson, C.J. 1977. Developmental morphology of the optic cushion and ocelli of the sea star Leptasterias polaris (Muller and Troschel). Memorial University of Newfoundland.

Ernest, R.G. 1979. Reproductive variability in Lytechinus variegatus (Echinodermata: Echinoidea) from different habitats in a Florida west coast estuary. University of South Florida.

Tomey, D.A. 1978. The distribution, sediment preference and reproductive periodicity of Leptosynapta tenuis (Ayres) (Echinodermata: Holothuroidea) University of Bridgeport, Connecticut.

Ph.D.

Marcus, Nancy 1976. Genotypic and phenotypic variation in the sea urchin Arbacia punctulata. Yale University.

Pagett, R.M. 1978. Some physiological and ecological aspects of the penetration into brackish water by certain members of the Ophiuroidea. University of London.

Sloan, N.A. 1977. An experimental study of the predatory and social behavior of Crossaster papposus (L.). Queen Mary College, University of London.

Wolfe, Tracey J. 1978. Aspects of the biology of Astrophyton muricatum (Lamarck, 1816) (Ophiuroidea: Gorgonocephalidae). University of Puerto Rico.

MA

Dissertations and Theses

Titles of dissertations and theses also appear in issues 3 (April 1971), 4 (December 1972), 6 (April 1975), 7 (July 1976), 8 (February 1977), and 11 (July 1981) of the newsletter. Individuals are invited to communicate the titles of theses and dissertations to the editor of the newsletter.

Dissertations

- Arceci, R.J. 1980. Histones, histone synthesis and chromatin structure during early sea urchin development. Univ. of Rochester.
- Bennett, J. 1980. Fusion of sea urchin eggs. Univ. of California, Berkeley.
- Bestor, T.H. 1981. The control of microtubule assembly and the role of microtubules in sea urchin fertilization. Florida State Univ.
- Bieber, D.G. 1979. The region of transcription initiation of ribosomal RNA genes in the sea urchin, Lytechinus variegatus. Univ. of North Carolina, Chapel Hill.
- Blackmann, R.A.A. 1979. Functional morphology and hydrodynamics of the asteroid peripheral water-vascular system. Univ. of Newcastle-upon-Tyne.
- Brand, T.E. 1980. Trophic interactions and community ecology of the shallow-water marine benthos along the Antarctic peninsula. Univ. of California, Davis. (asteroid, echinoid)
- Breen, P.A. 1974. Relations among lobsters, sea urchins, and kelp in Nova Scotia. Dalhousie Univ.
- Broyles, R.H. 1971. Development and characteristics of glucose-6-phosphate and 6-phosphogluconate dehydrogenases in the sea urchin and frog. Wake Forest Univ.
- Busby, S.J. 1979. Electron microscopic analysis of transcription in echinoid embryos. Univ. of Washington.
- Chen, K.C-K.H. 1979. Kinetic analysis of RNA synthesis and processing in sea urchin embryos. Purdue Univ.
- Coffaro, K.A. 1979. Transplantation immunity in the sea urchin. Univ. of California, Santa Cruz.
- Coleman, 1979. An electron microscopic characterization of the structure of ribosomal RNA from the sea urchin Lytechinus variegatus. Univ. of North Carolina, Chapel Hill.
- Constantini, F.D. 1980. Studies on repetitive sequence transcripts on the sea urchin. California Inst. of Technology.
- Davis, N. 1978. Studies of the southern California nearshore sand bottom community. Univ. of California, San Diego. (Astropecten)
- De Mik-Van der Plas, A. 1981. Pyloric caeca of the starfish, Asterias rubens L., during the reproductive cycle. Univ. of Utrecht.
- Duggins, D.O. 1980. Kelp dominated communities: experimental studies on the relationships between sea urchins, their predators and their algal resources. Univ. of Washington.
- Dworkin, M.B. 1977. The nature of non-polysomal messenger RNA and its role in protein synthesis in sea urchin eggs and embryos. Wesleyan Univ.
- Gilbertson, R.L. 1972. Quantitative studies of some actinocrinitid crinoids. Univ. of Michigan.
- Gourlie, B.B. 1979. Deoxynucleotide metabolism and control of replication in the sea urchin and developing embryo. Wesleyan Univ.
- Goustin, A.S. 1979. An assessment of the relative contribution of multiple levels from the control of histone synthesis during early sea urchin embryogenesis. Univ. of California, Berkeley.
- Green, J.D. 1981. The ultrastructural localization of trypsin-like protease in the acrosome of the sea urchin sperm and possible functions of such enzymes in sperm-related events in fertilization. State Univ. of New York, Buffalo.
- Guensburg, T.E. 1982. Echinodermata of the Middle Ordovician Lebanon limestone, central Tennessee. Univ. of Illinois.



- Hammond, L.S. 1979. The feeding ecology and substrate relations of deposit-feeding holothuroids and echinoids (Echinodermata) from a shallow reef lagoon, Discovery Bay, Jamaica. Univ. of the West Indies.
- Harrison, M.F. 1979. An investigation into the programming of histone synthesis by young sea urchin embryos. Univ. of California, Berkeley.
- Harrington, C.L. 1981. Responses of benthic macrofauna to the dynamics of a Gulf Stream front on the continental shelf near Cape Hatteras, North Carolina. Univ. of Wisconsin, Madison.
- Hawkins, C.M. 1979. Ecological energetics of the tropical sea urchin Diadema antillarum Philippi in Barbados, West Indies. McGill Univ.
- Hendricks, M.B. 1980. Histone subtypes in the sea urchin (Strongylocentrotus purpuratus) and control of their synthesis. Johns Hopkins Univ.
- Hirschie, J.C. 1982. Activation of echinoderm gametes: the role of intracellular pH. Stanford Univ.
- Hulbert, A.W. 1980. The functional role of Asterias vulgaris Verrill (1866) in three subtidal communities. Univ. of New Hampshire.
- Jenkins, K.D. 1971. Ribosomal cycling in the sea urchin embryo. Univ. of California, Los Angeles.
- Johnson, F.G. 1979. The effects of aromatic petroleum hydrocarbons on chemosensory behavior of the sea urchin Strongylocentrotus droebacheinsis, and the nudibranch Onchidoris bilamellata. Univ. of Washington.
- Kari, B.E. 1981. An analysis of glycoproteins in the developing sea urchin embryo. Univ. of Minnesota.
- Kiehart, D.P. 1979. Microinjection studies on spindle assembly and chromosome movement in vivo. Univ. of Pennsylvania (asteroid).
- Kolata, D.R. 1973. Paleocology and systematics of the echinoderm faunas of the Middle Ordovician Platteville and Lower Galena group of north central Illinois and south central Wisconsin. Univ. of Illinois, Urbana-Champaign.
- Landrum, P.F. 1979. Disposition of para-nitroanisole and other xenobiotics by the sea urchin Strongylocentrotus purpuratus. Univ. of California, Davis.
- Levine, A.E. 1979. A protease in sea urchin sperm. Univ. of Michigan.
- Liddell, W.D. 1980. Population variability and resource utilization patterns of Caribbean comatulid crinoids (Echinodermata). Univ. of Michigan.
- Lowenstiner, D.D. 1980. Characterization of precursor transfer RNA in sea urchin embryos and a study of the kinetics of synthesis and processing of transfer RNA during early embryogenesis. Purdue Univ.
- Mahr, A. 1978. Studies on messenger RNA during sea urchin development. Univ. of Rochester.
- Merlino, G.T. 1980. Regulation of tubulin and actin gene expression in developing sea urchin. Univ. of Michigan.
- Meyers, A.C. 1973. Sediment reworking, tube building, and burrowing in a shallow subtidal marine bottom community: rates and effects. Univ. of Rhode Island (Leptosynapta).
- Mladenov, P.V. 1980. Development and reproductive biology of the feather star Florometra serratissima (Echinodermata: Crinoidea). Univ. of Alberta.
- Niesen, T.M. 1973. Population and reproductive biology of the six-rayed sea star Leptasterias hexactis on the protected outer coast. Univ. of Oregon.
- Overbeek, P.A. 1980. Sea urchin genomic actin clones. Univ. of Michigan.
- Pederson, J.B. 1980. The population biology and feeding ecology of Strongylocentrotus droebachiensis (O.F. Müller) in the tidepool community. Clark Univ.
- Perry, G. 1979. Studies on calcium-stimulated oxidations in the sea urchin egg. Univ. of Washington. (asteroid).
- Quinn, J.F. 1979. Disturbance, predation and diversity in the rocky intertidal zone. Univ. of Washington. (asteroid).
- Salik, J.A. 1980. Histone transitions during the first cell cycle in sea urchin embryos: evidence for a storage of histones in the unfertilized egg. State Univ. of New York, Stony Brook.

Canada

Mladenov, P.V. 1976. Reproduction and larval development in ophiuroids (Echinodermata) of Barbados, West Indies. McGill Univ.

Himmelman, J.H. 1969. Some aspects of the ecology of *Strongylocentrotus droebachiensis* in eastern Newfoundland. Memorial Univ. of Newfoundland.

Goyette, D.E. 1967. Light and electron microscope study of the aboral nervous system and neurosecretion in the crinoid *florometra serratissima*. Univ. of Alberta.

Bray, R.D. 1975. Community structure of shallow-water Ophiuroidea of Barbados. McGill Univ.

Emerson, I.P. Aspects of the biology and local distribution of sea stars inhabiting a sloped, rocky bottom in Logy Bay, Newfoundland. Memorial Univ. of Newfoundland.

Mooi, R. 1983. Morphology, diversity and function of non-respiratory podia of clypeasteroids (Echinodermata, Echinoidea). Univ. of Toronto.

Brasil (contributed by S. Stancyk)

Almeida, A.M.M.B. de. Efeito da salinidade e da temperatura no desenvolvimento e sobrevivência de Ouriço do Mar (Echinodermata, Echinoidea. 1979. Univ. Sao Paulo.

Altieri, S.M.de L. 1979. Repostas a drogas e efeitos de diluicao salinia e de remocao de cations nas repostas a acetilcolina do musculo longitudinal de *Ludwigothuria grisea* (Selenka, 1867)(Echinodermata, Holothuroidea). Univ. Sao Paulo.

Altimari, M.I.S. 1969. Substancias toxicas produzidas por equinodermas. Univ. Sao Paulo.

Bianconcini, M.d.S.C. 1978. Atividades de enzimas das vias glicolitica e do fosfogliconato de musculo da lanterna de tres Ouricos do Mar, *Arbacia lixula* (Linn., 1758), *Echinometra lucunter* (Linn., 1758) et *Lytechinus variegatus* (Lamarack, 1816). Univ. Sao Paulo.

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## DISSERTATIONS

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Davis, J.P. 1983. Net uptake of amino acids by bacteria-free echinoderm larvae and a freshwater protozoan. Univ. of California, Irvine (echinoid)

Harrold, C. 1981. Feeding ecology of the asteroid *Pisaster giganteus* in a kelp forest ecosystem: prey selection, predator-prey interactions, and energetics (California). Univ. California, Santa Cruz.

Dissertations  
US (cont)

- Fowler, M.L. 1972. Distribution of magnesium and strontium in the skeletons of modern regular echinoids from the United States Atlantic coast and Caribbean Sea. Indiana Univ.
- Muscat, A.M. 1983. Population dynamics and the effect on the infauna of the deposit-feeding holothurian *Parastichopus parvimensis* (Clark). Univ. of Southern California.
- Friest, T.J. 1983. Studies of Silurian echinoderms. Univ. of Iowa (crinozoans, blastozoans)
- Davis, K.K. 1982. Spermatogenesis in the sea star *Patiria miniata* (Brandt, 1835): studies employing histology, autoradiography, and organ culture. Univ. of California, Santa Cruz.
- McGwin, N.F. 1981. Localization and regulation of thymidine kinase and thymidylate kinase in sea urchin eggs. Georgetown Univ.
- Anstrom, J.A. 1982. Mitosis in the sea urchin embryo: the effect of temperature on the isolated mitotic apparatus. State Univ. of New York, Buffalo.
- Steneck, R.S. 1982. Adaptive trends in the ecology and evolution of crustose coralline algae (Rhodophyta, Corallinaceae). Johns Hopkins Univ. (sea urchin grazing)
- Gordon, K. 1982. Utilization of histone messenger RNA during early sea urchin development. Wesleyan Univ.
- Doering, P.H. 1980. Defenses of the hard clam *Mercenaria mercenaria* against predation by the sea star *Asterias forbesi*. Univ. Rhode Island
- Brown, K.M. 1982. (H3) serotonin fractions and dissociated cells of blastula, gastrula, prism and pluteus sea urchin (*Arbacia punctulata*) embryos. Michigan State Univ.
- Carron, C.P. 1982. Reorganization of the surface and cortical cytoplasm of the sea urchin (*Arbacia punctulata*) egg fertilization. Univ. of Iowa.
- Harrold, C. 1981. Feeding ecology of the asteroid *Pisaster giganteus* in a kelp forest system: prey selection, predator-prey interaction, and energetics. Univ. of California, Santa Cruz.
- Agostino, M.J. 1982. The major embryonic histone genes and related sequences of the sea urchin *Echinus esculentus*. State Univ. of New York, Buffalo.
- Alexandraki, D. 1982. Organization and expression of tubulin multigene families in the sea urchin *Lytechinus pictus*. Harvard Univ.
- Wade, B.D. 1982. The mechanism of sperm incorporation and an analysis of microfilament organization in sea urchin eggs examined through the use of cytochalasin B and ammonium chloride. Louisiana State Univ.
- Smith, C.R. 1983. Enrichment, disturbance, and deep-sea community structure: the significance of large organic falls to bathyal benthos in Santa Catalina basin. Univ. California, San Diego (Ophiuroids)
- Campbell, C.B. 1983. Determination of the foraging strategy of *Asterias forbesi* (Echinodermata: Asteroidea). Univ. Rhode Island.

Dissertations  
US (cont)

- Lansman, J.B. 1982. Voltage clamp study of fertilization in the egg of a starfish. Univ. of California, Los Angeles (Mediaster)
- Gaines, S.D. 1983. Diverse consumer guilds in intertidal communities of Oregon and the Republic of Panama and their effects on prey assemblages. Oregon State Univ.
- Supernant, K.A. 1982. In vitro assembly and characterization of marine eggs and embryo tubulin. Univ. of Virginia. (sea urchin, starfish, sand dollar).
- McCrary, A.B. Zooplankton in Wrightsville Sount. Univ. of North Carolina. (includes echinoderms)
- McClosky, L.R. 1967. Community dynamics of the fauna associated with *Oculina arbuscula* Verrill (Coelenterata, Scleratinia). Duke Univ. (includes ophiuroids, holothuroids, echinoids).
- Peckol, P.M. 1980. Seasonal and spatial organization and development of a Carolina continental shelf community. Duke Univ. (*Lytechinus*, *Arbacia*).
- Carney, R.S. 1977 . The patterns of abundance and relative abundance of benthic holothurians on Cascadia Basin and Tufts Abyssal Plain in the northeast Pacific. Oregon State Univ.
- Boldt, J.P. 1983. The role of hydrogen pyroxide in the block to polyspermy during sea urchin fertilization. State Univ. of New York, Buffalo.
- Acevedo-Duncan, M.E. 1983. Isolation of an operationally defined sea urchin vitelline envelope with sperm receptor activity and immunological evidence for a sperm receptor polypeptide. Univ. California, Riverside.
- Bruskin, A.M. 1983. A family of genes expressed in embryonic ectoderm of the sea urchin. Indian Univ.
- Martin, K.A. 1983. Maternal RNP and its translation in sea urchin eggs and embryos. Univ. Virginia.

Canada

- Pohle, G.W. 1982. Setal morphology and post-embryonic development of two pinnotherid crabs, *Dissodactylus crinitichelis* Moreira, 1901 and *D. primitivus*, 1917 (Brachyura: Pinnotheridae), symbiotic with echinoids. Univ. of Toronto.
- Smith, A.L. 1980. The role of the Pacific sand dollar *Dendraster excentricus* in intertidal benthic community structure. Univ. of Alberta.
- Kao, M.H. 1979. Some aspects of biology of sea stars *Asterias vulgaris* Verrill and *Leptasterias pllaris* (Müller and Troschel) in Newfoundland waters. Memorial Univ. of Newfoundland.

Venezuela

- Weil, F.M. 1980. Papel del erizo *Diadema antillarum* Philippi en la regulation de la estructura de las comunidades coralinas. U.C.V., Caracas.
- Lera, M. 1980. Reparticion de recursos entre dos estrellas de mar *Astropecten marginatus* (Gray) y *Luidia senegalensis* (Lamarck) coexistentes en aguas someras del parque Nacional de Morrocroy, Edo. Falcon, Venezuela. Univ. Simon Bolivar.

France

Doctorats d'Etat es-Sciences naturelles

- Apostolides, N.C. 1881. Anatomie et développement des Ophiures. Univ. Paris
- Arnaud, P.M. 1973. Contribution à la bionomie marine benthique des régions antarctiques et subantarctiques. Univ. Aix-Marseille. (all classes).
- Bellan-Santini, D. 1967. Contribution à l'étude des peuplements infralittoraux sur substrat rocheuse. Etude qualitative et quantitative. Univ. Aix-Marseille. (asteroids, ophiuroids, echinoids).
- Bourcier, M. 1976. Economie benthique d'une baie Méditerranéenne largement ouverte et des régions voisines en fonctions des influences des facteurs naturelles et humaines. Univ. Aix-Marseille. (larvae of ophiuroids, asteroids, echinoids, holothuroids)
- Bouchet, J.-M. 1968. Etude océanographique des Chenaux du Bassin d'Arcachon. Univ. Bordeaux. (echinoids, asteroids, ophiuroids, holothuroids).
- Bruslé, J. 1968. Recherches sur la sexualité d'un hermaphrodite fonctionnel d'*Asterina gibbosa* Pennant (Echinoderme, Astéride). Univ. Paris-Sud.
- Cabioch, L. 1968. Contribution à la connaissance des peuplements benthiques de la Manche occidentale. Univ. Paris VI. (asteroids, ophiuroids, echinoids)
- Carpine, C. 1970. Ecologie de l'étage bathyal dans la Méditerranée occidentale. Univ. Aix-Marseille. (echinoids, holothuroids, asteroids, crinoids, ophiuroids).
- Castric-Fey, A. 1974. Les peuplements sessiles du benthos rocheux de l'archipel de Glénan, Sud Bretagne. Ecologie descriptive et expérimentale. Univ. Paris VI. (crinoids)
- Chassé, C. 1972. Economie sédimentaire et biologique des estrans meubles des côtes de Bretagne. Univ. Paris VI. (ophiuroids, holothuroids, echinoids).
- Chavanon, S. 1974. L'approche statistique dans l'interprétation de la systématique de l'évolution et de la paléocéologie des échinides des formations du Cénozoïque bordelais. Univ. Bordeaux.
- Coffee, G. 1983. Etude des changements d'état du cytoplasme au cours de l'activation parthénogénétique de l'oeuf d'oursin. Aspects cellulaires et moléculaires. Univ. Paris XI.
- Cuénot, L. 1887. Contributions à l'étude anatomique des Astérides. Univ. Paris.



