

THE DISTRIBUTION AND BEHAVIOR OF AN INTERTIDAL FISH. R.S. MOLLICK. Dept. of Biology, Christopher Newport Col., Newport News, Va. 23601

Clinocottus analis Girard, the wooly scuplin, is a strongly demersal cottid fish inhabiting the intertidal zone of southern California. The major purposes of this integrated field and laboratory study were: (1) to determine the distribution and abundance of C. analis in representative tide pools, (2) to determine what substrate types, in terms of background colors and textures, are available in the tide pools, (3) to determine whether the distribution of C. analis on the available substrates is random or selective, (4) if selective, to determine how C. analis chooses substrates, and (5) to consider reasons why such choices are made based on pertinent observations of its behavior in the laboratory and in nature.

In general, C. analis prefers dark, densely matted plant substrates or the free spaces between rocks to low or flat substrates of any shade. Substrate selection is made on the basis of visual rather than chemical or tactile cues and is not influenced by the presence of food organisms. The substrate preference behavior of C. analis is of obvious survival value because an individual in dark areas between rocks or in an algal mat, aided by its protective coloration, is out of sight and reach of predators.

PARASITES OF THE REPTILES AND AMPHIBIANS OF DOMINICA, WEST INDIES. E. NICHOLLS* AND G. R. BROOKS. Dept. of Biology, Col. of William and Mary, Williamsburg, Va. 23185.

The parasitic worms of 13 species of herptiles from Dominica, West Indies, were identified to genus. Two trematodes (Omnipharynx anolis n.g., n.sp. from Anolis occulatus and Mesocoelium sp.), one cestode (Ophiotaenia sp., six nematodes (Thelandros sp., Pharyngodon sp., Ozolaimus megatyphon, Cruzia sp., Hastospiculum sp., and Terranova sp.), one pentastomid (Porocephalus sp.) and one oligacanthorhynchid acanthocephalian were discovered. The number of parasitic species per host was low compared to related continental host parasite loads. (This study supported by the Bredin-Archbold-Smithsonian Biological Survey of Dominica.)

THE PATTERN OF RNA SYNTHESIS DURING DEVELOPMENT OF STATOBLASTS OF THE BRYOZOAN, PECTINATELLA MAGNIFICA. Virginia K. Proud* and Robert E. Black. Biology Dept. Col. of William and Mary, Williamsburg, Va. 23185

Statoblasts collected in the fall were stored at 4°C. Germination was induced by returning them to 25°C. Total RNA and DNA increase markedly during development, beginning approximately at the time of germination. A lesser increase is noted during budding (36-72 hours after germination). Incorporation of ¹⁴C-uridine into TCA-insoluble precipitates after one-hour labeling periods increases throughout development. Using 12-hour labeling periods, incorporation of uridine into both polysomes and ribosomes was noted in statoblasts beginning 24-36 hours prior to germination. Polysomes and free ribosomes increase in the 10,000 g supernatant fraction before germination, based on wet weight of statoblasts. Actinomycin D (up to 50 μ /ml) did not significantly affect germination. At 25 μ /ml tentacle development was somewhat abnormal and budding was blocked. At 50 μ /ml development of the primary polypide was drastically inhibited. RNA synthesis is apparently required for normal development.

AN IMMUNOCHEMICAL STUDY OF THE EPIDERMAL LANGERHANS CELLS OF THE MOUSE. Willie M. Reams, Jr. and P. P. Greco*, Dept. of Biology, Univ. Richmond, and Div. Dermatology, Med. Col. of Va., Richmond, Va. 23219

Langerhans cells (LC) originally were described in the epidermis. For the past hundred years, nothing conclusive has been found as to their origin and function. That the LC was related to the pigment cell was shown to be untrue by Breathnach, et al (1968) and Reams (1968). As cells which ultrastructurally look like epidermal LC have been seen by several workers in the spleen and histiocytic tumours, it has been purported that the LC may be a phagocyte derived from thymoblasts.

To prepare antilymphocyte serum (ALS), whole thymoblasts were obtained from the thymuses of young mice and injected into mature male rabbits. In due time, the ALS was recovered from the rabbits and stored frozen. Mature mice were injected with the ALS following a blood count. ALS was injected every third day until the blood counts showed a marked decrease in the number of lymphocytes. Fluorescent examination was made of the skin, thymus and nodes. Numerous checks were made for the activity of the ALS.

The ALS showed a high fluorescence in the thymus and nodes, but the epidermal LC were negative. It was concluded that these LC are not related to thymoblasts. (Aided by NIH grant AM-11864. The work was done in part at the Virginia Institute for Scientific Research.)

THE INFLUENCE OF A CLEARCUT AREA ON A CONFINED DEER HERD IN A PREDOMINANTLY GRASSLAND HABITAT. J. L. Sandt* (sponsored by Dr. H. S. Mosby) Graduate Fellow, Dept. of Forestry and Wildlife, Va. Polytechnic Inst., Blacksburg, Va. 24061

A 25-acre tract of mature hardwoods was cut in the winter of 1968 in the Radford Army Ammunition Plant, a 2,322-acre area enclosed by a 7½ foot high fence. The area is approximately 80% open grassland.

Responses by deer to the clearcut were measured by changes in home range and food habits analysis. No seasonal changes in movements or changes in size of home range were found. Rumen analysis showed that the food habits of deer using the clearcut were the same as those not using the clearcut area. Significant seasonal changes in food habits were found.

THE EFFECTS OF TEMPERATURE ON THE METABOLISM AND BEHAVIOR OF AN ANTHOZOAN, DIADUMENE LEUCOLENA (VERRILL). Clay Sassaman* and C. P. Mangum, Dept. of Biology, Col. of William and Mary, Williamsburg, Va. 23185.

Oxygen consumption rates for D. leucolena to acclimated four temperatures from 10-27.5°C indicate thermal sensitivity throughout the temperature span. The Q_{10} values for the ranges 10-17.5°, 17.5-22.5°, and 22.5-27.5° are 4.02, 2.97 and 1.40 respectively. Rates measured acutely on animals acclimated to 10° do not differ significantly from the acclimated rates although they tend to be slightly lower, indicating little or no thermal acclimation in this species.

Analysis of spontaneous contractions of the columnar muscles in whole animal preparations shows that activity (in mm contraction/hour) is also temperature sensitive in agreement with the Van't Hoff Q_{10} rule, as are the rates of muscle relaxation. It is suggested that this lack of energy-requiring compensatory mechanisms can be considered either an index of physiological simplicity or an energy-conserving adaptation to an environment where short term fluctuations of temperature are common. (Supported by NSF GB-6884 and GY-4185).



Nicholls, E and Brooks, Garnett R. 1969. "Parasites of the reptiles and amphibians of Dominica, West Indies." *Virginia journal of science* 20, 113–113.

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