

D-35 Effects of Quantity and Quality of Food on Growth and Reproduction of *Eupolyornia nebulosa* (Polychaeta, Terebellidae).

차 재훈*, Michel Bhaud⁽¹⁾

*한국해양연구소, 해양생물연구부

⁽¹⁾ Laboratoire Arago, Observatoire Océanologique de Banyuls, Univ. P. et M. Curie (Paris VI), C.N.R.S., U.R.A. 117, 66650 Banyuls-sur-Mer, France.

We examined the effect of varying sediment and food intakes on the main life-history traits (growth, survival, reproduction) in *Eupolyornia nebulosa*, a deposit feeding, brood care polychaete worm. We addressed three questions: (i) Does competition for the available sediment be responsible of the numeric regulation after settlement? (ii) Does changing food input in neonates result in changes in size or age at first maturity, or are this traits fixed? and (iii) How do an advancement of the age at first reproduction (if any) affect the produced offspring?

We found that low-energy diets supported lower food-collection effort, survivorship, and biomasses than did high-energy diet. Although all survivors reached equivalent sizes, only females on the high-energy diet produced cocoons. Sixty per cent of these latter females had oocytes and mucous glands without producing cocoons, whereas those females having gametes on the low-energy diets were not physiologically ready to reproduce.

Although early breeders spawned smaller cocoons containing a lower number of eggs than females from laboratory cultures and the natural population, their relative clutch sizes ranged between those recorded for laboratory and natural breeders.

D-36 Male Accessory Gland Substances Modulate the Behaviors of *Aedes aegypti* Female Mosquitoes (Diptera: Culicidae)

이 종 진*, Marc J. Klowden¹

전북대학교 농생물학과, ¹ 미국 아이다호대학 곤충학과

During the period of egg development, *Aedes aegypti* mosquitoes are generally inhibited from seeking a host until their eggs are laid. This inhibition is caused by a neuropeptide that is released during oogenesis and specifically by proteins transferred from the male accessory gland during mating. Mated females began to show an inhibition of host-seeking behavior at 30 hours after blood ingestion, with a maximum behavioral inhibition between 36 and 72 hours. Using gel filtration, we isolated and identified the component from male accessory glands responsible for the effect of host-seeking, mating and ovipositing. It appeared to be a protein between 5 and 10Kda, which when injected had the same effects on inhibiting host-seeking behavior as did mating. We also examined the specificity of the male accessory gland substances comparing with *Ae. aegypti*, *Ae. albopictus* and *Anopheles gambiae* if their biological activities are depended on the phylogenetic relatedness.