- Delflandre, C. 1903. La fonction adipogénique du foie dans la série animale. Univ. Paris. (echinoids, asteroid)
- Delaunay, H. 1927. Recherches biochimiques sur l'excrétion azotée des invertébrés. Univ. Paris. (holothuroids, echinoids, asteroids)
- Devries, A. 1960. Contribution à l'étude de quelques groupes d'Echinides fossiles d'Algérie. Univ. Paris.
- Delflandre-Rigaud, M. 1961. Contribution à la connaissance des sclérites d'Holothurides fossiles. Univ. Paris.
- Falconetti, C. 1980. Bionomie benthique des fonds situés à la limite du plateau continental de la baie du Maguad (Iles d'Hyères) et de la région de Calvi (Corse). Univ. Nice. (Ophiuroids, echinoids, crinoids, holothuroids, asteroids).
- Fenaux, L. 1968. Aspects écologiques de la reproduction des échinides et ophiures de Villefranche-sur-Mer. Univ. Paris.
- Ferrand, J.-G. 1983. Etude comparée de la vitellogenèse chez *Asterina gibbosa* Penn. et *Asterias rubens* L. (Echinodermes, Astérides) et signification des enzymes lysosomiques des oeufs. Univ. Orléans.
- Fredj, G. 1974. Essai de stockage et d'exploitation des données en écologie marine. Application à l'étude bibliographique du benthos Méditerranéen et perspectives. Univ. Nice. (ophiuroids, echinoids, crinoids, holothuroids, asteroids).
- Gaudry, A. 1852. Mémoire sur les pièces solides des Stellérides. Univ. Paris.
- Glémarec, M. 1969. Les peuplements benthiques du plateau continental nord-Gascogne. Univ. Brest. (crinoid, holothuroid, echinoid, asteroid, ophiuroid).
- Gruet, Y. 1982. Recherches sur l'écologie des "recifs" d'hermelles édifiés par l'annélide polychète *Sabellaria alveolata* (Linné). Univ. Nantes. (ophiuroid, asteroid, echinoid).
- Guille, A. Bionomie benthique du plateau continental de la côte catalane française. Aspects qualitatifs et quantitatifs. Univ. Paris. (all classes)
- Hérouard, E. 1890. Recherches sur les Holothuries des côtes de France. Univ. Paris.
- Huet, M. 1972. Etude expérimentale de la régénération du bras et de l'appareil génital d'*Asterina gibbosa* Penn. Univ. Paris XI.

- Koehler, R. 1883. Recherches sur les Echinoïdes des côtes de Provence. Univ. Paris.
- Lallier, R. 1953. Recherches sur le problème de la détermination embryonique chez les Amphibiens et les Echinodermes. Univ. Paris.
- Laubier, L. 1966. Le coralligène des Albères. Monographie biocénotique. Univ. Paris. (crinoïdes, astéroïdes, holothuroïdes, ophiuroïdes, échinoïdes).
- Leclerc, M. 1974. L'organe axial et ses relations avec la sexualité et l'immunité chez les astérides. Univ. Orléans.
- Ledoyer, M. 1967. Ecologie de la faune vagile des biotopes méditerranéens accessibles en scaphandre autonome. Univ. Aix-Marseille. (crinoïdes, astéroïdes, ophiuroïdes).
- Loi, T.-N. 1967. Contributions à l'étude des peuplements végétaux et animaux du substrat dur intertidal de la baie de Nha Trang. Univ. Aix-Marseille. (échinoïdes, holothuroïdes, astéroïdes).
- Massé, H. 1971. Contribution à la l'étude quantitative et dynamique de la macrofaune de peuplements des sables fins infralittoraux des côtes de Provence. Univ. Aix-Marseille. (échinoïdes, ophiuroïdes, astéroïdes).
- Molinier, R. 1958. Etudes des biocoenoses marines du Cap Corse. Univ. Paris. (échinoïdes).
- Pavillon, J.-F. 1983. Contributions à l'étude de l'importance écologique des substances organiques dissoutes pour les oeufs et les larves d'invertébrés marins et lagunaires. Univ. Paris VI. (échinoïdes).
- Pequignat, C.E. 1969. Biologie d'*Echinocardium cordatum* (Pennant) de la baie de Seine. nouvelles recherches sur la digestion et l'absorption cutanées chez les Echinides et les Stéllérides. Univ. Caen.
- Perin, J.-P. 1976. Le lysosome chez les invertébrés: étude des lysozymes de *Nephtys hombergii* et d'*Asterias rubens*. Univ. Paris VII.
- Perrier, J.O.E. 1869. Recherches sur les pédicellaires et les ambulacres des Astéries et des Oursins. Univ Paris.
- Peyrot -Clausade, M. 1977. Faune cavitaire mobile des platiers coralliens de la région de Tuléar (Madagascar). Univ. Aix-Marseille II. (holothuroïdes, ophiuroïdes, astéroïdes, échinoïdes).
- Meijer, L. 1983. Etude des mécanismes responsables de la reprise de la méiose chez l'étoile de mer. Univ. Paris VI.
- Moreau, M. 1981. Rôle de l'ion calcium dans la reprise de la méiose ovocytaire chez l'étoile de mer et les Amphibiens. Univ. Paris VI.
- Christen, R. 1983. Etude des facteurs qui régulent l'activation des gamètes lors de la fécondation. Univ. Nice (échinoïdes, astéroïdes).

- Picard, J. 1965. Recherches qualitatives sur les biocoenoses marines des substrats meubles dragables de la région marseillaise. Univ. Aix-Marseille. (crinoids, asteroids, ophiuroids, holothuroids, echinoids).
- Pomel, M.A. 1883. Classification méthodique et générale des échinides vivants et fossiles. Univ. Paris.
- Prouho, H. 1888. Recherches sur le *Dorocidaris papillata* et quelques autres échinides de la Méditerranée. Univ. Paris.
- Pruvot, G. 1897. Essai sur les fonds et la faune de la Manche occidentale (Côtes de Bretagne) comparée à ceux du golfe du Lion. Univ. Paris. (crinoids, asteroids, ophiuroids, holothuroids, echinoids).
- Régis, M.-B. 1978. Croissance de deux échinoides du golfe de Marseille (*Paracentrotus lividus* (Lmk) et *Arbacia lixula* L.). Aspects écologiques de la microstructure du squelette et de l'évolution des indices physiologiques. Univ. Aix-Marseille II.
- Rey, J. 1972. Recherches géologiques sur le Crétacé inférieur de l'Estramadure (Portugal). I: Analyse stratigraphique. II. Analyse paléontologique: les Echinides. Univ. Toulouse.
- Reyss, D. 1970. Bionomie benthique de deux canyons sous-marins de la mer Catalane: le rch du Cap et le rch Lacaze-Duthiers. Univ. Paris. (echinoids, holothuroids, asteroids, ophiuroids).
- Roman, J. 1965. Morphologie et evolution des Echinolampas (Echinoides Cassiduloides). Univ. Paris.
- Roux, M. 1978. Ontogénèse et évolution des Crinoides pédonculés depuis le Trias: implications océanographiques. Univ. Paris-Sud.
- Rybak, B. 1954. Recherches sur la biologie des spermatozoïdes d'oursins. Univ. Paris.
- Salen-Picard, C. 1982. Contribution à l'étude dynamique des peuplements marins de substrat meuble: les peuplements macrobenthiques circalittoraux soumis à l'envasement dans la région provençale. Univ. Aix-Marseille. (ophiuroids, holothuroids).
- Sourie, R. 1955. Contribution à l'étude écologique des côtes rocheuses du Sénégal. Univ. Paris. (echinoids, ophiuroids, holothuroids).
- Thomassin, B.A. 1978. Peuplements des sédiments coralliens de la région de Tuléar (S.W. de Madagascar) et leur insertion dans le contexte côtier Indo-Pacifique. Univ. Aix-Marseille. (ophiuroids, asteroids, echinoids, holothuroids).
- Viguié, C. 1879. Anatomie comparée du squelette des stéllérides. Univ. Paris.

# 14  
1985

Many theses and dissertations are never published and many echinoderm specialists are consequently unaware of them. This is unfortunate because considerable effort is involved in their production and considerable worthwhile information is contained in them. In addition, few theses on dissertations are published in their entirety. The contents of theses and dissertations are often much more developed than published articles. There is a wealth of information concerning echinoderms found in these dissertations which could be used to great advantage by echinoderm specialists. The list is also of interest historically, because it shows very well the development of echinoderm biology.

Titles of dissertations and theses have appeared in issues 3, 4, 5, 7, 8, 11, 13, and 14 of the newsletter. By next summer it will be possible to obtain by request a listing of theses and dissertations according to taxonomic class, subject, and geographical region.

Relatively complete lists are available for Australia, Canada, France, Switzerland, and the United States. It is unfortunate that the list is incomplete, and sometimes completely lacking, for many countries. I invite echinoderm specialists to send me citations to theses and dissertations in their countries so that we will be aware of the contributions made there. JL

Australia (communicated by A.J. Butler, A. Constable, J.S. Lucas, A.J. Underwood)

B.Sc. theses

Keough, M.J. 1976. The role of asteroid predators in determining the structure of jetty pile communities. Univ. of Adelaide.

Masters theses

Aung, W. 1975. Observations on the reproductive biology of the tropical sand dollar *Arachnoides placenta* (L.). James Cook Univ. of North Queensland.

Dartnell, A.J. 1971. The taxonomy and biogeography of the sea star genus *Patiriella* in Tasmania. Univ. of Tasmania.

Davies, M.M. 1935. 1. Variation, 2. Holothuroidea. Univ. of Melbourne.

Duyverman, H. 1976. Factors influencing the local distribution of the seastar *Patiriella exigua*. Flinders Univ. of South Australia.

O'Connor, CP. 1976. Reproductive periodicities of the echinoids *Centrostephanus nodgensii*, *Phyllocanthus panvispina*, *Trispneustes gnatilla* and *Heliocidaris tuberculata* in the light of some ecological variables among the Solitary Islands. Univ. of New England.

Penn, PE. 1978. Growth and structure of the sensory cushion in a marine astenoid: The fine structure of the optic cushion in *Nepanthia belcheri*. James Cook Univ. of North Queensland.

Rainen, AG. 1975. Section one: Literature review - Hybrid inviability in the phyla Chordata, Echinodermata and Arthropoda. Section two: Research report - hybrid inviability in some members of the subfamily Monabinne (Orthoptera: Eumastacidae). Univ. of Melbourne.

Williams, DH. 1975. The reproductive cycle, the embryonic and larval development and the metamorphosis of *Heliocidaris erythrogramma* Echinoidea. Univ. of Sydney.

#### Ph.D. dissertations

Fletcher, WJ. 1985. Experimental population ecology of sublittoral grazers in New South Wales. Univ. of Sydney.

Franklin, SE. 1980. The reproductive biology and some aspects of the population ecology of the holothurians *Holothuria leucospilota* (Brandt) and *Stichopus chloronotus* (Brandt). Univ. of Sydney.

#### United States

##### Masters theses

Basch, LV. 1985. Ecology, behavior, and functions of bioluminescence in the subtidal, sand dwelling ophiuroid *Ophiopsila californica*. Univ. of California, Los Angeles.

Bookbinder, LH. 1984. Anaerobic and aerobic energy metabolism in ovaries from the sea urchin *Strongylocentrotus droebachiensis*. Univ. of Maine.

Boyce, MW. 1956. The micropaleontology of the Osgood Formation (Niaganan) in Ripley County, Indiana. Indiana Univ.

Breitburg, DL. 1982. Development of a subtidal epibenthic community: effects of grazing, temporal variability and prior residency. Univ. of California, Santa Barbara.

Hanson, JL. 1985. Hydrodynamics of perivisceral fluid circulation in the sea urchin *Lytechinus variegatus* with special reference to material transport. Univ. of South Florida.

Donachy, J.E. 1984. Arm regeneration in the brittle star *Ophiothrix angulata* (Say): salinity and calcium concentration effects and ultrastructure of ossicle formation. 31  
Univ. of South Carolina.

Herrlinger, T.J. 1983. The diet and predation-prey relationships of the sea star *Pycnopodia helianthoides* (Brandt) from a central California kelp forest. San Jose State Univ.

Jillson, D. 1973. The predatory behavior of *Pisaster ochraceus*. Univ. of the Pacific.

Mayer, R.M. 1980. A study of the population ecology of three nearshore communities of the sea urchin *Strongylocentrotus polyacanthus*. Univ. of Washington.

#### Ph.D. dissertations

Aboukarsh, N.A. 1984. Characteristics of sea urchin sperm chromatin. Univ. of Alabama, Birmingham

Brett, C.E. 1978. Systematics and paleoecology of Late Silurian (Wenlockian) pelmatozoan echinoderms from western New York and Ontario. Univ. of Michigan.

Carpenter, C.D. The messages and genes encoding calcium-binding proteins in the embryonic ectoderm of the sea urchin. Indiana Univ.

Carpenter, R.C. 1984. Herbivores and herbivory on coral reefs: effects on algal community biomass, structure, and productivity. Univ. of Georgia.

Chen, C-J. 1983. A study of the longitudinal body wall muscle of the sea cucumber *Sclerodactyla briareus*. Univ. of Rhode Island.

Dinnel, P.A. 1984. Development, refinement, and validation of a sperm cell bioassay for toxicity assessment of marine waters. Univ. of Washington (echinoids).

Heilmann, L.J. 1984. The distribution of mRNA sequences between polysomes and ribonucleoprotein particles of sea urchin embryos. Wesleyan Univ.

Ho, K-C. 1984. The boundaries of the 33S ribosomal RNA precursor of sea urchin *Lytechinus variegatus*. Univ. of North Carolina, Chapel Hill.

Hollenbeck, P.J. 1983. Studies of mitosis in the sea urchin egg: microtubule distribution through the cell cycle and the role of dynein. Univ. of California, Berkeley.

Johnson, P.J. 1984. A molecular comparison of actin genes in sea urchins (*Strongylocentrotus franciscanus*, *S. purpuratus*, and *Lytechinus pictus*). Univ. of Michigan.

Kew, D.A. 1984. Cultured sea urchin embryo epithelia and mesenchymal cells differ in adhesiveness, lectin agglutinability and lectin receptor mobility. Wesleyan Univ.

Larrain, AP. 1984. The fossil and recent shallow water irregular echinoids from Chile. Univ. of Southern California.

McEdward, L. 1984. On growth and form of echinoplutei. Univ. of Washington.

Peters, NK. 1984. Actin gene expression in the developing sea urchin. Univ. of Michigan.

Podell, SB. 1984. Identification, purification, and characterization of a membrane protein from sea urchin sperm that interacts with egg jelly and regulates sperm acrosome reaction. Univ. of California, San Diego.

Rondinelli, E. 1984. Developmental changes and experimental alterations in the expression of a sea urchin gene abundantly transcribed in the early stages of embryogenesis (Univ. of Pennsylvania).

Smith, RH. 1984. Sea urchin primary mesenchyme development: inactivation of cell-cell adhesion molecules and appearance of cell-substrate adhesion molecules. Wesleyan Univ.

Steinberg, PD. 1984. Phenolic compounds in brown algae: chemical defenses against marine herbivores. Univ. of California, Santa Cruz (echinoids).

Suprynowica, FA. 1984. The calcium sequestering system of the sea urchin embryo and its fluctuation during the cell division cycle. Univ. of California, Berkeley.

Uzman, JA. 1983. An investigation into the acceleration of the rate of RNA synthesis at the fourth cleavage of the sea urchin zygote. Univ. of California, Berkeley.

Witman, JD. 1984. Ecology of rocky subtidal communities: the role of *Modiolus modiolus* (L.) and the influence of disturbance, competition, and mutualism. Univ. of New Hampshire (echinoids, asterozoans, ophiurozoans)

Ziegler, ME. 1984. Characterization of the 5' end of cloned actin genes and their developmental expression in sea urchin embryos. Univ. of Michigan.

## France

### These d'etat

David, B. 1985. La variation chez les Echinides Innéguliers. Dimensions ontogénétiques, écologiques, évolutives. Univ. of Dijon.

Féral, J.-P. 1985. Nutrition chez un invertébré marin détritivore: *Leptosynapta galliennei* (Holothuroidea : Echinodermata). Univ. Pierre et Marie Curie (Paris-6).

CanadaBachelors theses

McDaniel, N. 1971. The starfish *Solaster dawsoni* as a predator of asteroids. Univ. of British Columbia.

Masters theses

Mooi, R. 1983. Morphology, diversity and functioning of non-respiratory podia of clypeasteroids. Univ. of Toronto.

Ph.D. dissertation

Bedard, AP. 1984. Regulation of patterns of protein synthesis during sea urchin embryogenesis. McGill Univ.

Fay, IC. 1983. Paleocology of Lower Silurian bioherms, Manitouba Island, Ontario. Univ. of Saskatchewan (crinozoans).

Tufano, F. 1984. Expression of maternal and zygotic genes during sea urchin embryogenesis. McGill Univ.

Republic of South AfricaMasters theses

Blankley, WO. 1982. The intertidal and shallow subtidal food web of sub-Antarctic Marion Island. Univ. of Cape Town (asteroids).

