



Chapter 7 Planktonic Crustacea

Part VII Sergestidae

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References

- 郑重, 1953. 厦门海洋浮游甲壳类的研究(一): 毛虾. 厦门大学学报
- 郑重, 1954. 厦门海洋浮游甲壳类的研究(二): 莹虾. 厦门大学学报
- 刘瑞玉, 1956. 黄海和渤海的毛虾. 动物学报
- 刘蝉馨, 张宗道, 1981. 中国毛虾的幼体发育. 动物学报

**Crustacea, Malacostraca, Decapoda, Natantia,
Penaeidea, Sergestidae**

Features:

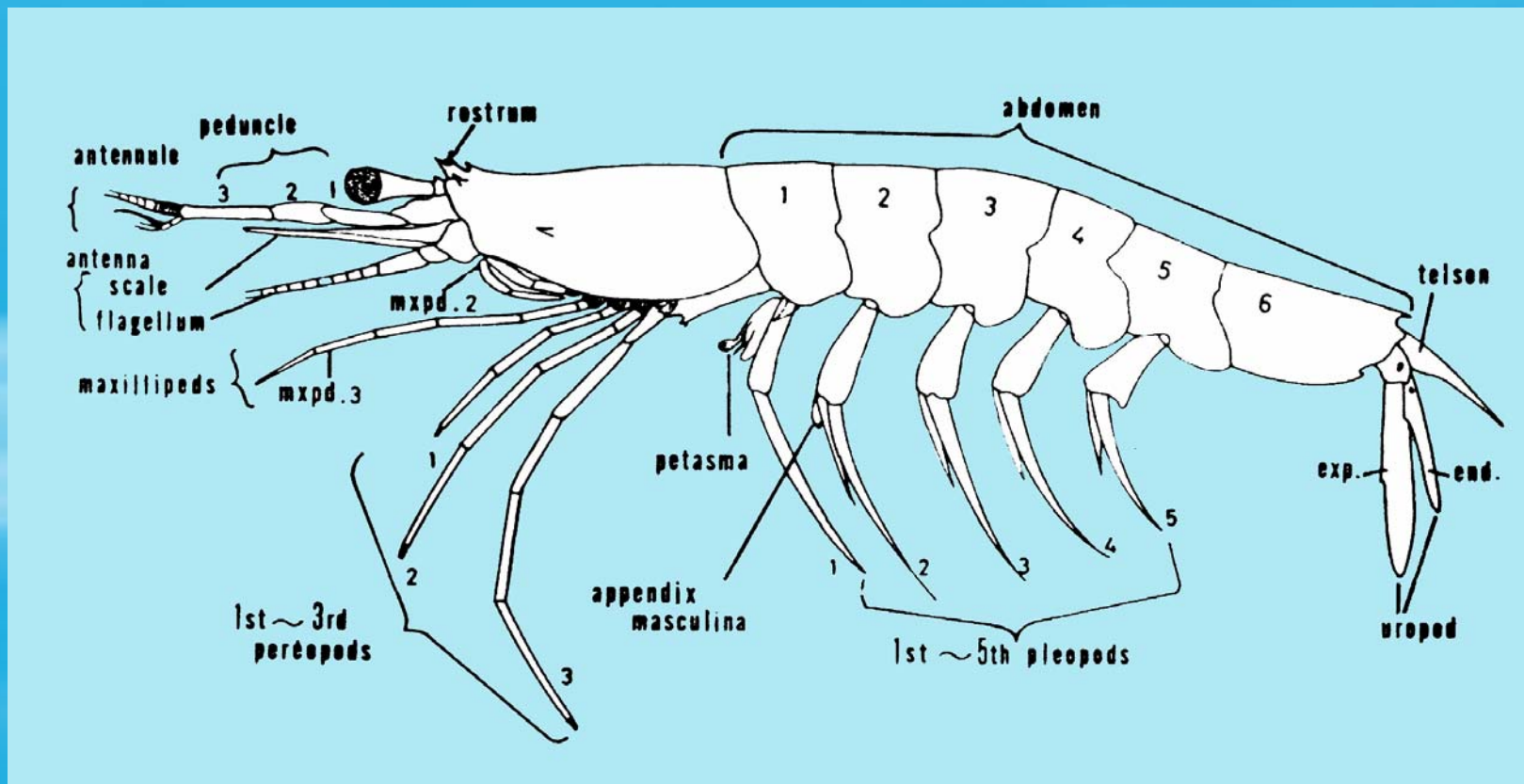
- **body laterally compressed, rostrum short;**
- **P₁₋₃ modified as maxillipeds;**
- **P₄₋₅ absent or rudimentary**
- **indirectly development**



