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(70% - 90%) with a mobility corresponding to the range of gamma and beta; (3) a smaller amount (3% - 30% within the range of the alpha complex; an albumen component comparable to that in human sera was missing; observations are based on thirty animals.

Mobilities of serum proteins from each animal group were observed in buffers of pH 5.4 to 8.6. Data were plotted (distance of components at given pH ranges). Each group presented a characteristic pattern of its own.

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### **Effects of 6 - Diazo - Oxo - 1 - Norleucine (Don) and O - Diazoacetyl - 1 - Serine (Azaserine) On The Fertilized Sand-Dollar Egg. (E. parma)**

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Sand-dollar eggs were fertilized and after 20 minutes aliquots containing about 200 fertilized eggs were transferred to Syracuse dishes containing 10 cc fresh, filtered sea water. Solutions of test compounds were added at various intervals, and their effects on the development of the fertilized eggs observed.

The normal sand-dollar eggs cleaved within one to two hours after fertilization, blastula developed at 12 hours, movement began at 14 hours, early gastrulation at 22 hours, and the plutei stage was reached at 36 hours. DON at a dose of 10 to 100 milligamma/10cc., added shortly after fertilization permitted normal development through the blastula stage, but gastrulation was largely prevented. Doses up to 1,000,000 milligama/10cc. did not interfere appreciatively with cleavage, but the embryo began to disintegrate in the late blastulae stage. If DON were added later in the development, larger doses were necessary to prevent gastrulation. DON added during the period of gastrulation did not interfere with continued development, but the embryo disintegrated on reaching the pluteus stage. Doses in the order of 10 milligama /10cc. of sea water were effective in arresting pluteus formation. Similar effects were produced with azaserine at approximately 100 times the concentration of DON.

A number of purine analogues were tested for protective action against the effects of DON. Guanine, guanosine, and adenine were effective at a dose of 20 gamma/10cc. of sea water, and some protection was obtained with DPN, xanthine, and hypoxanthine. 4-aminoimidazole carboxamide was ineffective. Further studies on the effects of DON, and a more precise exploration of the effects of physiological purines on DON toxicity will be investigated.