Greenwood, PJ. 1974. Population dynamics and ecological energetics of *Parechinus angulosus* at Robben Bay and False Bay, South Africa. Univ. of Cape Town.

JamaicaPh.D. dissertations

Sides, EM. 1981. Aspects of space utilization in shallow-water brittle-stars (Echinodermata: Ophiuroidea) of Discovery Bay, Jamaica. Univ. of West Indies.



Sri LankaMaster's thesis

Krishnarajah, P. Studies on ecology and some aspects of the biology of Sri Lankan holothurians. Univ. of Jaffna.

United Kingdom (contributed by A. Campbell, A.R. Fontaine, R. H. Padgett, E.P.F. Rose, A.B. Smith, P.A. Tylen, IC Wilkie)

Masters theses

Morrison, GW. 1979. Studies on the ecology of the sub-antarctic ophiuroid *Ophionotus hexactis*. Univ. of London.

Doctoral dissertations

Campbell, AC. 1971. Studies on some effecton organs in echinoderms. Univ. of Oxford.

Challis, GR. 1930. Palaeoecology and taxonomy of Maltese mid-Tertiary echinoids. Univ. of London.

Fontaine, AR. 1961. The functional significance of some species characteristics in ophiuroids. Univ. of Oxford.

Gorzula, SJF. 1976. The ecology of *Ophiocomina nigra* (Abildgaard) in the Firth of Clyde. Univ. of London.

Johnson, J. 1972. The biology of *Amphiopholis squamata* (delle Chiaje). Univ. of Newcastle upon Tyne.

Pagett, RH. 1978. Some physiological and ecological aspects of the penetration into brackish water by certain members of the Ophiuroidea. Univ. of London.

Pain, SL. 1983. Aspects of gametogenesis in deep sea Asteroidea from the Rockall Trough. Univ. College of Swansea.

Peters, BH. The neurobiology of spines and pedicellariae from *Echinus esculentus* L. Univ. of London.

Ramsey, RE. 1935. An investigation of pedicellarian distribution and size in *Echinus esculentus* L. Univ. of London.

Rose, EPF. 1966. The functional significance of variation in some Tertiary echinoids. Univ. of Oxford.

Scurry, DGA. 1979. A quantitative study of variation within the Mesozoic echinoid *Nucleolites*. Univ. of London.

Sloan, NA. 1977. An experimental study of the predatory and

social behaviour of *Crossaster papposus* (L.). Univ. of London.

Smith, AB. 1978. The construction and functional morphology of the echinoid test. Univ. of Exeter.

Tylen, PA. 1976. The ecology and reproductive biology of the genus *Ophiura* with special reference to the Bristol Channel. Univ. College of Swansea.

Webb, CM. 1984. Seasonal variation and settlement of some marine benthic invertebrate larvae on sediments. Univ. College of Swansea.

Wilkie, IC. 1976. A study of the process of ophiuroid arm autotomy. Univ. of Glasgow.

### Spain

#### Licenciatura theses

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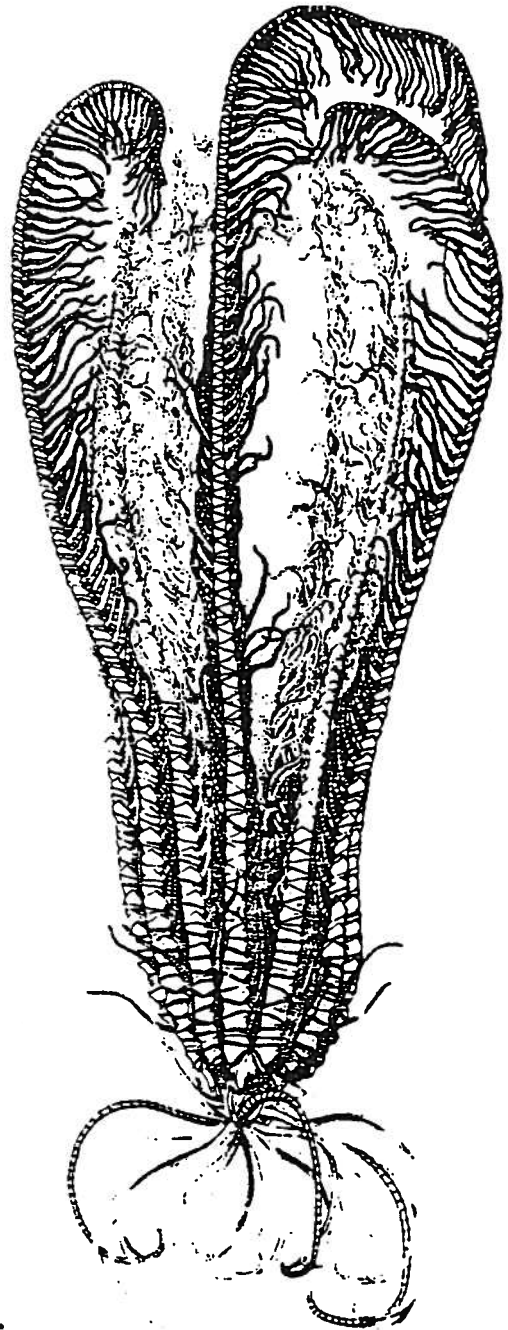
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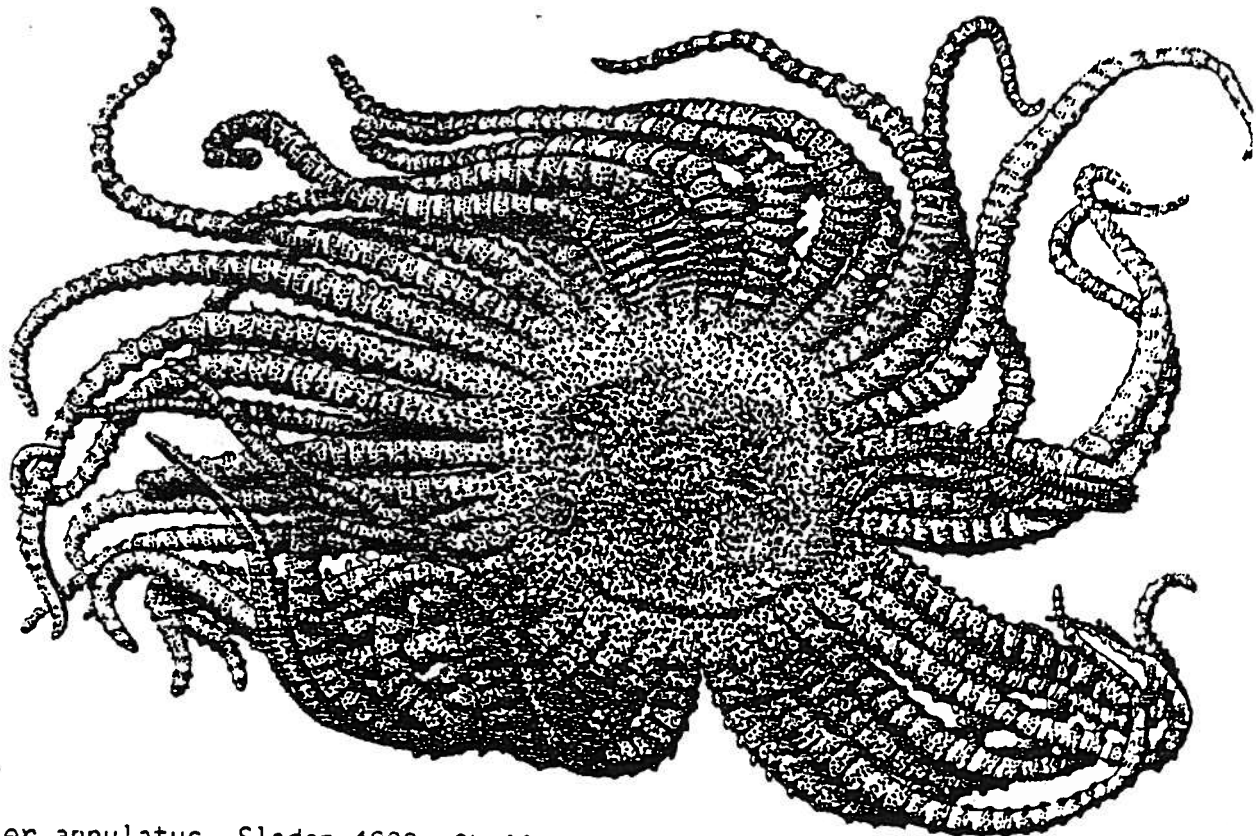
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#### Scotland

Mayo, P. 1974. Ecological, behavioral and biochemical studies of avoidance responses in sea-stars. Univ. of Aberdeen.

Singh, H.T. 1974. The nature, distribution and function of steroid glycosides of the starfish *Marthasteias glacialis* (Linnaeus, 1765). Univ. of Aberdeen.

#### United States

Emler, R.B. 1985. Functional morphology & ecology of larvae of clypeasteroid echinoderms and other ciliated larvae. Univ. of Washington, Seattle.

Watts, S.A. 1986. Metabolic changes in the pyloric caeca during the annual reproductive cycle of *Luidia clathrata* (Echinodermata: Asteroidea). Univ. South Florida, Tampa.

Chen, C.-P. 1985. The role of carbonic anhydrase in the calcification of the tooth of the sea urchin *Lytechinus variegatus* (Lamarck). Univ. South Florida, Tampa.

Smiley, S. 1986. *Stichopus californicus*: oocyte maturation hormone, metamorphosis, and phylogenetic relationships. Univ. Washington, Seattle.

Gluck, D.C. 1984. Biomass, chemical composition and oxygen consumption of the near-bottom pelagic communities in two deep-sea basins off southern California. Univ. California, Santa Barbara. (holothuroid, Scotoplanes)

#### Northern Ireland (contributed by D. Roberts)

Bell, A.C. Histology and ultrastructure of *Acrocnida brachiata*. Queen's Univ., Belfast. 1974.

James, D.W. 1974. Amino acid absorption through the gut of the regular echinoid, *Echinus esculentus*. Queen's Univ., Belfast.

McKenzie, J.D. 1985. A comparative study of dendrochirote holothurians, with special reference to tentacular functional anatomy. Queen's Univ., Belfast.

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THESES AND DISSERTATIONS

Theses and dissertations are a valuable resource for researchers. Many are never published. Publications rarely contain all of the information or development found in them. With the inclusion of dissertations from the USSR in this issue of the newsletter, the list of theses and dissertations is now probably relatively complete. Titles of those that have been missed and of new works should be sent to the newsletter for inclusion in future issues.

Bachelor's theses

Ireland

Byrne, M. 1978. The phenomenon of aggregation in echinoderms with particular reference to the ophiuroid *Ophiocomina nigra* (Abildgaard) and the crinoid *Antedon bifida* (Pennant). University College, Galway.

United Kingdom

Aung, W. 1975. Observations and reproductive biology of the tropical sand dollar *Arachnoides placenta* (Echinoidea: Echinodermata). Univ. of Newcastle-on-Tyne.

Master's theses

Australia

Saunders, A.G. 1986. Growth and age of a tropical sand dollar *Laganum depressum* (Clypeasteroidea: Echinoidea). James Cook University.

France

(Diplome d'Etude Approfondie)

George, S. 1987. Les strategies reproductives de l'oursin *Arbacia lixula* (Echinodermata: Echinoidea) a Saint Jean Cap Ferrat. Univ. Pierre et Marie Curie Paris VI.

Berthon, J.-F. 1987. Relations trophique entre quelques especes d'echinodermes et le phytobenthos dans la baie de Port-Cros (Var, France). Univ. Aix-Marseille II (Luminy)

Frantzis, A. 1988. Relations trophiques entre les oursins *Arbacia lixula* et *Paracentrotus lividus* (Echinodea, Regularia) et le phytobenthos infralittoral superficiel dans la baie de Port-Cros (Var, France). Univ. Aix-Marseille II (Luminy)

(Doctorate de 3<sup>e</sup> cycle)

Hong, J.S. 1980. Etude faunistique d'un fond de concrétionnement de type coralligène soumis à un gradient de pollution de Méditerranée nord-occidentale (Golf de Fos). Univ. d'Aix-Marseille II. (Ophiuroids, asteroids, echinoids, holothuroids).

Amouroux, J.-M. 1972. Données sur la structure et l'instabilité des peuplements infralittoraux de la côte du Roussillon. Univ. Paris VI. (Ophiuroids)

Nedelec, H. 1982. Ethologie alimentaire de *Paracentrotus lividus* dans la baie de Galeria (Corse) et son impact sur les peuplements phytobenthic. Univ. Paris VI-Univ. d'Aix-Marseille III.

Do, F. 1963. Etude cinétique du calcium dans l'oeuf d'*Arbacia lixula* (Echinoderme) vierge et féconde. Univ. Lyon.

Vasquez-Montoya, R. 1979. Peuplements des herbiers de *Thalassia testudinum* et d'*Halodule* sp. de la côte Caraïbe de Panama. Univ. d'Aix-Marseille II. (ophiuroids, echinoids).

Azzolina, J.-F. 1982. Dynamics des populations de *Paracentrotus lividus* dans la baie de Port-Cros (Var): données préliminaires. Univ. d'Aix-Marseille II.

#### Canada (M.Sc.)

Emerson, I.P. 1973. Aspects of the biology and local distribution of sea-stars inhabiting a sloped, rocky bottom in Logy Bay, Newfoundland.

Raymond, B.C. 1986. Behaviour and growth of the early life history stage of the sea urchin *Strongylocentrotus droebachiensis*. Dalhousie Univ.

Younglao, D. 1987. Spawning, aggregation and recruitment in the black sea urchin *Diadema antillarum*. McGill Univ.

Geary, E.D. 1978. Oogenesis in the Pacific sand dollar, *Dendraster excentricus* (Eschscholtz). Univ. of Alberta, Edmonton.

#### Japan

Kariya, Y. 1986. Studies on the texture of muscles of a few marine invertebrates. Univ. Tokyo.

#### Australia (M.A.)

Silver, H. 1983. Evisceration in holothuroids from the Indo-West Pacific region. Univ. Queensland.

United States (M.A.)

Edwards, S. 1986. The effect of spine damage and food shortage upon the allocation of resources in the purple sea urchin, *Strongylocentrotus purpuratus*. San Diego State Univ.

Frnsler, S.C. 1983. Phenotypic plasticity of skeletal elements in the purple sea urchin, *Strongylocentrotus purpuratus*. San Diego State Univ.

Russell, M.P. 1984. Life history traits and resource allocation in the purple sea urchin, San Diego State Univ.

Jones, S. 1960. Early embryology of *Psolus chitonoides*. Univ. Washington, Seattle.

Herrlinger, T.J. 1983. The diet and predator-prey relationships of the sea star *Pycnopodia helianthoides* (Brandt) from a central California kelp forest. San Jose State College, California.

McKinney, M.L. 1982. Ontogeny, phylogeny, and post-deposition alteration of the oligopygoid echinoids of the Ocala limestone. Univ. of Florida, Gainesville.

Clement, C.R. 1981. The occurrence and paleoecology of echinoderm assemblages in the Ludlowville shales (Middle Devonian) of western Erie County, New York. Univ. Cincinnati.

Edwards, K. 1988. Characterization and inhibition kinetics with cadmium of cytoplasmic malate dehydrogenase purified from the pyloric caeca of *Luidia clathrata* (Say) (Echinodermata: Asteroidea). Univ. South Florida, Tampa.

Oliver, G.D. 1987. Population dynamics of *Lytechinus variegatus*. Univ. of Miami.

Mexico

Caso Munoz, M.E. 1943. Contribucion al conocimiento de los asteridos de Mexico. Univ. Nac. de Mexico.

Brasil (M.Sc.)

Moura-Britto, Mauro de. 1985. Stelleroidea da "Operacao Sveste I" e das regioes costeira e estuarina do estado do Parana, Brasil. Universidade Federal do Parana.

Republic of China

Run, J.-Q. 1985. The mating behavior and reproductive cycle of *Archaster typicus* Muller et Troschel (Echinodermata: Asteroidea). National Sun Yat-sen Univ.

Chao, S.-m. 1986. Systematic studies of the holothurians off south Taiwan. National Sun Yat-sen University.

Chen, J.-C. 1986. Systematic studies of the shallow-water crinoids off Kentin, south Taiwan. National Sun Yat-sen Univ.

#### Czechoslovakia (R.N.Dr.)

Prokop, R.J. 1965. Significance of the echinoderms in the Stratigraphy and facial research of the Bohemian and European Cambrium and Ordovician. Charles Univ.

Slamova, Radana. 1987. Disarticulated parts of crinoid stems from the base of Zlichov Formation from the "U Kaplicky" quarry, Praha-Zlichov. Charles Univ.

#### Doctoral dissertations

##### Austria (Ph.D.)

Tertschnig, W. 1986. Population dynamics and ecology of sea urchins in Mediterranean and Caribbean seagrass communities. Univ. of Vienna.

Papajanos, A. 1983. Distribution and biology of *Paracentrotus lividus* (Lamarck) and *Arbacia lixula* (Linne) (Echinoidea) in the Saronic Gulf (Greece). Univ. of Vienna.

##### The Netherlands

Bierens De Haan, J.A. 1913. Over homogene en heterogene versmeltingen bij Echiniden kiemen. State University of Utrecht.

##### Belgium

Lambert, L. 1987. Structure et fonctions des pedicellaires chez les astéries (Echinodermata). Free University of Brussels.

##### Venezuela (Licenciatura thesis)

Sabrano, A. 1987. Actividad sedimentivor de *Holothuria mexicana* e *Isostichopus badionotus* (Echinodermata: Holothuroidea) en bajos de *Thalassia*. Univ. Simon Bolivar, Caracas.

##### Czechoslovakia (C.Sc.)

Prokop, R.J. 1968. Family Calceocrinidae Meek and Worthen 1869 in the Bohemian Silurian and Devonian (Crinoidea). Charles University.

Great Britain

Sims, M. J. 1986. Taxonomy and paleobiology of British lower Jurassic crinoids. Univ. Birmingham.

Wilkie, I.C. 1976. A study of the process of ophiuroid arm autotomy. Univ. Glasgow.