1 General Morphology

1.1 Body form

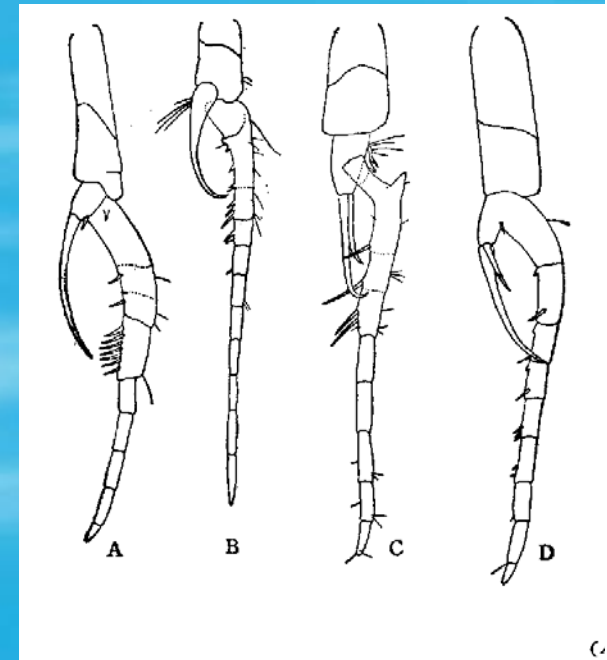
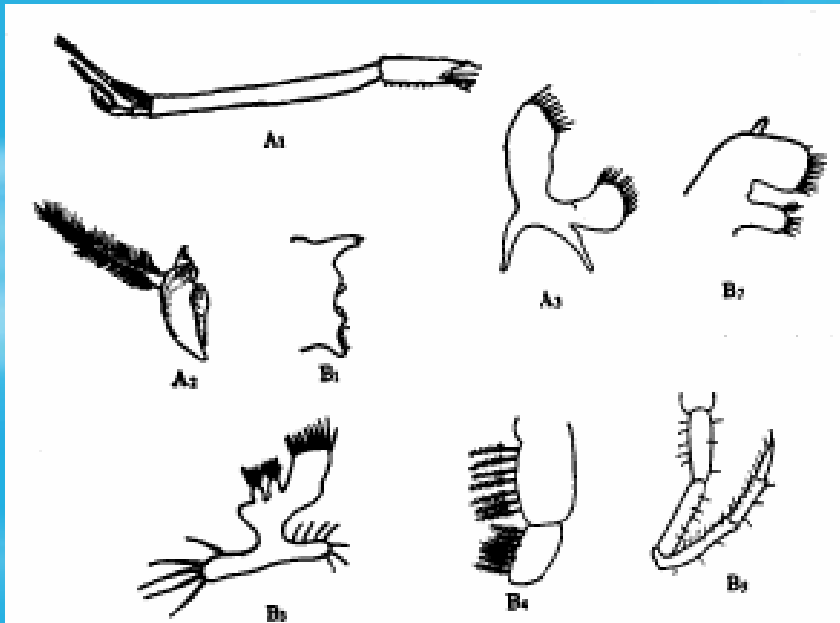
- cephalothorax
- abdomen, 6th abdominal somite with sexual dimorphism



