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Advantages of a Two-Generation Mysid Protocol

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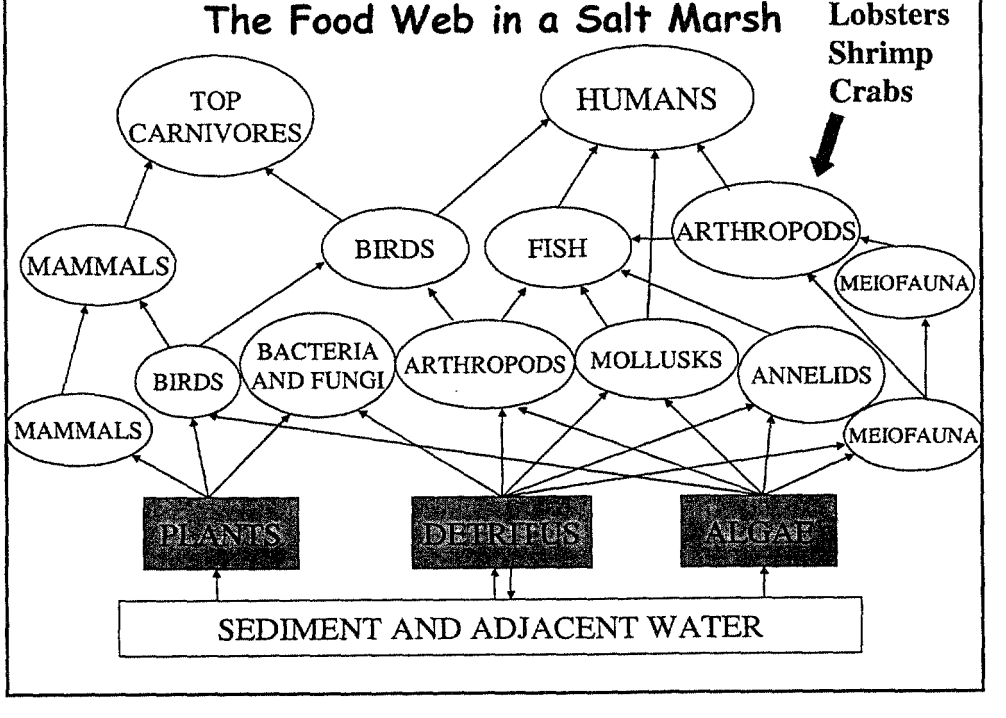
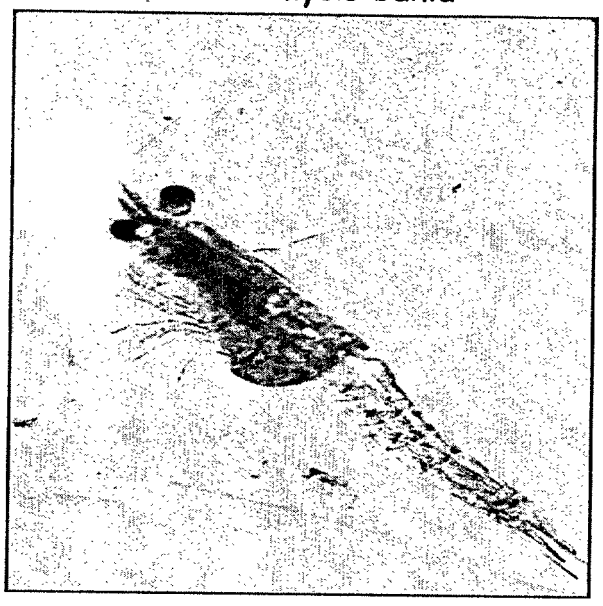
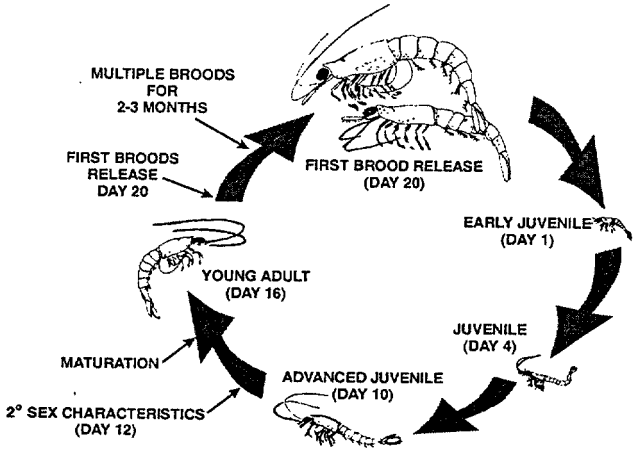
The Food Web in a Salt Marsh