Jenkins, A.P.G. 1982. The feeding behavior of the asteroid, *Astropecten irregularis* (Pennant) in the Isle of Mann. Univ. Liverpool.

Dimelow, E.J. 1958. Some aspects of the biology of *Antedon bifida* (Pennant) with some reference to *Neocomatella europea*. Univ. of Reading.

Simms, M.J. 1986. The taxonomy and palaeobiology of British Lower Jurassic crinoids. Univ. of Birmingham.

Switzerland (Philosophiscan Doktor)

Scharer, R. 1985. Die Wirkung von Raubertum und Konkurrenz auf die Struktur einer Lebensgemeinschaft zweier Seestarnarten in der Natur und im Modell. Univ. Zurich.

Canada (Ph.D.)

Johnson, C.R. 1984. Ecology of the kelp *Laminaria longicruris* and its principal grazers in the rocky subtidal of Nova Scotia. Dalhousie Univ.

Cameron, J.L. 1986. Reproduction, development, processes of feeding and notes on the early life history of the commercial sea cucumber *Parastichopus japonicus* (Stimpson). Simon Fraser Univ.

McEuen, F.W. 1986. The reproductive biology and development of twelve species of holothurians from the San Juan Islands, Washington. Univ. of Alberta.

Byrne, M. 1983. Evisceration and autotomy in the holothurian *Eupentacta quinquesemita* (Selenka). Univ. of Victoria.

Gong, Z. 1987. Regulation of tubulin gene expression in sea urchin embryos. McGill Univ.

Rumrill, S.S. 1987. Differential predation upon embryos and larvae of temporal Pacific echinoderms. Univ. of Alberta.

Mooi, R.J. 1987. A cladistic analysis of the sand dollars (Clypeasteroidea: Scutellina) and the interpretation of heterochronic Phenomena. University of Toronto.

Kao, M.-h. 1980. Some aspects of the biology of sea stars *Asterias vulgaris* Verrill and *Leptasterias polaris* (Muller and Troschell) in Newfoundland waters. Memorial University, Newfoundland.

Keats, D.W.. 1986. The effects of the experimental removal of green sea urchins, and of ice-scour or sublittoral benthic macro-algal communities in Newfoundland. Memorial University of Newfoundland.

#### France (Doctorate d'Etat)

Picard, J. 1965. Recherches qualitatives sur les biocoenoses marines des substrats meubles dragables de la region Marseille. Univ. d'Aix-Marseille (echinoids, asteroids, ophiuroids, holothuroids, crinoids)

Verlague, M. 1987. Etude structural et dynamique du Phytobenthos et analyse des relations Faune-Flore. Univ. d'Aix-Marseille II.

Conand, C. 1988. Les holothuries aspidochirotés du lagon de Nouvelle-Caledonie: biologie, ecologie et exploitation. Univ. Bretagne Occidentale.

Scott, G. 1926. Etudes stratigraphique et paleontologique sur les terrains cretaces du Texas. Grenoble.

Gaudy, A. 1852. Memoire sur les precis solides des Stellerides. Paris.

Herrouard, E. 1890. Recherches sur les holothuries de cotes de France. Paris.

Ratto, A. 1988. Expression des enzymes arginine kinase et creatine kinase chez les echinodermes en relation avec la phylogenie de cet embranchement. Univ. Nice.

#### Tunisia

Zaghib-Turki, D. 1987. Les echinides du cretace de tunisie. Paleontologie generale: systematique, paleoecology, paleobiogeographie. Univ. de Tunis.

U. S. S. R. (Dissertation candidate, doctor of science) (communicated by G.M. Belyayev, V. Kasyanov, A.N. Solovyev)

Arendt, U.A. 1969. Sea lillies Tsertocrinidae. Paleontological Inst. Acad. Sci., Moscow.

Brikov, V.A. 1981. Individual growth and development in sea urchins. Inst. Mar. Biol., DVNT Acad. Sci., Vladivostock.

Vashenko, M.A. 1985. The influence of water-soluble diesel fuel on gametogenesis of the sea urchin *Strongylocentrotus nudus*. DVNT. Acad. Sci., Vladivostock.

Borobyev, V.A. 1978. Somatic polyploidy in the epithelium of the stomach of the seastyar. Inst. Biol. Develop., Moscow.

Ginda, V.A. 1965. Late Cretaceous sea urchins of the Volino-Podolski Plate. Lvov State Univ.

Dzhabarov, G.N. 1972. Sea urchins and biostratigraphic analysis of the Upper Cretaceous depositew of Turkmenia. Leningrad State Univ.

Dubatolova, U.A. 1968. Sea lilies of the Devonian period, Kuzbass and Mount Altays. Novosibirsk State Univ.

Klibushin, V.G. 1974. Cretaceous Crinoidea of the Crimea. Leningrad Mountain Inst.

Koltsova, E.A. 1983. Study of the chemical structure and physiological function of the pigments of sea urchins. Pacific Ocean Inst. Bioorganic Chemistry, DVN. Acad. Sci., Vladivostock.

Melikov, O.G. 1966. Upper Cretaceous sea urchins of the Azerbaijani section of the Little Caucasus and their stratigraphic significance. Inst. Petroleum Chem., Buku.

Militsina, V.S. 1973. Sea lilies of the Ordovician, Silurian, Lower Devonian of the northern and central Urals. Sverdlovsk Mountain Inst., Sverdlovsk.

Utkins, N.K. 1979. Chemical study of the pigments of echinoderms. DVNT. Acad. Sci., Vladivostock.

Dobryakova, O.A. 1969. Studies of the nervous system of the sea star *Asterias rubens* (chemoreception but regeneration). Leningrad.

Gnezdilova, S.M. 1971. Morphology and cytochemistry of oogenesis and sexual cycles of the sea urchins *Strongylocentrotus nudus* and *S. intermedius*. Vladivostock.

Galkin, V.V. 1972. Properties of nucleic acids and nucleases from the trepang *Stichopus japonicus*. Kiev.



- Bogdanovskaya, T.A. 1973. Structure of sialoglycolipids from pyloric glands of the sea star *Distolasterias nipon*. Chernovtshy.
- Kozlovskaya, E.P. 1974. Proteinases of sea stars. Vladivostock.
- Mironov, A.N. 1974. Systematics, distribution and some features of biology and phylogeny of deep-sea urchins. Moscow.
- Kholodov, V.I. 1975. Transformation of different forms of food by the sea urchin *Strongylocentrotus droebachiensis*. Sevastopol.
- Levin, V.S. 1976. Some features of the biology of common species of holothurians from the upper sublittoral zone with special reference to the tropical region. Sevastopol.
- Chuguyev, Yu. P. 1977. Plasmatic membrane proteins of sea urchin embryonic cells at early stages of development. Kiev.
- Marushkina, N.B. 1978. Studies on the kinetics of alimentary tube epithelium of trepang at normal conditions and during regeneration after autotomy. Leningrad.
- Ryabushko, V.I. 1978. Energy metabolism of echinoderms from the upper sublittoral zone of the Barents and Japan Seas. Sevastopol.
- Beaer, T.L. 1978. Ecology of the sea star *Asterias rubens* at the White Sea. Moscow.
- Varaksina, G.S. 1978. Histophysiology of accessory cells from the gonads of sea urchins, *Strongylocentrotus nudus* and *S. intermedius*. Vladivostock.
- Utkina, N.K. 1979. Chemical studies of chinoids pigments from echinoderms. Vladivostock.
- Poltorans, A.V. 1980. Possibilities of investigation of echinoderm phylogeny using DNA homologies. Moscow.
- Chekareva, N.V. 1981. Structural investigations of sialoglycosides from the sea urchins *Echinocardium cordatum* and *Echinarachnius parma*. Moscow.
- Manchenko, G.P. 1981. Electrophoretic studies of genetic variability in the sea stars. Leningrad.
- Terekhova, T.A. 1981. Lipid metabolism at very early development of sea urchins. Kiev.
- Naidenko, T.Kh. 1983. Studies of the life cycle of the sea urchin *Strongylocentrotus intermedius* under laboratory conditions. Vladivostock.

Kryuchkova, G.A. 1983. Morphology of larval and definitive skeleton of sea urchins from the sea of Japan. Vladivostock.

Smirnov, I.S. 1984. Ophiuroid fauna of Antarctic and subantarctic. Leningrad.

Smirnov, A.V. 1984. Holothurians (order Apoda) from the seas of the USSR and adjacent waters. Leningrad.

Dautov, S. Sh. 1984. Morphological aspects of feeding behaviour of common species of sea stars from the Japan Sea during metamorphosis. Vladivostock.

Kasyanov, V.L. 1985. Reproduction of marine bivalves and echinoderms from the Sea of Japan. Moscow.

Litvinova, N.M. 1985. Feeding and behavior of shelf and deep-sea ophiuroids and their position in trophic chains. Moscow.

Gebruk, A.V. 1986. Deep-sea holothuroids of the family Elpidiidae (Elasipoda), systematics, way of life, distribution, and phylogeny. Moscow.

#### Hong Kong

Chiu, S.T. 1987. Aspects of the ecology of *Anthocidaris crassispinis* (Echinodermata: Echinoidea) in Hong Kong. Univ. Hong Kong.

#### United States (Ph.D.)

Davis, N. 1978. Studies of the southern California nearshore sand bottom community. Univ. Calif., San Diego. (Astropecten)

Coffaro, K.A. 1980. Transplantation immunity in the sea urchin. Univ. Calif., Santa Cruz.

Mintz, L.W. 1966. The origins, phylogeny, descendants of the echinoid family Diasteridae A. Gras, 1848. Univ. California, Berkeley.

McCollum, L. 1980. Distribution of marine faunal assemblages in a Middle Devonian stratified basin, lower Ludlowville Formation, New York. State Univ. New York, Binghamham. (crinoid)

Stockton, W.L. 1980. The relation between trophic resource stability and genetic variability as detected by enzyme electrophoresis in four species of sea star. Univ. Calif., Davis.

Fowler, M.L. 1972. Distribution of magnesium and strontium in the skeletons of modern regular echinoids from the United States Atlantic coasts and Caribbean Sea. Indiana University.

- Reidenauer, J.A. 1986. A field investigation of a sand dollar (*Mellita quinquiesperforata*) population and its effects on the benthic community. Florida State University.
- Alliegro, M.C. 1986. A study of the sea urchin egg trypsin-like protease. State Univ. of New York, Buffalo.
- Cline, C.A. 1986. Localization of polymerized actin and cyclic nucleotide measurements during sea urchin fertilization. Florida State Univ.,
- Terceiro, M. 1986. Changes in the epibenthic macro-invertebrate and demersal fish assemblages in Narragansett Bay and Rhode Island Sound. Univ. Rhode Island. (Asterias)
- Venuti, J.M. 1985. Calmodulin and calmodulin-binding proteins of sea urchin coelomocytes. State Univ. of New York, Buffalo.
- Servetnick, M.D. 1985. Changes in the synthesis and intracellular localization of nuclear proteins during embryogenesis of the sea urchin *Strongylocentrotus purpuratus*. Univ. of California, Berkeley.
- Killian, C.E. 1985. Ribonucleoside phosphorylation during fertilization and early development of the sea urchin, *Strongylocentrotus purpuratus*. Georgetown Univ.
- Morrison, D.E. 1986. Algal-herbivore interactions on a Jamaican coral reef. Univ. of Georgia. (Diadema)
- Harrington, F.E. 1986. Yolk glycoprotein precursor translocation in the echinoid. Michigan State Univ.
- Smiley, S.T. 1986. *Stichopus californicus* (Echinodermata:Holothuroidea) oocyte maturation hormone, metamorphosis, and phylogenetic relationships. Univ. of Washington.
- Green, G.R. III. 1986. Decondensation of sea urchin sperm chromatin. Univ. of Massachusetts.
- Maluf, L.Y. 1987. Classification and distribution of the central eastern Pacific echinoderms. Univ. of Arizona.
- Grober, M.S. 1988. The physiology, behavior, and ecological responses of the nocturnal marine fauna to benthic invertebrate bioluminescence. Univ. Calif., Los Angeles (ophiuroid)
- Clement, L.A. 1988. Uptake and utilization of dissolved free amino acids by the brittle star *Microphiopholis gracillima* (Say, 1852) (Echinodermata: Ophiuroidea). Univ. South Carolina.

### Argentina

Seluat, M.B. 1985. Biologie de la reproduction de *Anasterias minuta* Perrier (Echinodermata, Asteroidea), especie incubadora de la costas patagonicas. Univ. Buenos Aires.

Federal Republic of Germany

Gutt, J. 1988. Zur Verbreitung und Okologie der Seegurken (Holothuroidea, Echinodermata) in Weddellmeer (Antarkis). Univ. Kiel.

Denmark

Mortensen, T. 1897. Systematiske studier over Echinodermlarver. Univ. of Copenhagen.



THESES AND DISSERTATIONS

## BACHELOR'S THESES

Canada

McDaniell, N. 1971. The starfish *Solaster dawsoni* as a predator of asteroids. Univ. of British Columbia.

Australia

Klemke, J.E. 1985. Habitats and diets of adults and juveniles of the seastar *Coscinasterias calamaria* (Gray) in Port Philip. Univ. of Melbourne.

O'Callaghan, B. 1986. Some aspects of asexual reproduction in the fissiparous starfish *Allostichaster polyplax* (Muller & Troschel). Univ. of Melbourne.

Laedgsgaard, P. 1989. Reproduction of sympatric populations of *Heliocidaris tuberculata* and *Heliocidaris erythrogramma*. Univ. of Sydney.

Peckham, K.P. 1984. The effect of size, starvation, and temperature on nutrient partitioning and respiration of *Acanthaster planci*. James Cook Univ.

Japan

Sugiyama, T., K. Tori. 1986. Ecological studies on juveniles of *A. planci* at Iriomote Island: Distribution, morphogenesis and change in feeding habit, and tolerance against environmental stresses. Tokai Univ.

Ohtaki, T., T. Toyoguchi. 1986. Tolerances of *A. planci* against water temperatures, lowered salinities and lowered levels of dissolved oxygen. Univ. Ryukyus.

Ireland

Grehan, A. 1982. Aspects of the biology and ecology of *Amphiura filiformis* (O.F. Muller) (Echinodermata: Ophiuroidea). University College, Galway.

O'Sullivan, S. 1988. Aspects of the ecology and culture of the purple sea urchin *Paracentrotus lividus* (Lamarck). University College, Cork.

Belgium (Liciencie)

Dominique, F. 1973. Contribution a l'etude du cycle annuel de reproduction de deux especes d'echinoïdes (Echinodermata) des cotes de Bretagne. Univ. Libre Bruxelles.

Temara, A. 1990. Caracteres d'une symbiose bactérienne intradigestive chez l'échinide Fousseur *Echinocardium cordatum* (Echinodermata). Univ. Libre Bruxelles.

Ireland

Grehan, A. Aspects of the biology and ecology of *Amphiura filiformis* (O.F. Muller) (Echinodermata, Ophiuroid. Univ. College, Galway.

## MASTER'S THESES

Germany

Schoppe, S. 1990. The association between *Acyrtus rubignisosu* (Gobiesocidae), *Clastotoechus vanderhorsti* (Porcellanidae), *Ophiothrix* sp. (Ophiotrichidae) and their burrowing host *Echinometra lucunter* (Echinometridae) on the rocky shores of Santa Marta, Columbia. Univ. of Giessen.

Republic of South Africa

Sweijd, N. A. 1990. The digestive mechanisms of an intertidal grazer, the sea urchin *Parechinus angulosus* (Leske). Rhodes Univ.

New Zealand

Fell, H.B. 1938. The direct development of a New Zealand ophiuroid. Wellington Univ.

Dawbin, W.H.I. 1942. Autoevisceration and regeneration in *Stichopus mollis* (Hutton). Wellington Univ.

di Menna, M.E. 1947. The anatomy and ecology of *Trochodota dunedinensis* (Parker), a synaptid holothurian. Univ. of Otago.

Boyle, A. 1954. The anatomy and systematic position of *Evechinus chloroticus* (Val. 1846), an endemic New Zealand echinoid. Wellington Univ.

Laurenson, D.F. 1970. Behavioural and physiological studies of the escape response elicited in trochid gastropods by thaid and asteroid predators. Univ. Auckland.

Marin, R.B. 1970. Asteroid feeding biology. Univ. Auckland.

Don, G.L. 1975. The effects of grazing by *Evechinus chloroticus* (Val.) on populations of *Ecklonia radiata* (Ag.). Univ. Auckland.

Walker, M. 1977. Local variation in the population biology of *Evechinus chloroticus* (Val.). Univ. Auckland.

Andrew, N.L. 1982. An experimental study of the distribution and abundance of *Evechinus chloroticus* (Echinoidea: Echinodermata). Univ. Auckland.

Burgett, J.M. 1982. The feeding ecology of *Patiriella regularis* (Verrill) in the rocky intertidal. Univ. Auckland.

La Barre, S. 1978. The ecology of a subtidal fringing reef at Nouville, New Caledonia, with special reference to the Echinodermata. Univ. Auckland.

Sewell, M. A. 1990. The reproductive biology of *Stichopus mollis* (Hutton). Univ. of Auckland.

### Australia

Connolly, R.M. 1986. Behavior and ecology of the sea urchin *Heliocidaris erythrogramma* (Valenciennes). Univ. of Adelaide.

Nash, W.J. 1983. Population genetic and morphological studies on the Crown-of-thorns starfish, *Acanthaster planci* (L.), in the Great Barrier Reef region. James Cook University of North Queensland, Townsville.

Duyverman. 1976. Factors affecting the local distribution of the sea star *Patiriella exigua* L. Flinders University.

Dartnell, A. 1971. The taxonomy and biogeography of the sea star genus *Patiriella* in Tasmania. Univ. of Tasmania.

Stump, R. 1987. Preliminary investigations into ageing the crown-of-thorns starfish *Acanthaster planci* (L.) (Echinodermata, Asteroidea) using intracellular autofluorescent pigment analysis. James Cook Univ.

### France (Doctorate de 3eme Cycle)

Bourgoin, A. 1987. Ecologie et demographie d'*Acrocnida brachiata* (Montgu) (Echinoderma en baie de Douarnenez (Bretagne). Universite de Bretagne Occidentale.