1.2 Appendages

- (1) A_1 , statocyst, ♂ clasping organ
- (2) A_2
- (3) M ; M_1 ; M_2 ; M_p
- (4) P_{1-8}
- (5) Pl_{1-5} , sexual dimorphism
- (6) Up

1.3 Eyes, compound eyes with eyestalk



A. Indicus *A. erythraeus*
A. serrulatus *A. japonicus*

2 Classification

M with or without palp

- **2.1 Subfamily Sergestinae**

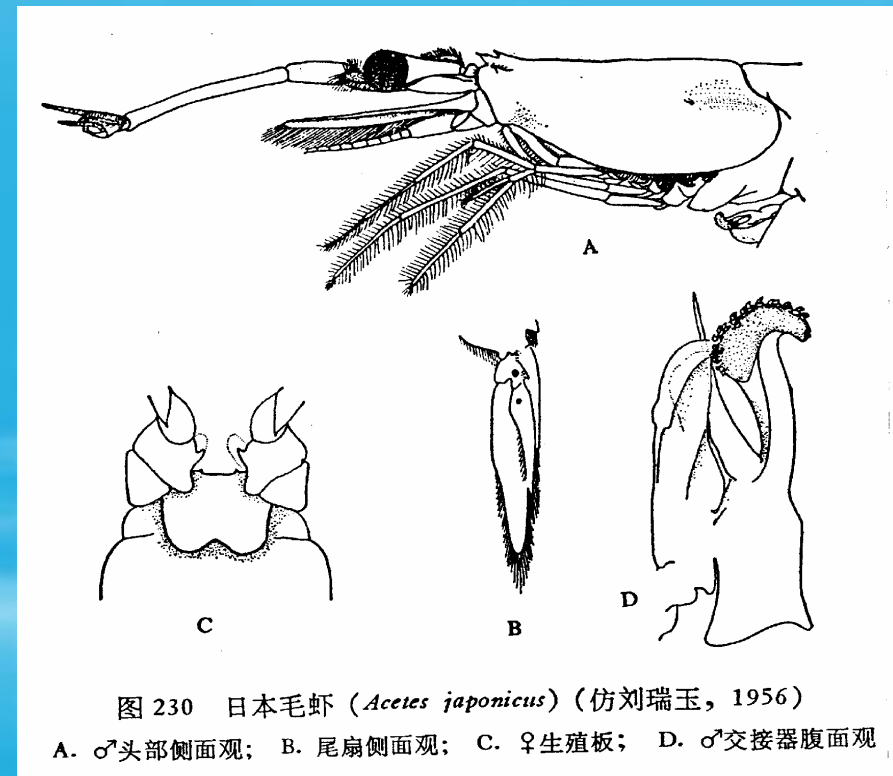
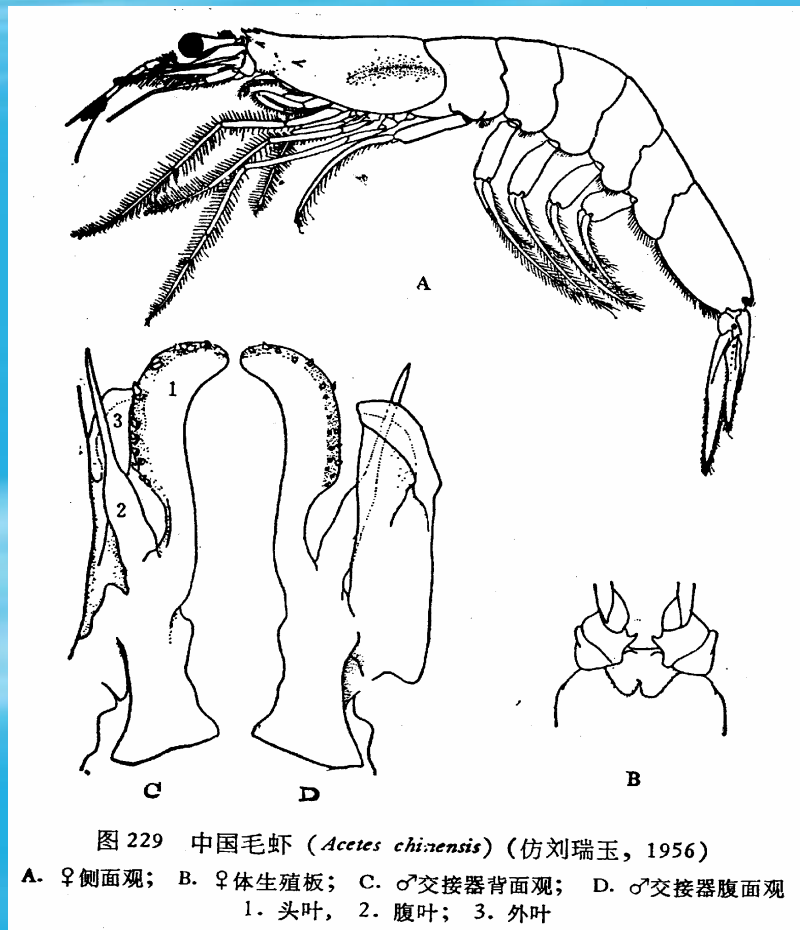
- (1) *Acetes*