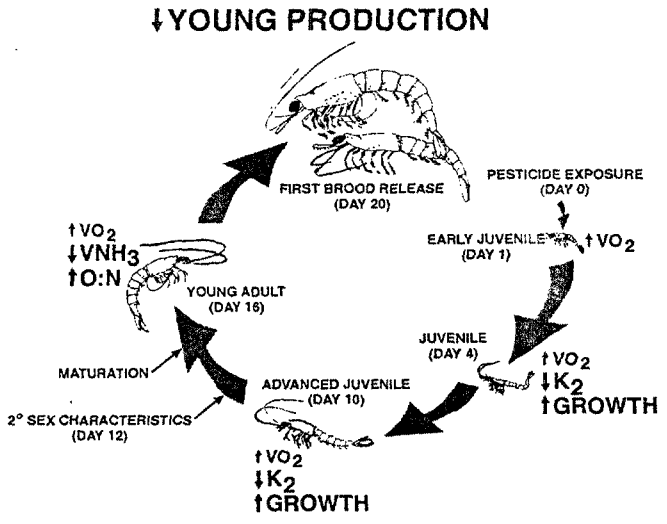
Americamysis bahia



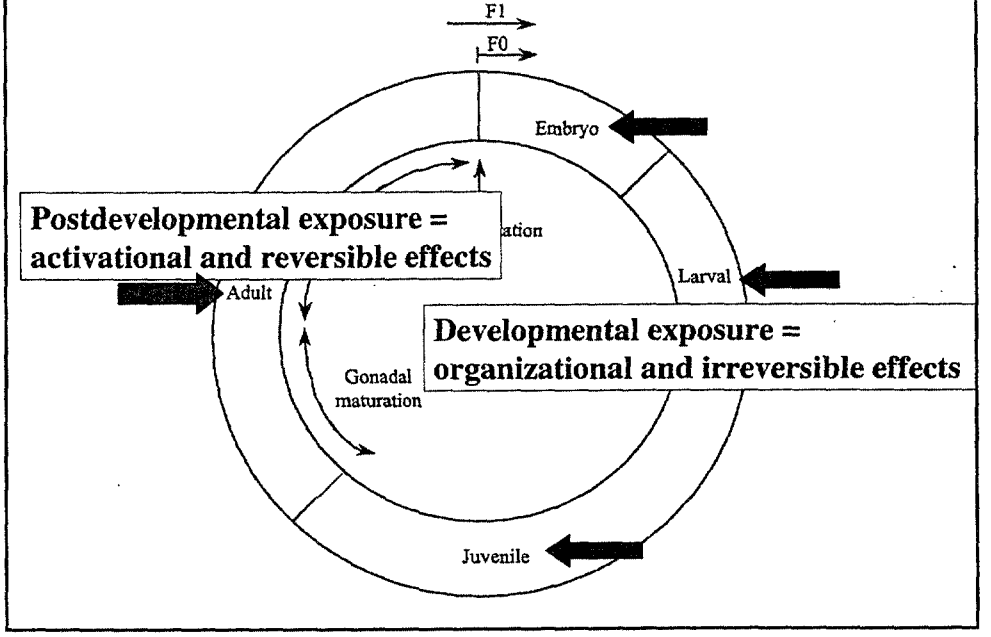
Americamysis bahia Life-Cycle



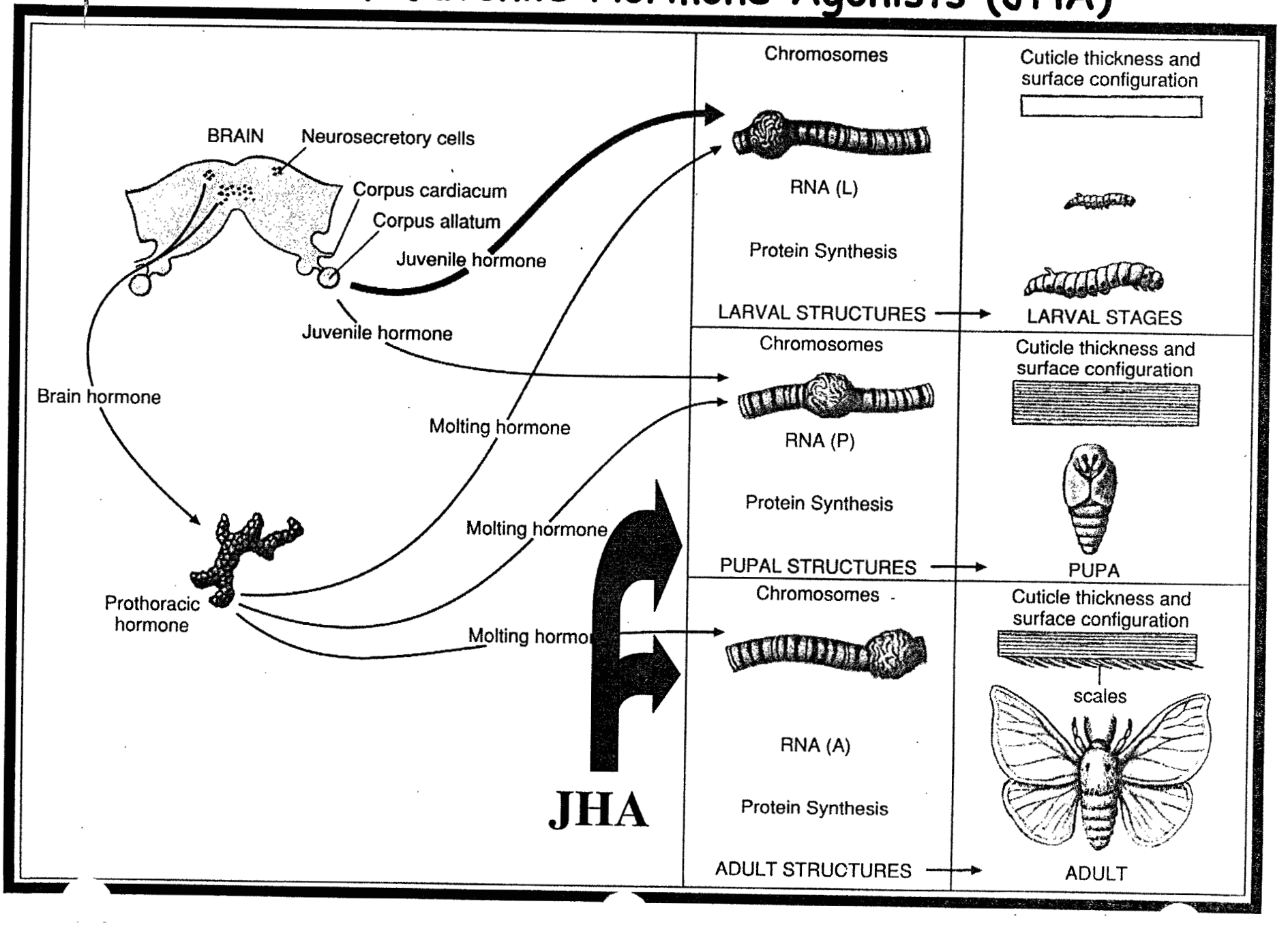