Gentil, F. 1976. Distribution des peuplements benthiques en baie de Seine. Univ. de Paris VI.

### Canada

Brooks, E.J. 1973. Some aspects of the taxonomy and biology of the genus *Leptosynapta* (Holothuroidea) in British Columbia. Univ. Victoria.

McClary, D.J. 1989. The biology and ecology of reproduction in the brooding and broadcasting sea star, *Pteraster militaris* (O.F. Muller) (Echinodermata: Pterasteridae). Mount Allison University, Sackville.

Raymond, B.G. 1985. Behaviour and growth of the early life history stages of *Strongylocentrotus droebachiensis*. Dalhousie University.

Younglao, D. 1987. Spawning, aggregation and recruitment in the black sea urchin *Diadema antillarum*. McGill University.

Carson, S.F. 1989. Development and reproductive biology of three species of *Solaster* sea stars from the northeast Pacific Ocean. Univ. of Alberta.

### U.K.

Lewis, D.N. 1987. The fossil Echinoidea from the Barton Beds (Eocene) of the type locality. Birkbeck College.

U.S.A.

Lahaye, C.A. 1985. Electron microscopic study of the ontogeny of digestive phagocytosis during the development of an asteroid (*Patiria miniata*) and an echinoid (*Lytechinus pictus*). San Diego State University.

Brookbank, J. W. 1953. The urease activity of the eggs and embryos of the sea urchin *Strongylocentrotus purpuratus* Stimpson. Univ. of Washington.

Litchfield, J.B. 1954. Studies on the mechanism of phosphate accumulation by sea urchin embryos. Univ. of Washington.

Lares, M.T. 1990. The effects of temperature on the survival, organismal activity, nutrition, growth, and reproduction of the carnivorous, tropical sea urchin, *Eucidaris tribuloides*. Univ. of Alabama at Birmingham.

Briscoe, C.S. 1988. Omnivory in the green sea urchin *Strongylocentrotus droebachiensis* (Muller) (Echinodermata: Echinoidea): the contribution of mussel versus kelp diets for somatic growth and reproductive effort. Northeastern Univ.

Padilla, D. 1981. Selective factors influencing the morphology of coralline algae. Oregon State Univ. (echinoids)

Schneider, J. A. 1988. Evolutionary ecology of post-Paleozoic crinoids. Univ. of Chicago.

Truchon, S.P. 1988. Growth and reproduction in kelp bed and barren populations of *Strongylocentrotus droebachiensis* (Muller), the green sea urchin. Univ. of New Hampshire, Durham.

Kwast, K.E. 1989. Genetics and systematics of the *Leptasterias hexactis* species complex (Echinodermata: Asteroidea). Louisiana State Univ.

Hadfield, M.G. 1961. The morphology of a psolid holothurian. Univ. Washington.

Jones, S. 1960. Early embryology of *Psolus chitinoides*. Univ. Washington.

Randall, R.H. 1971. Tanguisson-Tumon, Guam reef corals before, during, and after the crown-of-thorns (*Acanthaster planci*) predation. Univ. Guam.

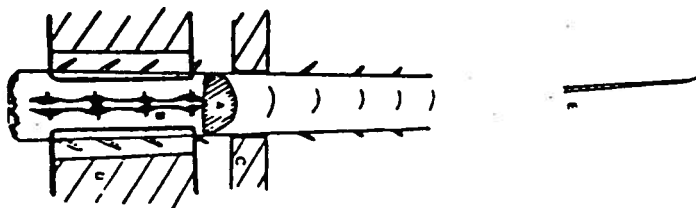


Figure 1 Single arm with several segments dissected from the aboral surface. The nerve cord is exposed by removing the aboral intervertebral muscles and ossicles (A) with the hyponeural ganglia and the associated severed motor axon bundles on the top surface (B). The intact arm is held clamped close to the dissected region (C) but the rest is free to move (E). The dissected part is further clamped (D) such that there is access to stimulate the undamaged parts of the lateral plates, spines and oral region

COBB. 1990. Mar. Behav. Physiol.



Greenstein, B.J. 1986. Mass mortality of the echinoid *Diadema antillarum* at Bonaire, Netherlands Antilles: a natural experiment in taphonomy. Univ. of Cincinnati.

Roeser, E.W. 1986. A Lower Mississippian (Kinderhookian - Osagean) crinoid fauna from the Cuyahoga Formation of northeastern Ohio. Univ. of Cincinnati.

Thies, J.L. 1988. Analysis of crinoid communities and their associated lithofacies within the Fort Payne Formation (Lower Mississippian) in the vicinity of Burkesville, Kentucky. Univ. of Cincinnati.

Terry, R.E., 1990. Echinoderm Paleoecology and taphonomy of carbonate debris flows, Fort Payne Formation (Late Osagean, Lower Mississippian), Dale Hollow Reservoir, Tennessee. Univ. of Cincinnati.

Schneider, J. 1988. Evolutionary ecology of Post-Paleozoic crinoids. Univ. of Cincinnati.

### Republic of China

Chen, B.-Y. 1989. Life history of *Patiriella pseudoexigua* Dartnell (Echinozoa: Asterozoa). Sun Yat-Sen University, Kaohsiung.

### Japan

Arakaki, Yuuji. 1990. A comparative ecological and reproductive study on the four types of sea urchin *Echinometra mathaei* (Blainville) on Okinawan reef flats. Univ. of the Ryukyus.

C. M. Pearce and R. E. Scheibling: Settlement and metamorphosis in *E. parma*

1990.

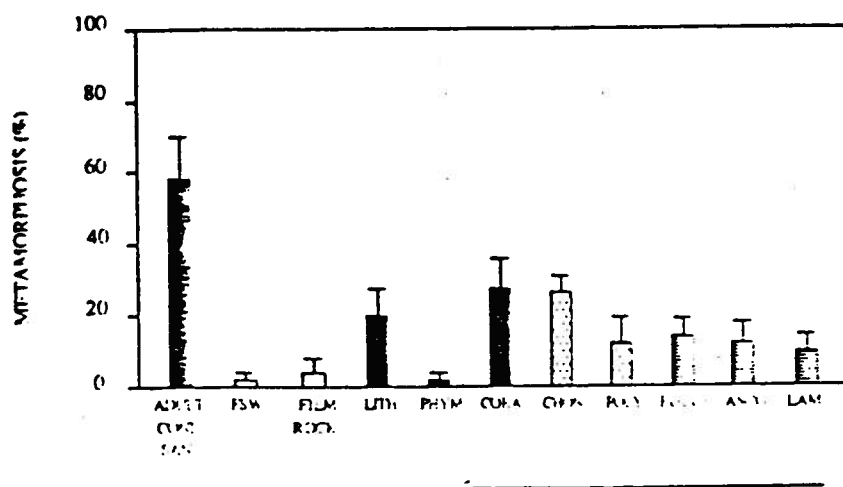


Fig. 4. *Echinometra parma*. Mean percent metamorphosis of larvae in response to various macroalgae: *Lithothamnium glaciale* (LITH), *Phymatholithon lacvigatum* and/or *P. rugulosum* (PHYM), *Corallina officinalis* (CORA), *Chondrus crispus* (CHON), *Polysiphonia lanosa* (POLY), *Fucus vesiculosus* (FUCUS), *Ascophyllum nodosum* (ASCO), *Laminaria longicruris* (LAMI), and bare rocks with a 9-mo-old microbial film (FILM ROCK). Controls are filtered sea water (FSW) and sand taken from a bed and maintained with adults (ADULT COND SAND). Each treatment consists of five replicates with ten larvae per replicate. Filled bars indicate red coralline algae, stippled bars red foliose algae, and lined bars brown algae. Error bars indicate standard error. Horizontal bar below graph underscores treatments which do not significantly differ in proportion of larvae metamorphosed (Scheibling, 1990).

Brasil

Albuquerque, Maria da Natividade. 1978. *Amphiur* Forbes, 1843 et *Amphioplus* Verrill, 1899 das regioes Antarticae Subantartica (Echinodermata-Ophiuroidea-Amphiuridae). Universidade Federal do Rio de Janeiro.

## DOCTORAL DISSERTATIONS

Australia

Keesing, John K. 1990. Feeding biology of the crown of thorns starfish *Acanthaster planci* (Linnaeus). James Cook University of North Queensland.

Andrew, N.L. 1988. Population dynamics and herbivory in the common sea urchin *Centrostephanus rodgersii*. Univ. of Sydney.

Constable, A.J. 1989. An investigation of resource allocation in the sea urchin, *Heliocidaris erythrogramma* (Valenciennes). Univ. of Melbourne.

New Zealand

Pawson, D.L. 1963. Studies on echinoderms of the southern Pacific Ocean. Victoria University of New Zealand.

Crump, R.G. 1969. Aspects of the biology of some New Zealand echinoderms: feeding, growth and reproduction in the asteroids, *Patiriella regularis* (Verrill, 1867) and *Coscinasterias calamaria* (Gray, 1840). Univ. of Otago.

Clark, H.E.S. 1969. Revision of the Southern Hemisphere asteroid order Paxillosida. Victoria University of Wellington.

Dix, T.G. 1969. The biology of the echinoid *Evechinus chloroticus* (Val.) in different habitats. Univ. Canterbury.

Pentreath, R.J. 1968. The comparative form, function and ecology of some New Zealand brittle-stars (Ophiuroidea). Univ. Auckland.

Rainer, S.F. 1969. Marine benthic ecology in Otago: the macrofauna of deposit substrata in the Otago Harbour and Blueskin Bay. Univ. of Otago. (holothuroids, ophiuroids)

Barker, M.F. 1977. Studies on the life cycle of two forcipulate starfish (Echinodermata, Asteroidea) from New Zealand. Univ. Auckland.

Town, J.C. 1979. Aspects of the biology of *Astrostole scabra* (Hutton, 1872). Univ. Canterbury. uipXu, R. A. 1989. Studies on the reproductive biology of the forcipulate starfish *Scleasterias mollis* (Echinodermata: Asteroidea). Univ. of Otago.

Puerto Rico

Morales Velez, Mildred. 1990. The catch mechanism of the sea-urchin spine ligament. I. Cholinergic sensitivity. II. Influence of calcium. III. Structural factors. University of Puerto Rico.

### Scotland

Bedford, A.D. 1986. Metazoan detritivores and underwater decomposition processes of detached sublittoral macrophytes. Univ. of Glasgow.

Turton, G.-C. 1987. Antifungal defense mechanisms of the sea urchin *Echinus esculentus* L. Univ. of Glasgow.

### Russia

Levin, V.S. 1990. Trophoecology of holothurians in the coastal zone of the sea.

### Ireland

Bowmer, T. 1982. Aspects of the biology and ecology of *Amphiura filiformis* (O.F. Muller) (Echinodermata: Ophiuroidea). University College, Galway.

### Austria

Schinner, Gottfried. 1990. Functional morphology and ecology of *Schizaster ausliferus* (Echinoidea: Spatangoida) in the northern Adriatic Sea. Univ. of Vienna.

### The Netherlands

den Besten, P.J. 1991. Effects of cadmium and PCBs on reproduction of the seastar *Asterias rubens*. Rijksuniversiteit Utrecht.



Pieter J. den Besten

Keats, D.W. 1986. The effects of the experimental removal of green sea urchins, and of ice-scour on sublittoral benthic macro-algal communities in eastern Newfoundland. Memorial Univ. of Newfoundland.

Gibson, A.W. 1987. Morphogenesis and differentiation of pigment cells in embryos of the sea urchin *Strongylocentrotus purpuratus*. Univ. of Victoria.

Cameron, L. 1981. Reproduction, development, processes of feeding and notes on the early life history of the sea cucumber *Parastichopus californicus* (Stimpson). Simon Fraser University.

Mooi, R.J. 1987. A cladistic analysis of the sand dollars (Clypeasteroidea: Scutellina) and the interpretation of heterochronic phenomena. Univ. Toronto.

Rumrill, S.S. 1987. Differential predation upon embryos and larvae of temperate Pacific echinoderms. Univ. of Alberta.

Gibson, A.W. 1987. Morphogenesis and differentiation in the pigment cells in embryos of the sea urchin *Strongylocentrotus purpuratus*. Univ. of Victoria.

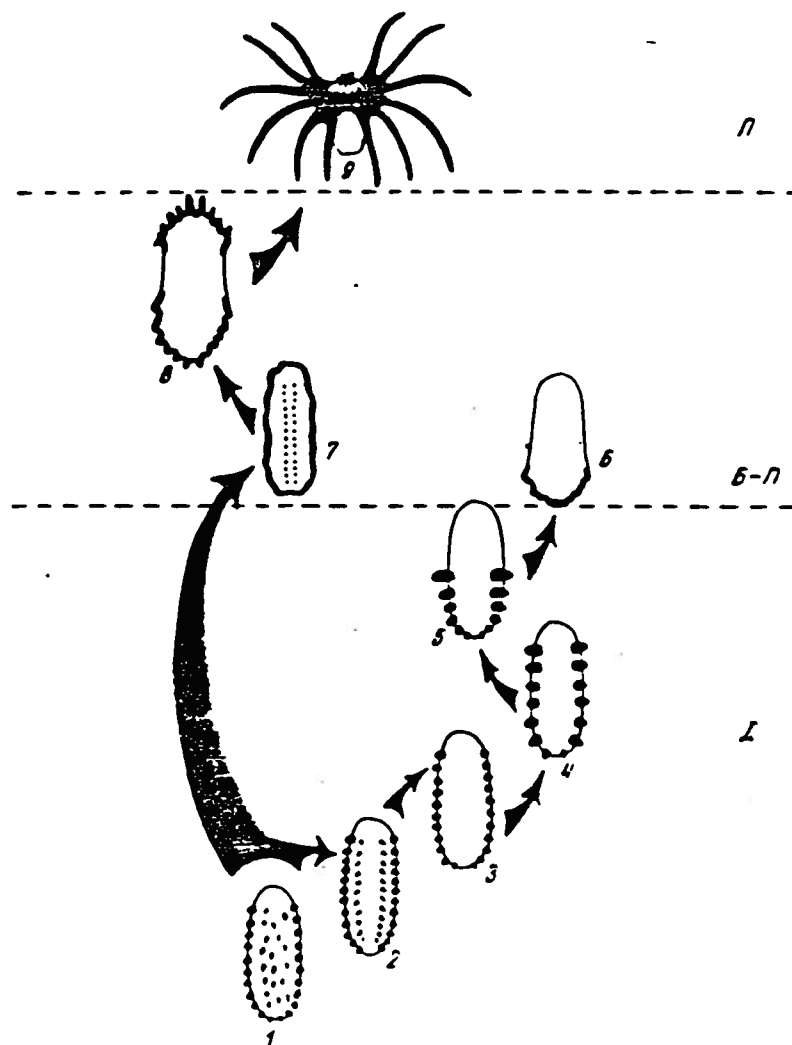


Рис. 1. Основные направления специализации выростов амбулациальной системы (ножек) у эхиноид (1-8) (показаны в тексте). Л-Б-П-П - жизненные формы: личинка, бентоподобная личинка и постэмбриональная личинка.

Zenk. J.

1990.

GERBOK. 1990.

## France

Sibuet, M. 1987. Structure des peuplements benthiques en relation avec les conditions trophiques en milieu abyssal dans l'océan Atlantique. Univ. de Pierre et Marie Curie, Paris VI. (all extant classes)

Davoult, D. 1988. Etude du peuplement des cailloutis à épibiose sessile et de la population d'*Ophiothrix fragilis* (Abilgaard) du détroit du Pas-de-Calais (France). Univ. de Lille.

Perin, J.P. 1976. Le lysozyme chez les invertébrés: étude des lysozymes de *Nephtys hombergii* et d'*Asterias rubens*. Univ. Paris. VII.

Pomel, M.A. 1883. Classification méthodiques et généra des échinides vivants et fossiles. Univ. Paris.

Francour, P. 1990. Dynamique de l'écosystème à *Posidonia oceanica* dans le Parc national de Port Cros. Analyse des compartiments matrice, litier, faune vagile, échinodermes et poissons. Univ. P. & M. Curie (Paris VI). (Psammechinus, Holothuria).

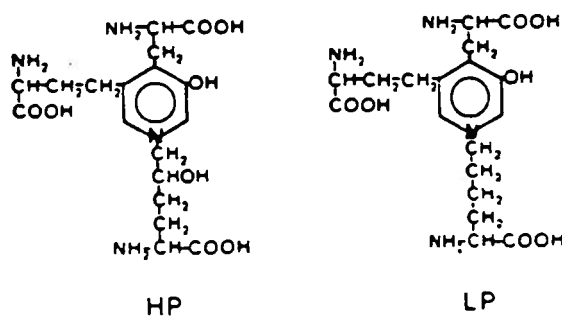
George, S. 1990. Réponses reproductives de trois Echinodermes et les conséquences sur le développement larvaire. Univ. P. & M. Curie (Paris VI). (*Arbacia lixula*, *Paracentrotus lividus*, *Luidia clathrata*)

Breton, G. 1990. Les Goniasteridae (Asterozoa, Echinodermata) jurassiques et crétacés de France: taphonomie, systématique, biostratigraphie, paléobiologie, évolution. Univ. Caen.

Pedrotti, M.L. 1990. Étude des processus biologiques et des facteurs physiques responsables de la dispersion et du recrutement des larves méroplanktoniques. Modèle: les larves d'échinodermes. Univ. P. & M. Curie (Paris VI).

Neraudeau, D. 1990. Ontogenèse, paléocologie et histoire des *Hemiaster*, échinides irréguliers du Crétacé. Univ. Bourgogne.

David, B. 1985. La variation chez les Echinides Irréguliers: dimensions ontogénétiques, écologiques, évolutives. Univ. Dijon.



Van Ness et al.  
1988.

Fig. 1. Chemical structures of hydroxylysyl pyridinolone (HP) and lysyl pyridinolone (LP)

United Kingdom

Gorzula, S.J.F. 1976. The ecology of *Ophiocomina nigra* (Abildgaard) in the Firth of Clyde. Univ. of London.