- (2) *Sergestes*

- **2.2 Subfamily Luciferinae**

- (1) *Lucifer*

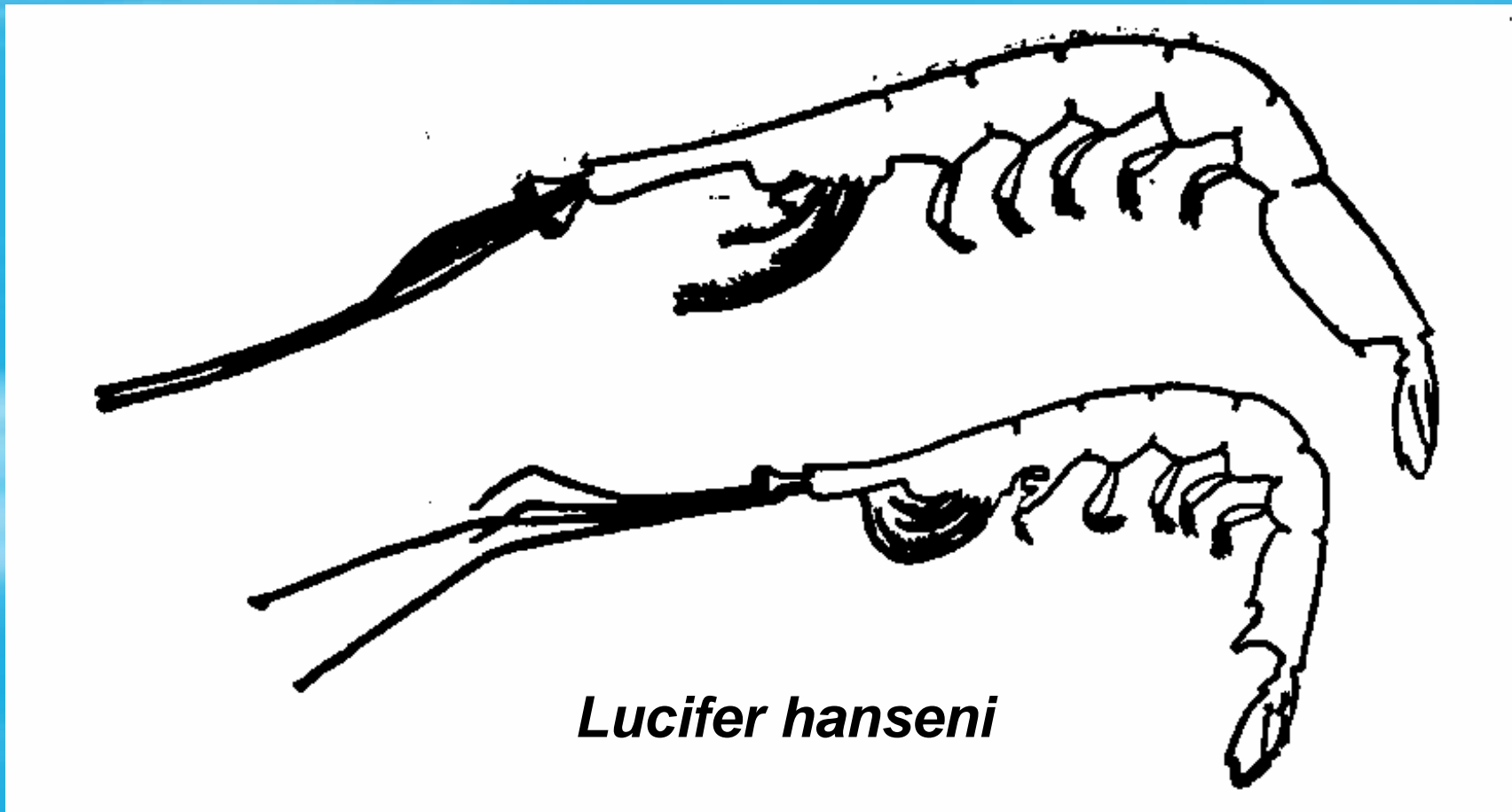
Acetes



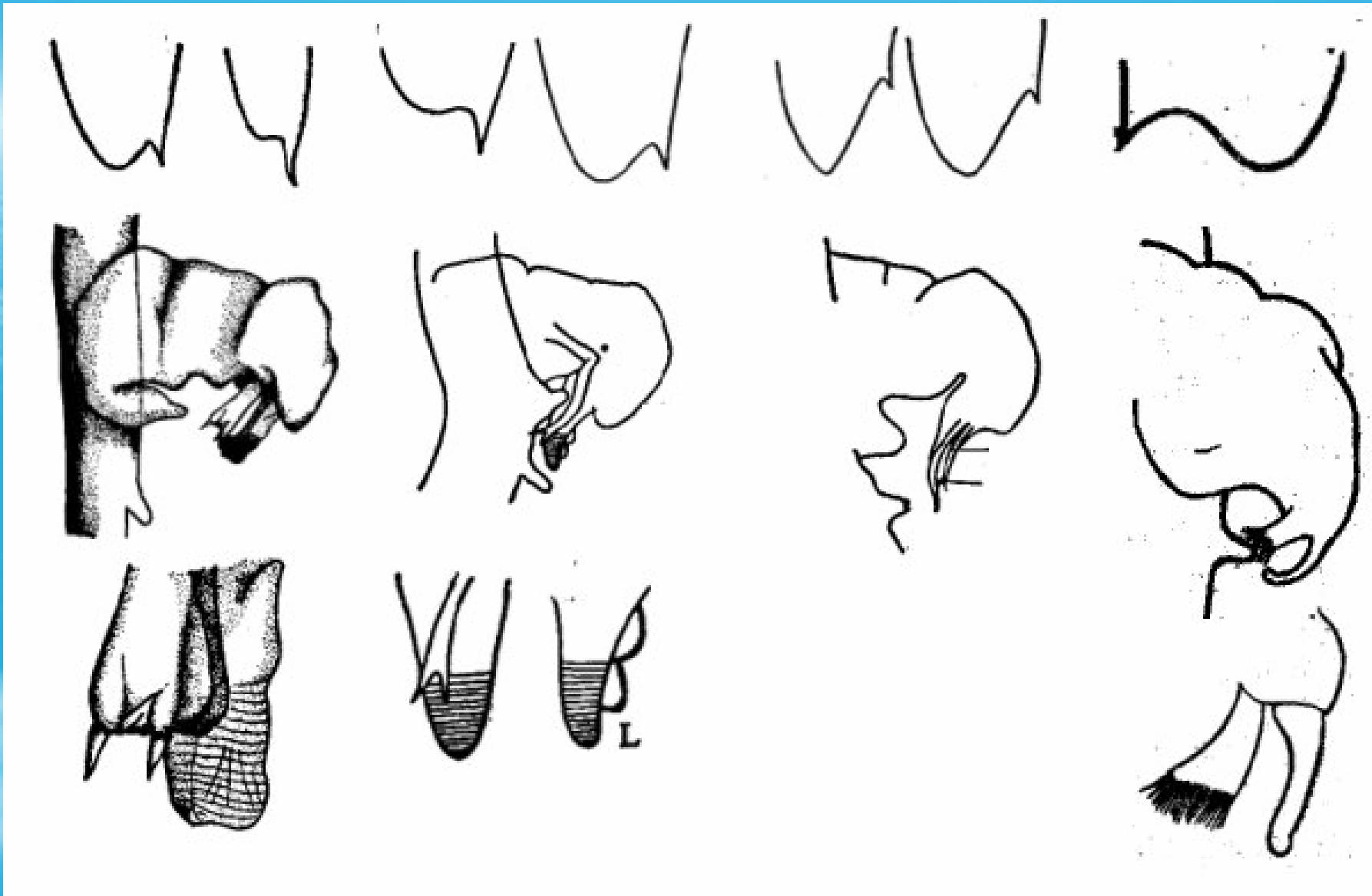
Sexual differences of *Acetes*

Characters	male	female
body length	shorter	longer
genital plate	smaller	larger
compound eyes	smaller with shorter ocular stalk	larger with longer ocular stalk
inferior flagellum of A₁	modified as clasping organ	unmodified