Summary of Mysid Life-Cycle Exposures

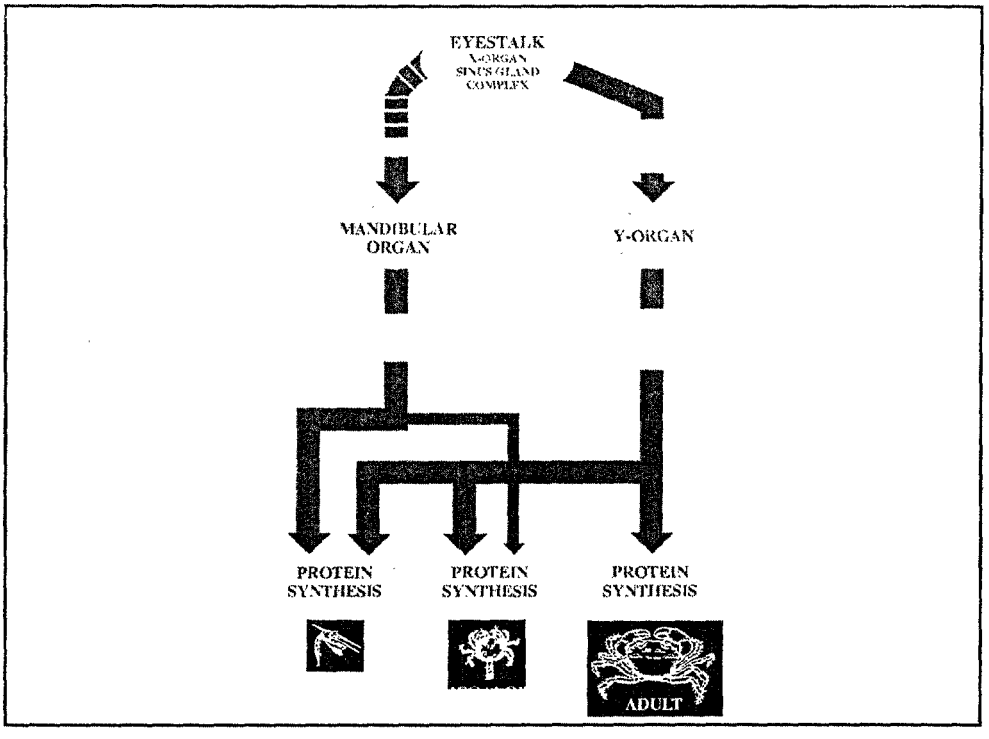


Evaluating effects of potential endocrine-disrupting compounds - a life-cycle context