Donovan, S.K. 1983. Evolution and biostratigraphy of pelmatozoan columnals from the Cambrian and Ordovician of Britain. Univ. of Liverpool.

Gowland, S. 1987. Facies analysis of three members of the Scarborough Formation (Middle Jurassic: Lower Bajocian) in the Cleveland Basin, northeast England: Blea Wyke, Byland Limestone, and Crinoid Grit members. Univ. of Hull.

Morrison, G.W. 1979. Studies on the ecology of the sub-Antarctic ophiuroid, *Ophionotus hexactis* (E.A. Smith). Univ. of London.

Billett, D.S.M. 1988. The ecology of deep-sea holothurians. Univ. of Southampton.

Sloan, N. 1977. An experimental study of the predatory and social behaviour of *Crossaster papposus* (L.). Queen Mary College.

Vost, L. M. 1985. The influence of grazing by the sea urchin *Echinus esculentus* L. on subtidal algal communities. Univ. of Liverpool.

Johnson, J. 1972. The biology of *Amphipholis squamata* Delle Chiaje (Echinodermata: Ophiuroidea). Univ. Newcastle-upon-Tyne.

Clerk, C. 1981. The animal world of the Mangalans. Univ. London (holothuroids)

Papua-New Guinea

Shelley, C. 1981. Aspects of the distribution, growth, and "fisher" potential of holothurians (beche-de-mer) in the Papuan coastal lagoon. Univ. Papua-New Guinea.

Singapore

Su-Yeong, G.L. 1986. Singapore reef echinoderms and their associates with emphasis on crinoids. National Univ. of Singapore. (includes checklist of echinoderms in the Singapore ZRC collection, information on all classes)

U.S.A.

Strumski, M.A. 1985. Purification and characterization of an endogenous carbohydrate-binding protein from the sea urchin *Lytechinus variegatus*. Univ. of Miami.

Venuti, J.M. 1985. Calmodulin and calmodulin-binding proteins of sea urchin coelomocytes. State Univ. of New York, Buffalo.

Morrison, D.E. 1986. Algal-herbivore interactions on a Jamaican coral reef. Univ. of Georgia. (Diadema)

- Smith, F.F. 1985. Changes in the biochemical composition of the testis during spermatogenesis in *Asterias vulgaris*, with emphasis on the role of polyamines in regulating proliferation. Univ. of New Hampshire.
- Zmarzly, D.L. 1985. Distribution and ecology of shallow-water crinoids (Echinodermata) in the Marshall Islands, with emphasis on their symbiotic organisms. Univ. of California, San Diego.
- Eschenberg, K.M. 1956. Studies on the sedimentability and biochemical characteristics of pentose nucleic acid complexes in the embryonic and adult sea urchins. Univ. of Washington.
- Black, R.E.L. 1957. Proteolipid protein antigen in the gametes and embryos of the sea urchin, *Strongylocentrotus purpuratus*. Univ. of Washington.
- Emllet, R.B. 1985. Functional morphology and ecology of larvae of clypeasteroid echinoderms and other ciliated larvae. Univ. of Washington.
- Reidenauer, J.. 1986. A field investigation of a sand dollar (*Mellita quinquiesperforata*) population and its effects on the benthic community. Florida State University.
- Terceiro, M. 1986. Changes in the epibenthic macro-invertebrate and demersal fish assemblages in Narragansett Bay and Rhode Island Sound. Univ. Rhode Island (Asterias)
- Langelan, R.E. 1985. Unequal division, cell cycle and micromere determination in echinoid early embryogenesis: an experimental study. Univ. of Washington.
- Boyle, J. A. 1989. Changes in the cortical cytoskeleton during oogenesis in the sea urchin, *Strongylocentrotus droebachiensis*. Tufts Univ.
- Kelso, L. C. 1989. Regulation of protein synthesis during sea urchin early development. Univ. of Texas, Austin.
- Stebbins, T. D. 1988. Ecology of a commensal isopod *Colidothea rostrata* (Benedict, 1898) in southern California. Univ. Southern California, Los Angeles. (on echinoids)
- Donachy, J.E. 1988. Enzymatic activities associated with arm regeneration and calcification in *Asterias forbesi*. Univ. of South Carolina, Columbia.
- Sucov, H.M. 1989. Characterization and developmental regulation of a gene expressed specifically in the skeletogenic lineage of the sea urchin embryo. Calif. Inst. of Technology, Pasadena.
- Ojeda, F.P. 1987. Rocky subtidal community structure in the Gulf of Maine: the role of mobile predators. Univ. of Maine, Orono. (*Strongylocentrotus*)
- Hursh, D. A. 1988. Cell lineage-restricted transcripts in the development of the sea urchin *Strongylocentrotus purpuratus*. Univ. of Indiana.
- Yabkowitz, R. 1987. Regulation of sea urchin myosin by 53K, a myosin-binding protein. Univ. of Miami.

- Wray, G.A. 1987. Heterochrony and homology in the evolution of echinoid development. Duke University.
- Chase, D.G. 1967. Inhibition of the cortical reaction with high hydrostatic pressure and its effect on the fertilization and early development of sea urchin eggs. Univ. Washington.
- Ozaki, H. 1965. Differentiation of esterases in the development of echinoderms and their hybrids. Univ. Washington.
- Coffman, J.A. 1990. An extracellular matrix protein that identifies the ventral ectoderm of the sea urchin embryo. Duke University.
- Rowley, R.J. 1989. The settlement, recruitment, and early growth and mortality of the purple sea urchin, *Strongylocentrotus purpuratus*, and the red sea urchin, *Strongylocentrotus franciscanus*, in a kelp bed and urchin barren ground. Univ. California, Santa Barbara.
- Beadle, S.C. 1990. The origins of the family Dendrasteridae (Echinoidea: Clypeasteroidea): rapid evolution change through heterochrony. Johns Hopkins University.
- Wiedman, L.A. 1990. The paleontology of selected Antarctic and New Zealand Eocene fossils. Kent State University.
- Folz, K.R. 1989. Sea urchin dyneins. Purdue University.
- Lane, M.C. 1989. Cell surface proteoglycan in sea urchin primary mesenchyme cell migration. Univ. Iowa.
- Clement, C.R. 1989. Echinoderm faunas of the Decatur Limestone and Ross Formation (Upper Silurian to Lower Devonian) of west-central Tennessee. Univ. Tennessee.
- Folz, K.R. 1989. Sea urchin dyneins. Purdue University.
- Justice, R.W. 1990. Calcium-insoluble proteins of the hyaline layer of the sea urchin, *Strongylocentrotus purpuratus*. Univ. California, Riverside.
- Scancar, S.M. 1990. Skeletal chemistry and growth of the echinoid Strongylocentrotus. Univ. of Cincinnati.
- Greenstein, B.J. 1990. An integrated study of echinoid taphonomy: predictions for the fossil record of four echinoid families. Univ. of Cincinnati.
- Hardy, D.O. 1987. Calmodulin isotypes in Arbacia punctulata: cDNAs for sequences and expression. Univ. of Virginia.
- Dobson, W.E. 1988. Early post-autotomy tissue regeneration and nutrient translocation in the brittlestar Microphiopholis gracillima (Stimpson) (Echinodermata: Ophiuroidea). Univ. of South Carolina.



Clements, L.A. 1988. Uptake and utilization of dissolved free amino acids by the brittlestar Microphiopholis gracillima (Say 1852) (Echinodermata: Ophiuroidea) during disc regeneration. Univ. of South Carolina.

Bay-Schmith, E. 1988. Structure and function of extragonadal tissues in relation to photoperiodic regulation of gametogenesis in the sea urchin Strongylocentrotus purpuratus. Univ. of California, Santa Cruz.

Bosch, I.M. 1989. Reproduction and development of shallow-water asteroids and an echinoid in the McMurdo Sound, Antarctica. Univ. of California, Santa Cruz.

Grober, M.S. 1988. The physiological, behavioral and ecological responses of nocturnal marine fauna to benthic invertebrate bioluminescence. Univ. of California, Los Angeles.

Nelson, S.H. 1988. Cellular studies on early morphogenetic events in the sea urchin embryo. Duke Univ.

Kelso, L.C. 1988. Regulation of protein synthesis during sea urchin early development. Univ. of Texas, Austin.

Boyle, J.A. 1989. Changes in the cortical cytoskeleton during oogenesis in the sea urchin, Strongylocentrotus droebachiensis. Tufts Univ.

Conlon, R.A. 1990. Regulated accumulation of nuclear RNA in the cytoplasm of sea urchin embryos. Univ. of Texas, Austin.

Yang, Q. 1990. Temporally and spatially regulated genes of sea urchin embryos. Univ. of Rochester.

Ito, M. 1989. Regulation of histone H2b gene expression in the sea urchin. Univ. Southern California.

図10. *Ophiopholis* sp.

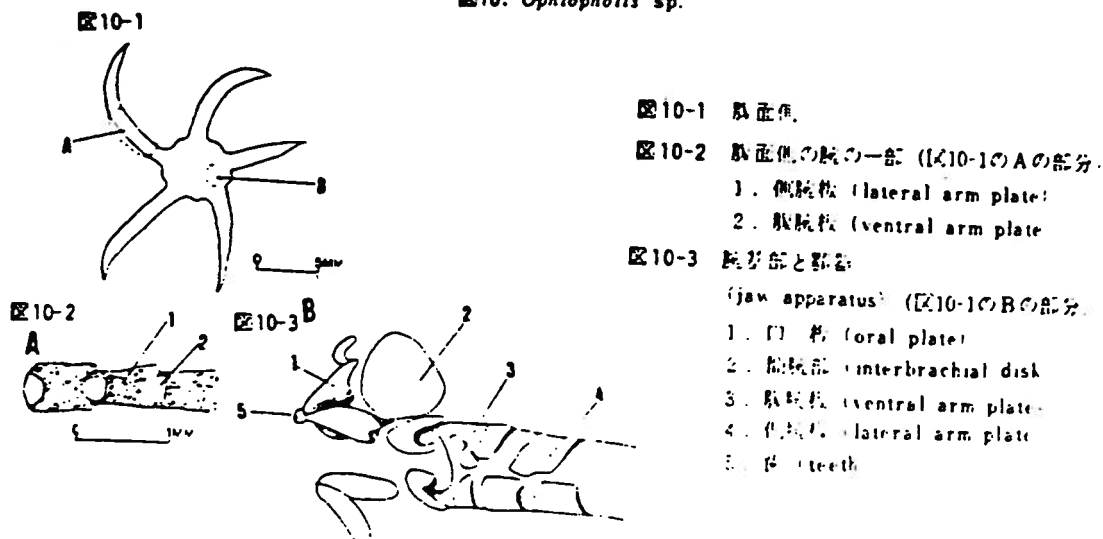


図10-1 全体像

図10-2 断面側の腕の一部 (図10-1のAの部分)

1. 側腕板 (lateral arm plate)
2. 腹腕板 (ventral arm plate)

図10-3 口部と顎部

(jaw apparatus) (図10-1のBの部分)

1. 口板 (oral plate)
2. 腕間部 (interbrachial disk)
3. 腹腕板 (ventral arm plate)
4. 側腕板 (lateral arm plate)
5. 歯 (teeth)

## THESES AND DISSERTATIONS

### HONORS THESES

#### Japan

Ogura, M., H. Yokochi, A. Ueno, M. Takadam, N. Teruya, A. Nagano, U. Fujimaka, Y. Shimoto. 1982. Study on crown-of-thorns starfish in the northwestern region of Iriomote Island. Tokai Univ.

Ohtaki, T., T. Toyoguchi. 1986. Tolerances of *A. planci* against water temperatures, lowered salinities and lowered levels of dissolved oxygen. Tokai Univ.

Sugiyama, K. Tou. 1986. Ecological studies on juveniles of *A. planci* at Iriomote Island: distribution, morphogenesis and change in feeding habit, and tolerance against environmental stresses. Tokai Univ.

Takahashi, N. 1986. Tolerance and reactions of *Acanthaster planci* against lowered temperatures. Univ. of Ryukyus.

Ueno, A. 1986. A study of crown-of-thorns starfish in the northwestern part of Iriomote Island. Tokai Univ.

#### Australia

Laegdsgaard, P. 1989. The reproduction of two co-occurring species of the sea urchin *Helicoidaris* in the Sydney region. Univ. of Sydney.

#### Canada

Ellis, C. 1987. Distribution and abundance of amoebae (*Paramoeba invadens*) in tissues of diseased sea urchins (*Strongylocentrotus droebachiensis*). Dalhousie Univ.

Hamm, J. 1987. Aggregation and cryptic behaviour in juvenile sea urchins (*Strongylocentrotus*) predators, food availability, and habitat complexity. Dalhousie Univ.

Pontefract, R. 1989. Ecological energetics of sea urchins. Dalhousie Univ.

#### Ireland

Byrne, M. 1978. The phenomenon of aggregation in echinoderms with particular reference to the ophiuroid *Ophiocomina nigra* (Abildgaard) and the crinoid *Antedon bifida* (Pennant). Univ. College, Galway.

White, M. Aspects of the biology and ecology of *Echinus esculentus* Linnaeus (Echinoidea: Echinodermata). Univ. College, Galway.

## MASTER'S THESES

### Japan

Okaji, K. 1989. Delayed spawning activity and prolonged reproductive period in dispersed individuals of *Acanthaster planci* (L.) in Okinawa. Univ. of Ryukyus.

### Australia

Fernandes, L. 1989. Biases associated with the use of manta tow, a rapid reef surveillance technique, with particular application to the Crown-of-Thorns starfish (*Acanthaster planci*). James Cook Univ. of North Queensland.

Nash, W.J. 1983. Population genetic and morphometric studies on the Crown-of-Thorns starfish, *Acanthaster planci* (L.) in the Great Barrier Reef region. James Cook Univ. of North Queensland.

### South Africa

Thandar, A.S. 1971. The holothurian fauna of the rocky shores of Natal. Univ. of South Africa.

### Canada

Raymond, B.G. 1986. Behaviour and growth of the early life history stages of the sea urchin, *Strongylocentrotus droebachiensis*. Dalhousie Univ.

Hart, M.W. 1987. Temperature and food effects on the growth and shape of an echinopluteus, *Strongylocentrotus droebachiensis*. Dalhousie Univ.

Dutil, C. 1988. Partage des ressources alimentaires et comportement de predation des étoiles de mer de la communauté infralittorale du golfe du Saint-Laurent. Université Laval.

Pearse, C. 1990. Induction of settlement and metamorphosis in the echinoids, *Echinarachnius parma* (Lamarck) and *Strongylocentrotus droebachiensis* (Muller). Dalhousie Univ.

### Jamaica

Sides, E.M. 1976. A study of niche separation in three species of *Ophiocoma* (Echinodermata: Ophiuroidea) in Jamaica. Univ. West Indies (Mona).

Gordon, C.M. 1990. Taxonomy and palaeoecology of the echinoids of the Late Pleistocene Falmouth Formation of Jamaica. Univ. West Indies (Mona).

### United States

Adams, J.M. 1991. The effect of arm loss on respiration, excretion, and biomass production in *Luidia clathrata* (Echinodermata: Asteroidea). Univ. South Florida.

Croft, M. 1980. Ecology and stratigraphy of the echinoids of the Ocala Limestone. Univ. of Florida.

Greer, M.L. 1967. The absorption of amino acids across the guts of chitons and sea cucumbers. Univ. of Houston.

Holterhoff, Peter F. 1988. Paleobiology and paleoecology of crinoids from the Lower Stanton Formation (Late Pennsylvanian, Missouria) of the mid-continent, United States. Univ. of Nebraska.

Kenner, M.C. 1987. Population ecology of *Strongylocentrotus purpuratus* inhabiting sublittoral coralline mats within the range of the sea otter in California. California State University, Hayward.

Liddell, W.D. 1975. Ecology and biostratigraphy of a Middle Ordovician graptolite assemblage from Kirkfield, Ontario. Univ. of Michigan.

Pomory, C. 1990. Zoogeography and systematics of the shallow water Echinodermata of Texas. Texas A&M Univ.

Seals, J.D. 1987. Purification and characterization of arginine kinase from the sea cucumber *Caudina arenicola*. Univ. of South Florida.

Vernon, J.D. 1991. An investigation of gametogenesis, biochemical and energetic composition, population dynamics, and sediment grain-size selection in *Clypeaster ravenelii* (Echinodermata: Clypeasteridae) from the northern Gulf of Mexico. Univ. of Alabama, Birmingham.

Beddingfield, S.D. 1992. The feeding biology of *Astropecten articulatus* (Say) (Echinodermata: Asteroidea) from the northern Gulf of Mexico: an evaluation of optimal foraging theory in a soft-bottom predator. Univ. of Alabama, Birmingham.

Packer, D.B. 1988. Community structure of macrobenthic fauna at an offshore Gulf of Maine site, with population structure analysis of the ophiura *Ophiura sarsi* and its trophic relationship to American plaice (*Hippoglossoides platessoides*). Univ. of Maine.

### Brasil

Ventura, Carlos Renato Rezende. 1991. Distribuicao, abundancia e habito alimentar de Asteroidea (Echinodermata) de fundos inconsolidados de plataforma continental do Cabo Frio, RJ. Universidade Federal do Rio de Janeiro.

Borzone, Carlos Alberto. 1990. Estudo da macrofauna bentonica infralitoral da regioa costeira adjacente a Barra de Rio Grnde, RS, Brasil. Rio Grande University. (*Mellita*)

### Austria

Kampfer, S. 1992. Biologie von *Clypeaster rosaceus* (Echinoidea: Echinodermata): Ernährung und Einfluss auf seichte Lagunensedimente. Univ. of Vienna.

Amon, R. 1991. Ernährungsbiologie von *Holothuria tubulosa* (Holothuria, Echinodermata) und ihr Einfluss auf den Sedimentmetabolismus. Univ. of Vienna.

## DISSERTATIONS

### Sweden

Brattstrom, H. 1941. Studien über die Echinodermen des Gebiets zwischen Skagerrak und Ostsee besonders de Oresundes, mit einer Übersicht über die physische Geographie. Univ. of Lund.

### Northern Ireland

McKenzie, J.D. 1985. A comparative study of dendrochirote holothurians with special reference to the tentacular functional anatomy. Queen's University of Belfast.