scale of A₂	extending to base of 3rd peduncular segment of A₁	extending to middle of that segment
genital coxae	present, papilla-like	absent
Pl₁	with petasma	normal
base of Pl₂ Ri	with appendix masculina	absent

Lucifer



Lucifer hansenii



L. typus

L. intermedius

L. hanseni

L. penicillifer

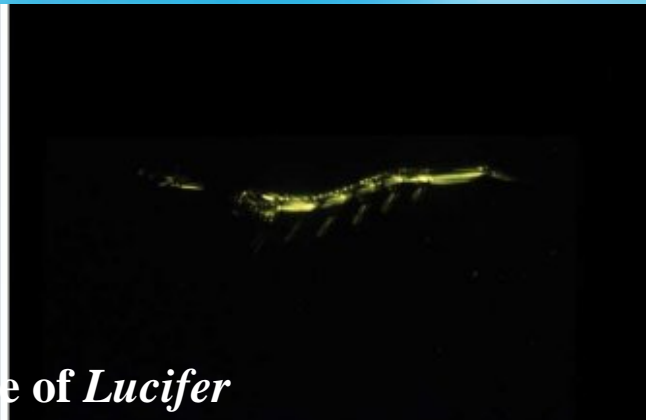
Sexual differences of *Lucifer*

Characters	male	female
body and head length	shorter	longer
Inferior margin of Ab₆	with 2 spinal processes	with very small spine at posterior end only
telson	with large ventral process	without process
protopodite of P₁	with petasma	without petasma
appendix masculina of Pl₁	present	absent

3 Biology and Significance

- 3.1 Distribution
- 3.2 *Acetes* fishery

According to FAO statistics(1995), *A. chinensis* supports the largest single shrimp fishery in the world (409,995t), and the vast majority of world landings are taken in China.



Bioluminescence of *Lucifer*