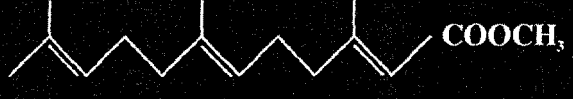
Effect of Juvenile Hormone Agonists (JHA)





Similarity in Structure of Insect and Crustacean Hormones and a Reference Juvenile Hormone Analogue Used as Pesticide

JUVENILE HORMONE

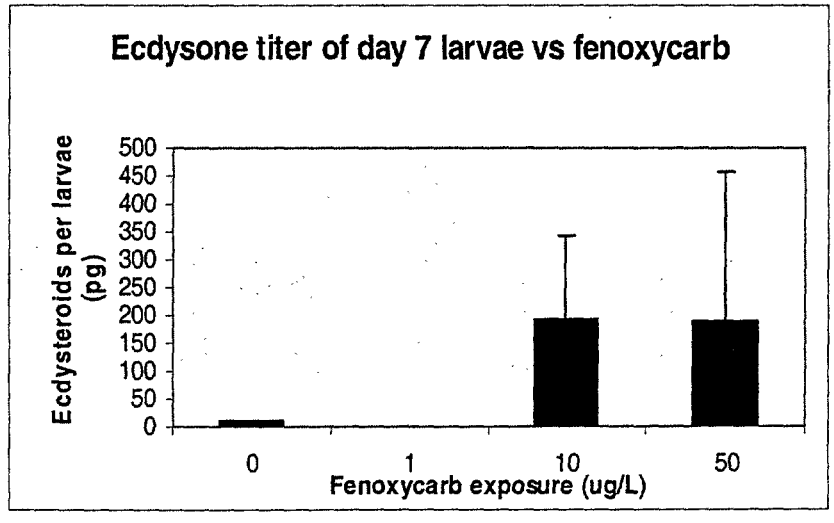


METHYL FARNESOATE

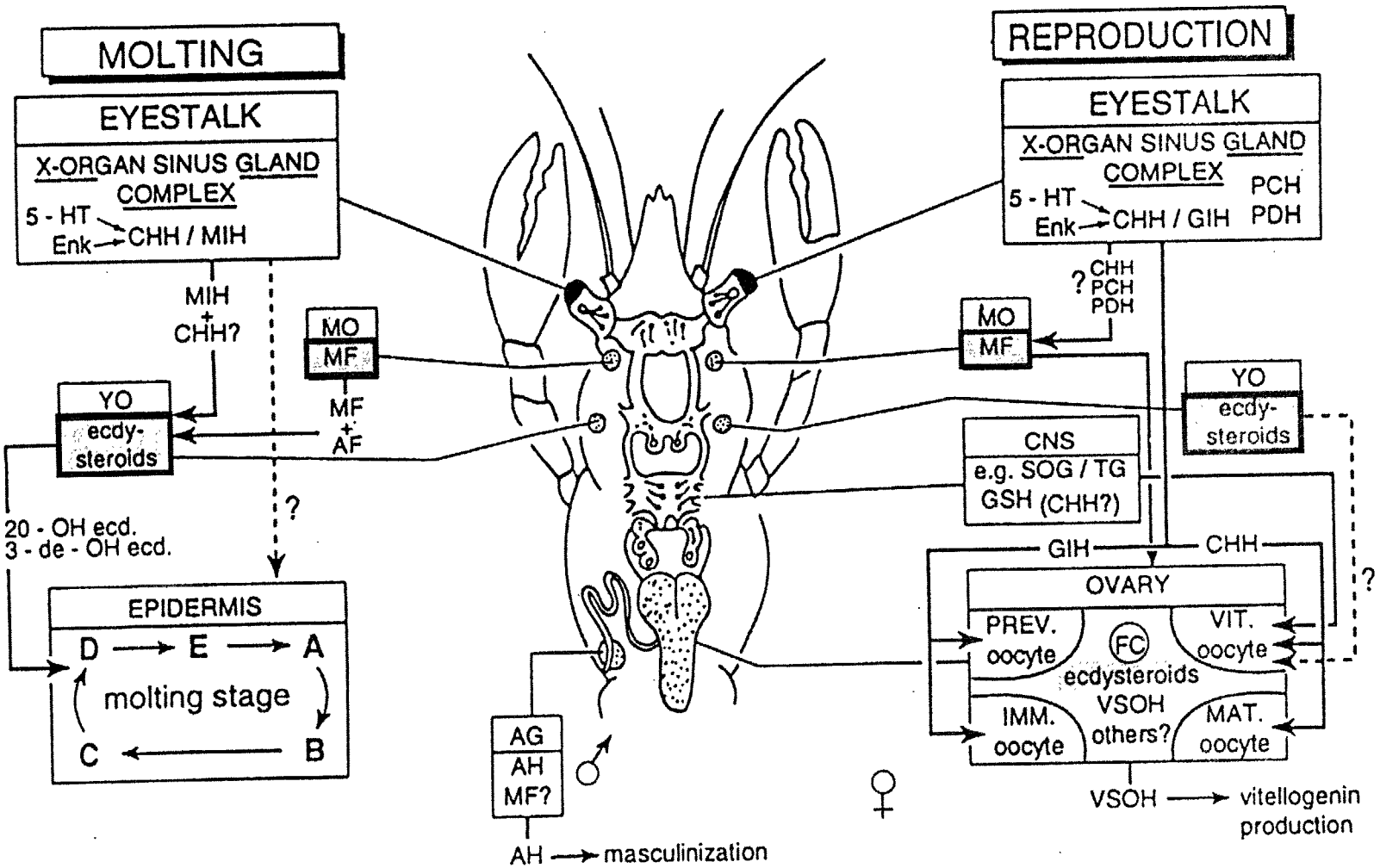
METHOPRENE
(A JUVENILE HORMONE ANALOGUE)