### South Africa

Birkai, A. 1987. Biologically induced alternative states of two rocky subtidal benthic communities. Univ. of Cape Town. (holothuroids)

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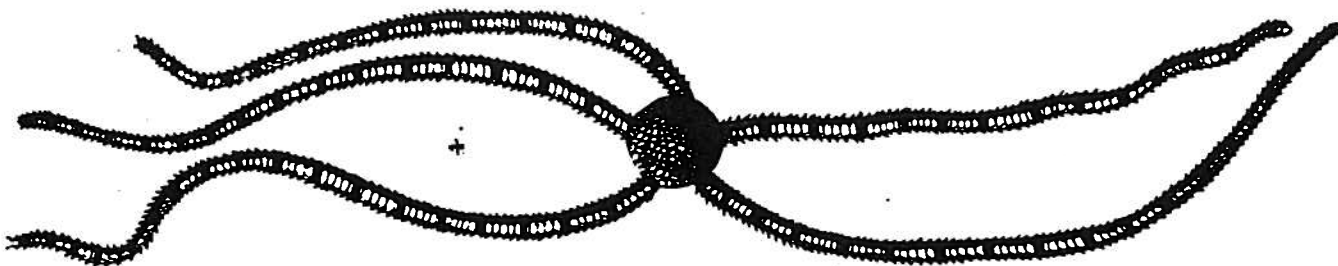
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## SPAIN

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Medeiros-Bergen, D.E. (in progress). Coastal transport and dispersal of sea cucumber larvae. University of New Hampshire.

AUSTRALIA

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CHEVALLIER, B. 1993. Influence de l'environnement sur le cycle vital de l'oursin. Cas de  
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**GERMANY**

v.JUTERZENKA, K. Untersuchungen zur Bedeutung von Schlangensterne (Echinodermata: Ophiuroidea)  
in Schelf und Kontinental hang gebieten des Europäischen Nordmeeres - (study to assess) the role of  
brittle stars (Echinodermata: Ophiuroidea) on shelf and slopes of the Greenland-Iceland-Norwegian (GIN)  
Seas. Ber. Sonderforschungsbereid 313. Univ. Kiel, (submitted 1995). (in German).

**Dr. rer. nat.**

SCHOPPE, S. 1993. Die karpose um den felsbohrenden seeigel *Echinometra lucunter* (L.): Untersuchung  
der lebensraum-bedingungen und der biologie der assoziierten arten. - Dissertation, Justus-Liebig-  
University Giessen, Germany. 128 pp.

(The carposis of the rock boring sea urchin *Echinometra lucunter* (L.): Investigation of the habitat and the biology of the associated species).

### Masters Thesis

NEUMANN, C. Functional morphology and mode of life of some Toxasteridae and Hemiasteridae from the Middle Cretaceous (Albian/Cenomanian) of southern Spain. Institut für Paläontologie der Freien Universität Berlin. (in progress).

## IRELAND

### Masters Thesis

FELDMAN, A.L. 1995. Aspects of the biology of Echinoderm larvae with particular reference to the Class Asteroidea and Echinoidea. University College, Galway.

## JAPAN

### Dr. Sci.

OKINAGA, T. Structures and functions of saccharide chains in the acrosome reaction-inducing substance. Tokyo Institute of Technology. March 1993.

AMANO, T. Sperm histone degradation induced by egg-jelly in starfish. Tokyo Institute of Technology. March 1994.

### Ms. Sci.

SAITO, U. Studies on Gamete Gangliosides. Tokyo Institute of Technology. March 1994.

SHOGOMORI, H. Gangliosides in non-plasmalemmal membranes. Tokyo Institute of Technology. March 1994.

NISHIGAKI, T. Purification and structure determination of sperm activating peptides in the starfish, *Asterias amurensis*. Tokyo Institute of Technology. March 1994.

## MEXICO

### Ph.D. Thesis

HERRERO-PÉREZRUL, D. 1990. Pepinos de mar (Echinodermata: Holothuroidea) de "El Faro de bucerías", Michoacán, México. Univ. Mich. de San Nicolás de Hidalgo. Esc. de Biología. 70 pp.

SOLÍS-MARÍN, F.A. 1991. Composición y distribución espacio-temporal de los macroinvertebrados bentónicos del complejo lagunar Magdalena-Almejas de la costa occidental de B.C.S., México. Univ. Mich. de San Nicolás de Hidalgo. Esc. de Biología. 89 pp.

MARTÍNEZ LÓPEZ, R. 1994. Desarrollo larvario del erizo rojo *Strongylocentrotus franciscanus* (Echinodermata: Echinoidea), y diferentes densidades de cultivo. Fac. Ciencias Marinas, Univ. Autón, Baja California.

## NEW ZEALAND

**Ph.D. Dissertation**

STEWART, B.G. Biology of *Astrobrachion constrictum*. University of Otago, Dunedin, New Zealand. (nearing completion)

**Masters Theses****MSc (Marine Science)**

BREWIN, P. 1995. Effect of algal diet on gametogenic cycle, biochemical composition and size of gonads of feasibility of kina, *Evechinus chloroticus* at different times (sea urchin) culture. University of Otago.

GARRETT, K. 1995. Reproduction and population genetics of the brooding brittlestar, *Ophiomyxa brevirima*. University of Otago.

SEETO, J. 1995. Reproductive biology of the tropical sea cucumber, *Holothuria atra*, in Fiji. University of Otago.

## PAKISTAN

**Masters Thesis**

TAHERA, Q. 1992. Taxonomic studies of northern Arabian Sea echinoderms. M. Phil. in Marine Sciences, University of Karachi.

## POLAND

**Ph.D. Dissertation**

OLSZEWSKA-NEJBERT, D. 1996. Turonian-Coniacian irregular echinoids Mangyshlak (western Kazakhstan) and Opole through (southern Poland). Institute of Geology, Warsaw University. (final stage of preparation).

## SPAIN

**Ph.D. Dissertation**

GALLEMÍ, J. 1992. Los yacimientos con equinidos del Cretacico Superior del Prepirineo de la Provincia de Lleida. Universitat Autònoma de Barcelona, 429 pp. (unpublished doctoral thesis)

## UNITED STATES

**Ph. D. Dissertations**

BALSER, E.J. 1994. An echinoderm phylogeny based on the morphology of the larval and adult axial complex. Clemson University, South Carolina.

CRONIN, G. 1994. The complexity of Dictyota herbivore interactions: interactions of environment, variable seaweed chemical defenses, and resistance to herbivory. Marine Sciences Curriculum, University of North Carolina at Chapel Hill. (addresses seaweed chemical defenses against urchins and

other invertebrates)

MILLER, M.W. 1994. Ecology of a temperate coral. Ecology Curriculum, University of North Carolina at Chapel Hill. (addresses how grazing by urchins affects seaweed-coral interactions)

ROGERS-BENNETT, L. 1994. Spatial patterns in the life history characteristics of Red Sea urchins, *Strongylocentrotus franciscanus*: Implications for recruitment and the California fishery. University of California, Davis.

### **Masters Theses**

BEDDINGFIELD, S.D. 1992. The feeding biology of *Astropecten articulatus* (Echinodermata: Asteroidea) from the Gulf of Mexico: an evaluation of optimal foraging theory in a soft-bottom predator. The University of Alabama at Birmingham. 46 pp.

COLÓN-JONES, D.E. 1993. Size (age) specific factors controlling the distribution and population size of the white-spined sea urchin, *Tripneustes ventricosus* (Lamarck, 1816). University of Puerto Rico, Mayaguez Campus.

KNOTT, K.E. 1995. a comparative study of the morphological and biochemical variation in two forms of *Luidia clathrata* (Echinodermata: Asteroidea) from the northeastern Gulf of Mexico. University of Alabama.

LARES, M.T. 1990. The effects of temperature on the survival, organismal activity, nutrition, growth and reproduction of the carnivorous, tropical sea urchin, *Eucidaris tribuloides*. The University of Alabama at Birmingham. 69 pp.

MAH, C.L. (in progress). Phylogeny of the Brisingida (Asteroidea) and revision of some Pacific genera. San Francisco State University, California.

NORRIS, D.R. 1994. Associations between three irregular urchins and cone-and-funnel topography in a tropical soft-bottom community. University of Guam. 32 p.

SHLEPR, M.G. 1994. Early ossicle growth in the regenerating disc integument of the brittlestar *Ophiophragmus filigraneus* (Echinodermata: Ophiuroidea). Melbourne, FL: Florida Institute of Technology; 110 pp.

VERNON, J.D. 1991. An investigation of gametogenesis, biochemical and energetic composition, population dynamics, and sediment grain-size selection in *Chypeaster raveneli* (Echinodermata: Clypeasteridae) from the northern Gulf of Mexico. The University of Alabama at Birmingham. 78 pp.

### **B.Sc. Thesis**

HOTTENROTT, S. 1994. A cladistic analysis of the *scolopendrina* group of the genus *Ophiocoma*. The George Washington University, Washington D.C.

AUSTRALIA

#21  
1996

Ph. D. Dissertation

STUMP, R.J.W. 1995. Age determination and life-history characteristics of *Acanthaster planci* (L.). Zoology Dept. JCUNQ, Townsville.

BELGIUM

Ph. D. Dissertation

WARNAU, M. 1996. Valeur bioindicative des adultes et effets des contaminations métalliques sur les stades prémétamorphophiques de l'échinide *Paracentrotus lividus*, espèce-clé des herbiers à *Posidonia oceanica* de Méditerranée. Docteur en Sciences, Université Libre de Bruxelles, Bruxelles.

CANADA

Ph. D. Dissertation

NAKAMURA, R. 1995. A Current Affair: the role of hydrodynamics in the ecology and evolution of the Pacific sand dollar *Dendraster excentricus*. University of Toronto, Ontario.

FRANCE

Doctorat (Ph. D. Dissertation)

POULIN, E. (in progress, early 1996) - Adaptive significance and evolutionary consequences of brood-protection in the subantarctic marine benthic invertebrate *Abatus cordatus* (Verrill, 1876) (Echinodermata: Spatangoida). Université Montpellier II

SAN MARTIN, G.A. 1995. Contribution à la gestion des stocks d'oursins: étude des populations et transplantations de *Paracentrotus lividus* à Marseille (France, Méditerranée) et production de *Loxechinus alba* à Chiloé (Chili, Pacifique). Docteur de l'Université Aix-Marseille II, Marseille.

DEA

BENOIT, O. 1995. Réponses adaptatives des populations de l'oursin *Sphaerechinus granularis* aux fluctuations de l'environnement. Rapport de DEA, Océanologie Biologique, Université de Bretagne Occidentale, Brest, France.

HABILITATION A DIRIGER DES RECHERCHES

GUILLOU, M. 1996. Réponses des populations d'échinodermes à la variabilité naturelle de l'environnement côtier. Université de Bretagne occidentale, Brest, France.

GERMANY

Ph.D. Dissertation

NEUMANN, C. (in progress). Calcareous dinoflagellate cysts of the Kirchrode II borehole (Albian, Lower Saxony Basin, Germany). Institut für Paläontologie der Freien Universität Berlin.

## IRELAND

### B Sc Geology

MANNIFIELD, K. 1995. Morphology and taxonomy of some Palaeozoic crinoids with some reinterpretations and new ideas. (Includes reinterpretation of *Ramseyocrinus*; a species of *Iocrinus* is lost; thoughts on *Amphoracrinus* and *Actinocrinites*; plus a new species of ?*Celtocrinus* from the Lower Palaeozoic of South Wales. University of Wales, Aberystwyth.

## JAMAICA

### M. Phil. Thesis

DIXON, H.L. 1995. Upper Oligocene echinoids of Jamaica. Unpublished thesis, University of West Indies, Mona, v+115 pp.

## MEXICO

### Bachelor's Science Thesis

Cintra Buenrostro, C. E. 1996-97? "Taxonomia y Biogeografia de estrellas de mar (Echinodermata: Asteroidea) en el Golfo de California, Mexico". Universidad Autonoma de Baja California Sur.

## NEW ZEALAND

### Ph. D. Dissertation

STEWART, B.G. 1995. The biology of the euryalid snake star *Astrobrachion constrictum* (Echinodermata: Ophiuroidea). University of Otago, N.Z.

### M Sc

SEETO, J. 1995. The reproductive biology of the sea cucumber *Holothuria atra* Jaeger, 1833 (Echinodermata: Holothuroidea) in Laucala Bay, Fiji, with notes on its population structure and symbiotic associations. University of Otago, N.Z.

## PAKISTAN

### Ph. D. Dissertation

TAHERA, Q. (in progress). Systematics, reproduction and larval distribution of holothuroids and echinoids inhabiting the Arabian Sea. University of Karachi.

## RUSSIA

### Ph. D. Dissertation

BAZHIN, A.G. 1995. Species composition, condition of life and distribution of sea urchins genus *Strongylocentrotus* of seas of Russia. Institute of Marine Biology, Vladivostok (Far East Department of Russian Academy of Sciences). 126 p.

## SCOTLAND

### M. Phil.

McMurray, S.I. 1995. Morphological aspects of mutable collagenous tissues in *Ophiura ophiura* L. Glasgow Caledonian University.



**Ph D Dissertation**

NEWTON, L.C. 1996. Sublethal stress in echinoderms. Napier University, Edinburgh, U.K.

**SWEDEN**

**Ph. D. Dissertation**

SKÖLD, M. 1996. Population dynamics, growth, feeding and predator-prey interactions in brittle stars. Göteborg University.

**UNITED STATES**

**Ph.D. Dissertation**

AXON, A.G. 1992. Paleocology of a Cincinnatian (Upper Ordovician) crinoid-garden community from southwestern Ohio. University of Kentucky, Lexington. 413 p.

BASCH, L.V. 1993. Nutrition and the ecology of some marine invertebrate early life history stages. University of California, Santa Cruz. xii + 233 pp.

BRYAN, P.J. 1995. Bioactivity of echinoderms from the northern Gulf of Mexico: antimicrobial, antifouling and antipredator defenses. University of Alabama at Birmingham. 118 p.

ETTENSohn, F.R. 1992. Crinoid Paleocology. University of Kentucky, Lexington.

GRABOWSKY, G.L. 1993. Constructing diversity: growth and form in elliptical sea urchins (Echinoidea: Echinometridae). Duke University, North Carolina.

JANIES, D.A. 1995. Reconstructing the evolution of morphogenesis and dispersal among Velatid Asteroids. University of Florida.

LARES, M.T. 1996. The effects of feeding frequency on feeding, digestion, production and metabolism of *Echinometra lucunter*, *Eucidaris tribuloides*, and *Lytechinus variegatus* (Echinodermata: Echinoidea). University of South Florida, Tampa.

**Masters Thesis**

BASCH, L.V. 1985. Ecology, behavior, and functions of bioluminescence in the subtidal sand-dwelling brittle-star *Ophiopsila californica* (Echinodermata: Ophiuroidea: Ophiocomidae). University of California, Los Angeles. xiv + 236 pp.

CARTER, K.P. 1996. Effect of cadmium on protein synthesis in the sea star *Luidia clathrata* (Say) (Echinodermata: Asteroidea). University of South Florida, Tampa.

HARSHANY, D.J. 1995. Direct and indirect measurements of production in *Luidia clathrata* (Echinodermata: Asteroidea). Univ. of South Florida, Tampa.

RUEDIGER, N.K. 1995. A morphometric analysis of archenteron elongation in *Lytechinus variegatus* (Echinodermata: Echinoidea). Univ. of South Florida, Tampa.

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\*\*\*\*\* THESES AND DISSERTATIONS \*\*\*\*\*

ARGENTINA

1997

**Ph.D. Dissertation**

Roccatagliata, A.J. 1996. Isolation and characterization of biologically active metabolites of equinoderms of South Atlantic Ocean. Dept. of Organic Chemistry, Faculty of Exact and Natural Sciences, University of Buenos Aires.

AUSTRALIA

**Honours Thesis**

Murray, James. 1996. Ecological aspects of the eulimid gastropod Sabinella orbignyana. Department of Zoology, University of Western Australia. (The eulimid lives in galls on the slate-pencil urchin Phyllacanthus irregularis. The thesis considers population structure, life cycle and reproduction and development of the snail and morphology of the gall in the spine of the urchin.).

**Master of Environmental Studies**

Materia-Rowland, C.J. 1997-1999 (in progress). The role of communities in coastal and marine monitoring. University of Tasmania, Hobart.

AUSTRIA

**Masters Thesis**

Barić, S. 1997. Ecophysiological and systematical studies on two brittle-stars (Ophiothrix quinquemaculata and Ophiothrix fragilis) in the northern Adriatic Sea. University of Innsbruck, Austria, 108 pp.

AZERBAIJAN

**Ph.D. Dissertation**

Melikov O.H. Upper Cretaceous sea urchin of Azerbaijan part of Minor Caucasus and their stratigraphic importance. Azerbaijan Institute of Oil and Chemistry, Baku, 1966 24 p.

CANADA

**Masters Thesis**

Allison, W.R. 1997. Performance of the line-intercept transect in the coral reef habitat: Accuracy, precision, errors and their control. Zoology Department, University of Toronto, Ontario.

## CZECH REPUBLIC

### Masters Thesis

Štorc, R. 1996. Ophiuroidea in the Upper Cenomanian and Lower Turonian of the Bohemian Cretaceous. 246pp., 171 textfigs. Charles University, Praha.

## FRANCE

### Ph.D. Dissertation

Philippe, M. 1996. Miocene echinoids from the Rhône Basin: a systematic revision. Université Claude Bernard - Lyon 1: 513pp., 36 figs., 2 tables, 26pls.

### Doctorat en Sciences

Maharavo, J. 1993. Étude biologique de l'oursin comestible Tripneustes gratilla (Linnaeus, 1758) dans la région de Nosy-Be (Côte - Nord ouest de Madagascar): Densité, microrépartition, nutrition, croissance, processus reproducteur et impact de l'exploitation sur les populations. Univ. Aix-Marseille III - France.

### DEA Sciences de l'Environnement marin

Dombrowski, E. 1995. Réponses reproductives de l'oursin Paracentrotus lividus en relation avec une consommation de Caulerpa taxifolia et influence sur le développement larvaire. Université d'Aix-Marseille II, Fr.: 41 p.

### DEA Paléontologie, Dynamique sédimentaire, Chronologie

Villier, L. 1996. Les Goniasteridae (Asteroidea, Echinodermata) du Campanien d'Aquitaine: ontogenèse, évolution et paléoécologie (dir: D. Néranda, B. David). Université de Bourgogne, Dijon. pp.1-50.

### Dissertation Maîtrise

Gobert, J. 1992, Effet de la diffusion des substances émises par Caulerpa taxifolia sur le comportement alimentaire de l'oursin Paracentrotus lividus et étude de la place de Caulerpa taxifolia dans les préférences alimentaires de l'oursin Paracentrotus lividus. Maîtrise Univ. Pierre et Marie Curie, Paris, Fr.: 17p.

Malestroit, P. 1994. Comportement alimentaire de Paracentrotus lividus en présence de Caulerpa taxifolia en été: ration alimentaire et taux d'absorption. Mémoire Maîtrise Biol. org. Populations, Univ. Montpellier, Fr.: 25 p.

### DEA Océanologie

Menager, V. 1994. Comportement alimentaire de Paracentrotus lividus en présence de Caulerpa taxifolia: ration alimentaire et taux d'absorption. Univ. Aix-Marseille II, Fr.: 51 p.

Ruitton, S. 1993. Comportement alimentaire et indices physiologiques de Paracentrotus lividus (Echinidae) dans un peuplement à Caulerpa taxifolia (Chlorophyte). Univ. Aix-Marseille II, Fr.: 44 p.

#### **Stage Erasmus**

Puddy, L. 1994. Ration alimentaire et taux d'absorption de Paracentrotus lividus nourri avec Caulerpa taxifolia in vitro. Univ. Aix-Marseille II, Fr.: 29 p.

Sarrazin, T. 1996. Relation entre densité des individus et ration alimentaire chez l'Echinoderme Paracentrotus lividus. Mém. Maîtrisze Sci. Environnement, Océanologie, Univ. Bordeaux I, Fr.: 1-20.

### **GEORGIA**

#### **Degree of Doctor of Science and Geology**

Gongadze, G. Late Cretaceous echinoids of the Caucasus and its stratigraphic and paleobiogeographic value. Tbilisi State University, 1994.

### **GERMANY**

#### **Masters Thesis**

Mayer, M. 1995. Epibenthic distribution patterns on the continental slope off East Greenland Yin German". Kiel University.

#### **Ph.D. Dissertation**

C. Dahm. 1995. Okologie and populationsdynamik antarktischer Ophiuroiden (Echinodermata). University of Bremen.

Schmid, M. K. 1994. On the distribution and respiration of ecologically important benthic animals in the waters off Svalbard Yin German". Kiel University.

### **GUAM**

#### **Masters Thesis**

Kerr, A.M. 1994. Effects of disturbance on holothuroid (Echinodermata) community structure. University of Guam. 59p.

### **INDIA**

#### **Master's Thesis**

Sahadevan, A.P. 1993. Pheromones in fishes. Cochin University of Science and Technology.

## IRELAND

### Ph.D. Dissertation

Makra, A. (in progress). The investigation of key roles and successional dynamics in soft-bottom communities. National University of Ireland.

## JAPAN

### Graduation Thesis

Fujita, Y. 1996. Umishidarui ni kyousei suru jukyakuokakurui no shukushu sentaku (Host selection of decapod crustaceans symbiotic on crinoids). Dept. of Marine Science, Faculty of Science, University of the Ryukyus, iv + 1-103, pl.s 1-12. (in Japanese).

## NEW ZEALAND

### Masters Thesis

Archer, J. 1995. Aspects of the reproductive and larval biology and ecology of the temperate holothurian Stichopus mollis (Hutton). University of Auckland's Leigh Marine Laboratory.

Mladenov, P.V. 1995. Comparative study of reproduction in three tropical brittle star species at Fiji. University of Otago, New Zealand, Rachel Law.

Brewin, P. 1995. Effect of algal diet on gametogenic cycle, biochemical composition and size of gonads of kina, Evechinus chloroticus. University of Otago, New Zealand.

Garrett, K. 1995. Reproduction and population genetics of the brooding brittlestar, Ophiomyxa brevirima. University of Otago, New Zealand.

## PAKISTAN

### Ph.D. Dissertation

Tahera, Q. (in progress). Systematics, reproduction and larval distribution of holothuroids and echinoids inhabiting the Arabian Sea. University of Karachi.

## POLAND

### Ph.D. Dissertation

Olszewska-Nejbert, D. 1996. Turonian-Coniacian irregular echinoids of Mangyshlak (western Kazakhstan) and Opole Throught (southern Poland). (In Polish). Institute of Geology, University of Warsaw.

## SOUTH AFRICA

### Masters Thesis

Khonjwayo, N. 1996. Reproductive biology of the sea cucumbers Holothuria (Semperothuria) cinerascens (Brandt) and Pseudocnella sykion (Lampert) from the east coast of South Africa. University of Durban-Westville. 177pp.

## SPAIN

### Ph.D. Dissertation

Domínguez Alonso, P. (in progress). Anatomy, morphology and function of Ctenocystoidea (Carpoidea Echinodermata). Universidad Complutense de Madrid.

## SRI LANKA

### M.Phil. Thesis

Elanganayagam, P. 1984. Studies on ecology and some aspects on biology of Sri Lankan holothurians. University of Jaffna.

## UNITED KINGDOM

### Ph.D. Dissertation

Jeffery, C.H. 1997. Echinoid evolution across the Cretaceous-Tertiary boundary. Imperial College, University of London.

### Masters Thesis

Moore, A.M. Global Biodiversity Monitoring and Conservation currently writing, subject is a review of literature and methodologies applicable to a Holothurian Survey of the Wakatobi Marine National Park. Hull Univ.

## UNITED STATES

### Masters Thesis

Anthony, J.A.M. 1995. Habitat utilization by sea otters (Enhydra lutris) in Port Valdez, Prince William Sound, Alaska. University of Alaska, Fairbanks. (This thesis contains information about sea stars, sea urchins and sea cucumbers as components of the diet in Port Valdez).

Bowles, M. (in progress). Foraging behavior of holothurians. University of Tennessee, Tennessee.

Eble, G.J. 1995. Macroevolution in disasteroid, holasteroid and spatangoid irregular echinoids. M.S., Evolutionary Biology, The University of Chicago.

Knott, K.E. 1995. A comparative study of the morphological and biochemical

variation in two forms of Luidia clathrata from the northern Gulf of Mexico. University of Alabama.

Mah, C. 1997. A cladistic analysis, taxonomic revision and investigation of paedomorphosis in brisingidan starfish. San Francisco State University, San Francisco, CA.

Miller, S.R. 1996. An analysis of the proximate composition and production of Luidia senegalensis (Lamarck) (Echinodermata: Asteroidea) during the annual reproductive cycle. University of South Florida, Tampa.

Rose, C.L. 1997. Distribution, body size, and regeneration of the amphiuroid Ophiophragmus filograneus in the Tampa Bay area, with special reference to the presence of the seagrass Halodule wrightii. University of South Florida, Tampa.

Sklarounos, S. 1996. The ecology and reproductive biology of the sand dollar Echinarachnius parma, in Kasitsna Bay, Alaska. University of Alaska, Fairbanks, Alaska.

#### Ph.D. Dissertation

Beddingfield, S. 1997. The nutrition, growth, reproduction and population dynamics of the echinoid Lytechinus variegatus (Lamarck) from contrasting habitats of Saint Joseph's Bay, Florida. University of Alabama, Birmingham.

Creaser, E. 1997. Functional and phylogenetic characteristics of clypeasteroid intraskeletal matrix proteins. University of South Florida, Tampa.

Eble, G.J. (expected 1997). Macroevolution in disasteroid, holasteroid and spatangoid irregular echinoids. Ph.D., Evolutionary Biology, The University of Chicago.

Johnsen, S. 1996. The optical design of the photic system of ophiuroids. University of North Carolina.

Medeiros-Bergen, D. 1996. Molecular identification, coastal distribution and recruitment of Cucumaria frondosa larvae in the western Gulf of Maine. University of New Hampshire.

Pomory, C.M. 1997. The effects of regeneration on the allocation of energy in Ophiocoma echinata (Lamarck, 1816) (Echinodermata: Ophiuroidea). University of South Florida, Tampa.

#### YUGOSLAVIA

#### Master's Thesis

Maran, A.A. 1996. Echinoidea from the Urgonian sediments of eastern Serbia (Regular and irregular sea urchins, classification, stratigraphy, palaeoecology). Faculty of Mining and Geology, Belgrade.

☆ THESES AND DISSERTATIONS ☆

AUSTRALIA

# 23  
1998

**Ph.D. Dissertation**

Jane Williamson. (in progress). An autogenic shift in the response of the echinoid, *Holopneustes purpurascens*, to host plant chemistry. University of New South Wales, Australia.

BELGIUM

**Masters Thesis**

Dirk Eekelers. (in progress). Distribution and biodiversity of asteroids in Kenya's coral reefs. Vrije Universiteit Brussel, Belgium.

Tessa van Hout. 1996. Distribution of *Echinothrix diadema* on the Kenyan Coast. Vrije Universiteit Brussel, Belgium.

Yves Samyn. 1995. Reproduction of two non-commercial sea urchins (Echinodermata: Echinoidea) in the Mombasa Marine National Park, Kenya. Vrije Universiteit, Brussel.

CZECH REPUBLIC

**Ph.D. Dissertation**

Richard Storc. (in progress). Ophiuroidea from the Upper Cretaceous of the Bohemian Cretaceous Basin (Czech Republic). Charles University, Praha.

ECUADOR

**Ph.D. Dissertation**

Sonnenholzner, J. (in progress). Desarrollo y optimización de pruebas inmunitarias en *Echinometra vanbrunti* (Echinodermata: Echinoidea) para la identificación de biomarcadores de estrés ambiental. Universidad de Guayaquil.



## FRANCE

### Thèse Doctorat Ecologie

Fernandez, C. 1996. Croissance et nutrition de *Paracentrotus lividus* dans le cadre d'un projet aquacole avec alimentation artificielle., Univ. Corse, Fr., 279pp.

## GERMANY

### Ph. D. Dissertation

Reich, M. 1997. Die Holothurienreste (Echinodermata) der Schreibkreide (Unter-Maastrichtium), Insel Rügen/Ostsee. [Holothurian remains (Echinodermata) from the White Chalk (Lower Maastrichtian), Isle of Rügen/Baltic Sea]. - Unpublished Diploma-Thesis, University of Greifswald, vol. I: 96 pp., 17 figs., 5 tables., vol. II: 8 encl.; Greifswald.

### Masters Thesis

Bluhm, B. (1997). On the ecology of regular sea urchins in the northern Barents Sea [in German]. Kiel University.

## INDIA

### Masters Thesis

M.K. Ram Mohan. 1993. Studies on the salinity tolerance of the venerid clam, *Paphia malabrica* (Chemnitz). Cochin University of Science and Technology, India.

## JAPAN

### Ph.D. Dissertation

Shimizu, M. 1992. Studies on the ultrastructure and growth of skeletons of the test and spines in the sea urchin, *Strongylocentrotus intermedius*. Hokkaido University, Japan.

## **Master of Science**

Yuji Arakaki. 1989. A comparative ecological and reproductive study on the four types of sea urchin *Echinometra mathaei* (Blainville) on Okinawa reef flat. Dept. of Biology, University of the Ryukyus.

## **NEW ZEALAND**

### **PhD Dissertation**

M. Lamare. 1997. Recruitment ecology of the sea urchin *Evechinus chloroticus* in the New Zealand coastal habitat. University of Otago.

### **Masters Thesis**

Jeff Archer. 1996. The reproductive and larval biology and ecology of the temperate holothurian *Stichopus mollis* (Hutton). Leigh Marine Laboratory.

Jane Williamson. Distribution patterns and life-history features of the intertidal encrusting alga *Pseudolithoderma* sp. University of Auckland, New Zealand.

## **NORWAY**

### **Masters Thesis**

Halldis Ringvold. 1996. Artsbestemmelse og utbredelse av sjøestjerner (Echinodermata: Asteroidea) rundt Faeroeyene (Identification and distribution of starfishes (Echinodermata: Asteroidea) around the Faroe Islands). Norwegian University of Science and Technology (NTNU), Trondheim Biological Station, Norway.

## **PAKISTAN**

### **Ph.D. Dissertation**

Qaseem Tahera. (in progress). Systematics, reproduction and larval distribution of holothuroids and echinoids inhabiting the Arabian Sea. University of Karachi, Karachi, Pakistan.

## PORTUGAL

### Degree - Marine Biology and Fisheries

Dora Maria Cunha de Jesus. 1998. Ecologic and biogeographic considerations on the Portugese echinoderm fauna. University of Algarve.

## UNITED KINGDOM

### Masters Thesis

Moore, Abigail Mary - (submitted 1998) - A study of the holothurian resources and some other invertebrate fisheries combined with work aiming to interpret a 1993 Landsat TM satellite image for the new Wakatobi National Marine Park in SE Sulawesi, Indonesia. The University of Hull, UK. (The MSc course title is Global Biodiversity, Monitoring and Conservation at The University of Hull, UK).

## UNITED STATES

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BELGIUM

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BRAZIL

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### **FRANCE**

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Céline Madon-Senez. Disparité Morphologique et Architecturale des Schizasteridae incubants (Echinoidea, Spatangoida) des Régions Australes. Université de Bourgogne, 1998. 261pp + 18 pls.

Mourad Guettaf. Contribution à l'étude de la variabilité du cycle reproductif (indice gonadique et histologie des gonades) chez *Paracentrotus lividus* (Echinodermata: Echinoidea) en

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#### **Ph.D. Dissertation**

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### **HONG KONG**

#### **Ph.D. Dissertation**

Xing Jun. 1996. Sea Cucumber Immunology. Hong Kong University Science and Technology.

### **INDIA**

#### **Master of Science (Marine Biology and Oceanography)**

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tissue) in *Scylla tranquebarica* (Mud crab). Centre for Advanced Study in Marine Biology, Portonovo, Annamalai University.

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## IRELAND

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## JAPAN

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## NEW ZEALAND

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## RUSSIA

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☆☆ AUSTRIA ☆☆

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M. Guettaf. 1997. Contribution à l'étude de la variabilité du cycle reproductif (indice gonadique et histologie des gonades) chez *Paracentrotus lividus* (Echinodermata: Echinoidea) en Méditerranée sud-occidentale (Algérie). Doct. océanol., Université d'Aix Marseille II: 1-132 + i-xii.

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**Stylophora (Cornuta, Mitrata): situation au sein du phylum des échinodermes et phylogénèse**  
**Contributed by Bertrand Lefebvre**

**ABSTRACT**

Stylophorans (cornutes, mitrates) constitute a group of Palaeozoic fossils whose phylogenetic position within or outside the phylum Echinodermata is still disputed. They are usually placed within "carpoids" or "homalozoans" along with solutes, cinctans and ctenocystoids. The unusual morphologies of these fossils can be interpreted in the light of a new model of skeletal homologies in echinoderms (EAT) described by Mooi et al. (1994). Solute are probably derived from primitive eocrinoids and represent blastozoans with a single, erect axial arm (homologous to a brachiole). Cinctans and ctenocystoids are blastozoans characterized by the possession of two axial arms recumbent over the theca. The stylophoran aulacophore is a composite structure, consisting of a "true" arm comparable to a crinoid arm (distal and median parts) and of an expansion of the theca (proximal region). Consequently, (1) stylophorans are more closely related to crinoids than to blastozoans and, (2) homalozoans are polyphyletic. A significant systematic revision of the class Stylophora is proposed on the basis of a sound system of plate homologies. *Ceratocystis* is a primitive stylophoran belonging to the stem-group of Cornuta plus Mitrata. These two orders are monophyletic. Cornutes derive from a Protocystites-like ancestor, and mitrates from a Lobocarpus-like primitive stylophoran. Lagyncystida are digital-bearing mitrates, Peltocystida are glossal-bearing mitrates, and in the Mitrocystitida both digital and glossal are present and incorporated into the marginal frame (primitive forms) or, as posterior spines (*Anomalocystitidae*). Fourteen species of stylophorans are described, including nine kirkocystids and a new species from the Llandeilo (Middle Ordovician) of Brittany: *Diamphidiocystis regnaulti*. Cover plates could open in life in all stylophorans. This opening was controlled by the degree of flexion of the arm. Different life modes have been proposed for stylophorans from the examination of the distribution of the ornamentation on the theca and on the arm. Respiration probably involved the water-vascular system, direct gaseous exchange through the thecal walls and through modified sutural pores ("accessory orifices" of cornutes). Associated faunas (trilobites) and sedimentology suggest that stylophorans favored rather deep environments of middle to distal parts of the platform. Four distinct stylophoran assemblages corresponding to different palaeobathymetries have been identified in the Ordovician on the northern margin of the Gondwana. These assemblages are dominated by cornutes at first (Tremadoc-Lower Arenig), but then the faunal component contributed by that group severely diminishes (Upper Arenig-Llandeilo). Cornutes finally become extinct (Ashgill), possibly through competition from mitrates.

**KEYWORDS - STYLOPHORANS, CORNUTES, MITRATES, ECHINODERMS, PALAEOZOIC, HOMOLOGY, SYSTEMATICS, PALAEOENVIRONMENT.**



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☆☆ JAPAN ☆☆

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Bertrand Martin-Garin. 2000. Diversité structurale et morphologique du test des oursins *Collyritidae* du Bajocien-Bathonien; implications biostratigraphiques, environnementales et phylétiques (DEA Dissertation- Université de Bourgogne, DIJON).

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## THE NETHERLANDS

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## TURKEY

### M. Sc. Thesis

Fatih Huseyinoglu. (in progress). Biodiversity analysis of marine benthos in Istanbul coasts  
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## UNITED STATES

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Rosemary Hall. (expected May 2000). Effects of zinc on rates and developmental patterns of arm regeneration in the brittlestars *Amphipholis gracillima* and *Ophiothrix angulata*. University of South Carolina.

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