ORGANISM	EFFECT CONCENTRATION METHOPRENE (mg/l)
RAT	210
FISH	
RAINBOW TROUT	106
CHANNEL CATFISH	100
BLUEGILL	4.62
COHO SALMON	86
MUMMICHOG	125
MOSQUITOES	
Culex pipiens	0.1-1.0
C. tritaeniorhynchus	0.1
Aedes nigromaculis	0.1
A. quadrimaculatus	0.01
A. taeniorhynchus	0.0001
CRUSTACEANS	
Palaemonetes pugio	0.008
Rhithropanopeus harrisii	0.1
Daphnia magna	0.1
Mysidopsis bahia	0.002

Palaemonetes pugio exposure to Fenoxycarb

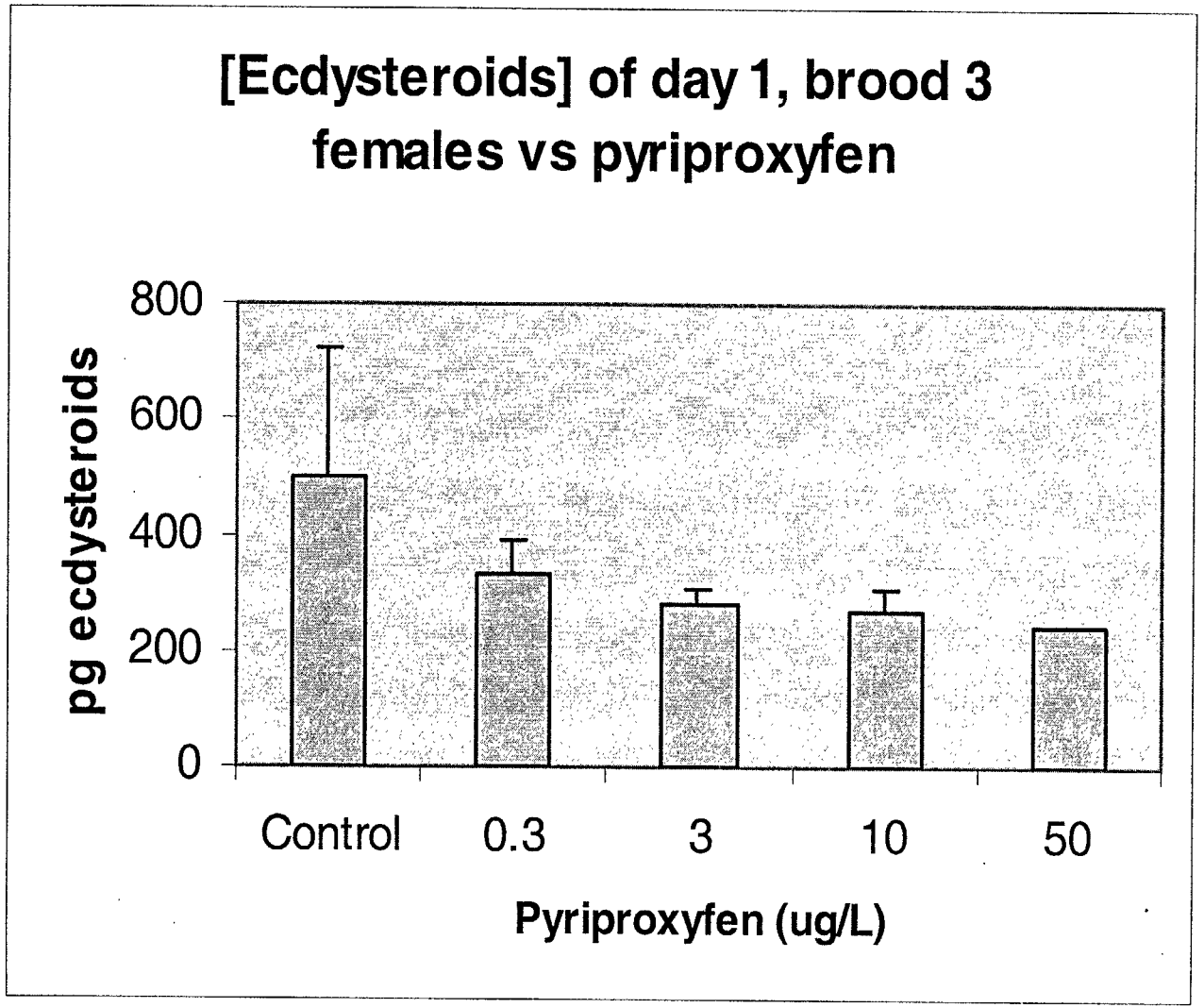


Endocrine Regulation of Crustacean Reproduction and Growth

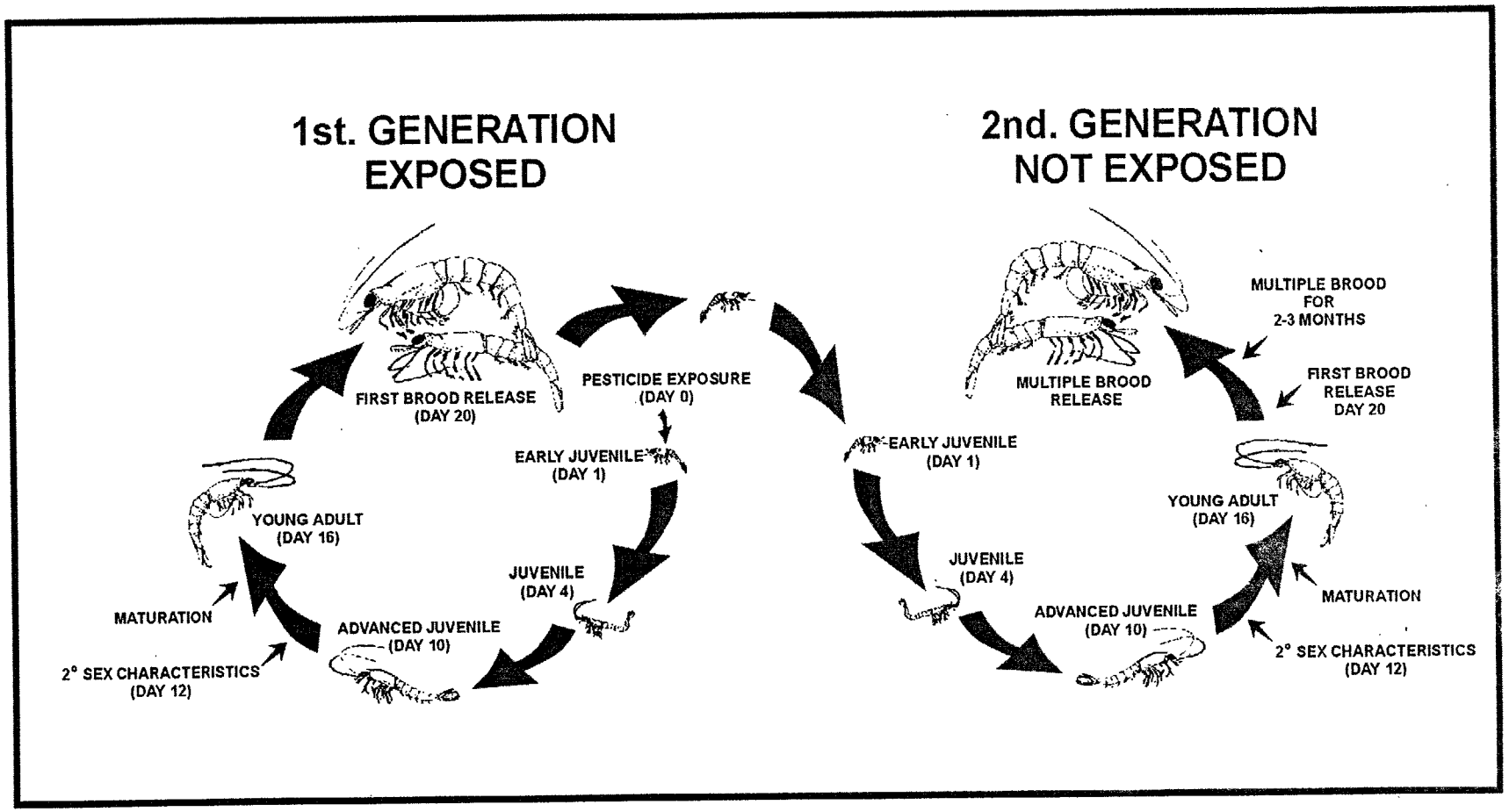


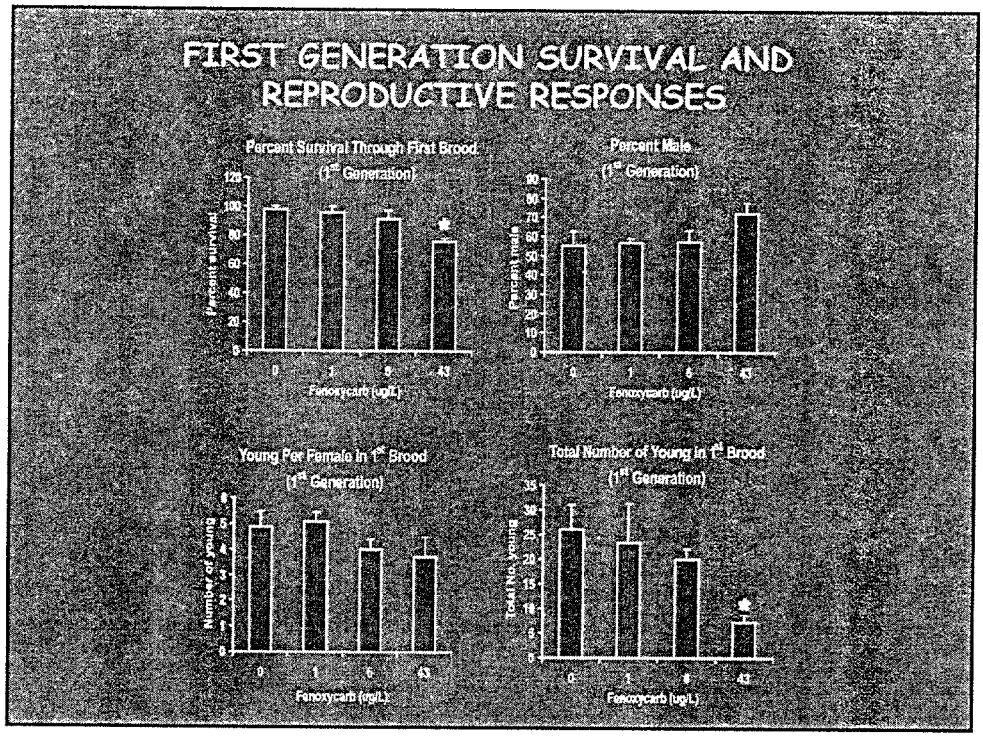
From Charmantier et al., 1997

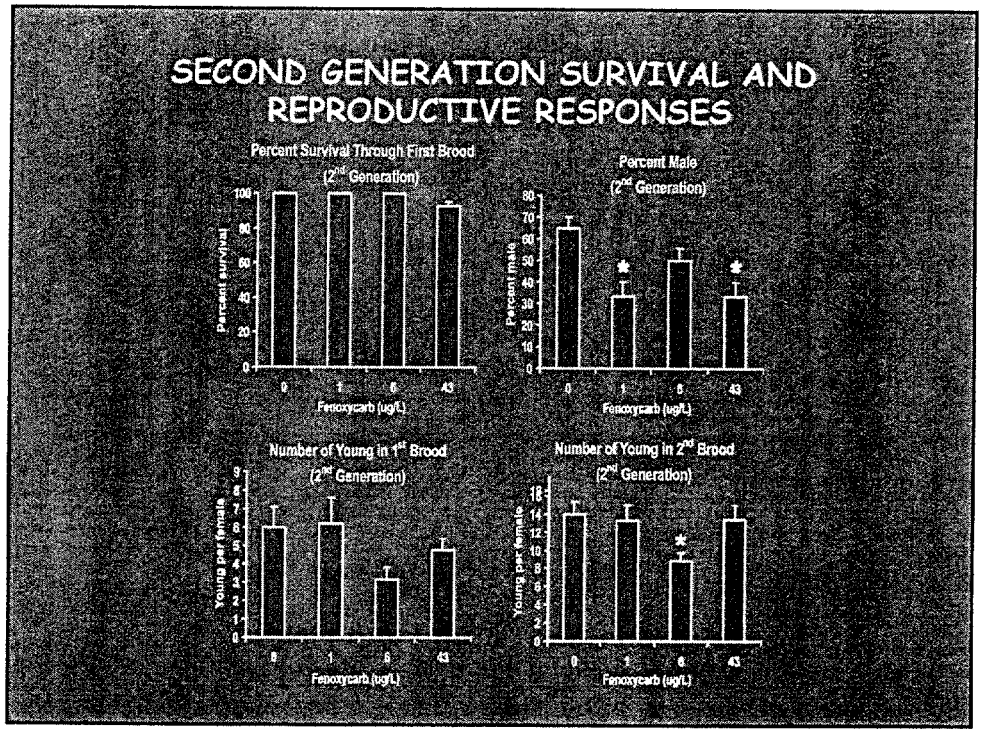
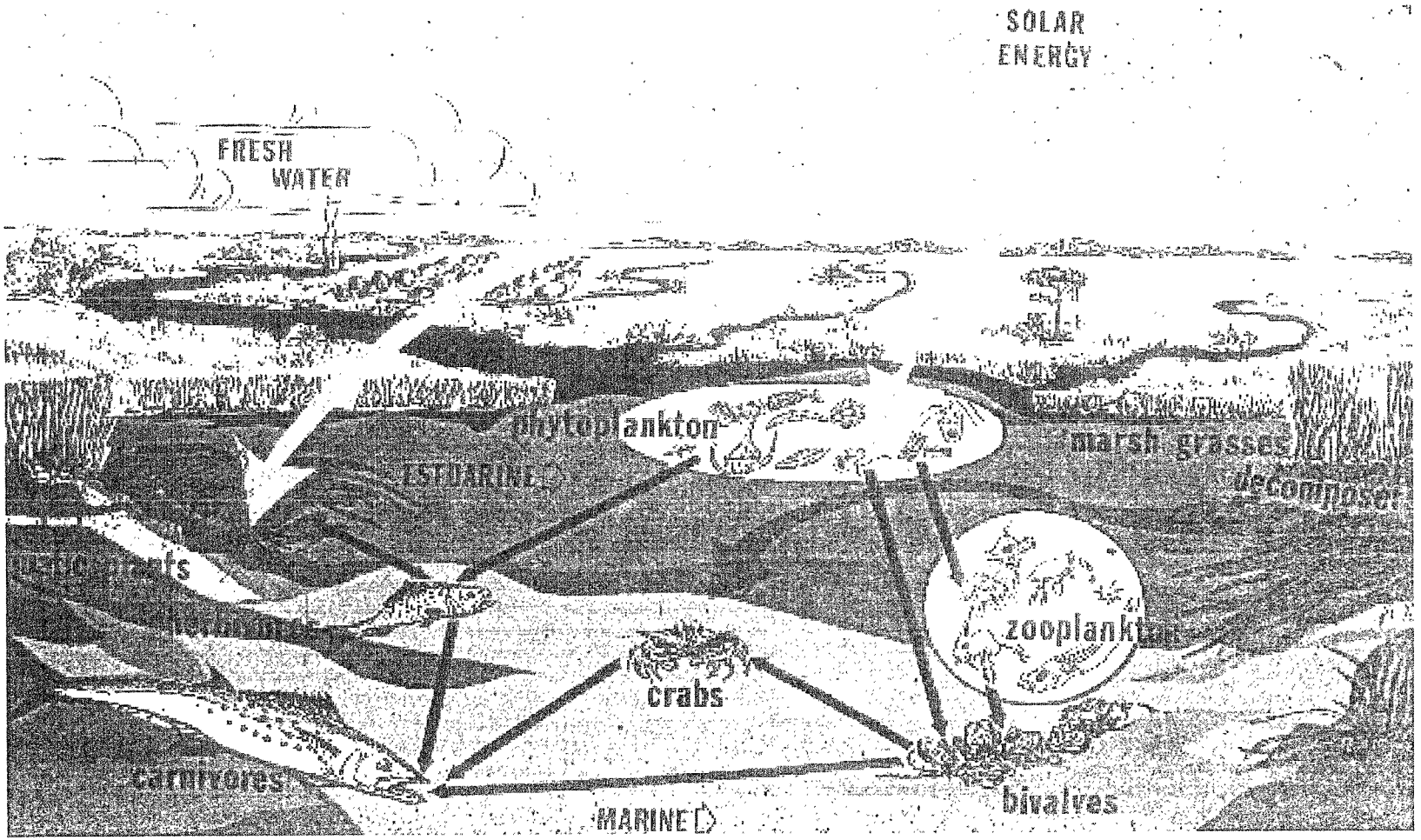
Americamysis bahia vs pyriproxyfen exposures



TRANSGENERATIONAL EFFECTS ON MYSIDS




FIRST GENERATION SURVIVAL AND REPRODUCTIVE RESPONSES
Percent Survival Through First Brood (1st Generation)
Percent survival
Fenoxycarb (ug/L)
Percent Male (1st Generation)
Percent male
Fenoxycarb (ug/L)
Young Per Female in 1st Brood (1st Generation)
Number of young
Fenoxycarb (ug/L)
Total Number of Young in 1st Brood (1st Generation)
Total No. young
Fenoxycarb (ug/L)


SECOND GENERATION SURVIVAL AND REPRODUCTIVE RESPONSES
Percent Survival Through First Brood (2nd Generation)
Percent survival
Fenoxycarb (ug/L)
Percent Male (2nd Generation)
Percent male
Fenoxycarb (ug/L)
Number of Young in 1st Brood (2nd Generation)
Young per female
Fenoxycarb (ug/L)
Number of Young in 2nd Brood (2nd Generation)
Young per female
Fenoxycarb (ug/L)

Altered development, growth and reproduction of Crustceans by EDCs would restrict their role as dominant secondary producers