

TAXONOMY AND ULTRASTRUCTURE STUDY OF FAMILY
PORCELLIDIIDAE (HARPACTICOIDA, COPEPODA) FROM SEAGRASS
(*Enhalus acoroides*) IN SUNGAI PULAI, JOHOR

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FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU

2008

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ABANG JEFRI BIN ABANG MANSOR

**Research Report submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Science (Marine Biology)**

**FACULTY OF MARITIME STUDY AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU
2008**

Abang Jefri, A M. 2008. Taxonomy and ultrastructure study of family Porcellidiidae (Harpacticoida, Copepoda) from seagrass (*Enhalus acoroides*) in Sungai Pulai, Johor. Undergraduate thesis, Bachelor of Science in Marine Biology, Faculty of Maritime Study and Marine Science, Universiti Malaysia Terengganu, Terengganu. 64p.

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**JABATAN SAINS MARIN
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UNIVERSITI MALAYSIA TERENGGANU**

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PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk :

Taxonomic and Ultrastructure Study of Family Porcellidiidae (Harpacticoida, Copepoda) from Seagrass (*Enhalus acoroides*) in Sungai Pulai, Johor.

oleh **Abang Jefri b. Abang Mansor** No. matrik UK 12644

telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memporolehi Ijazah **Sarjana Muda Sains (Biologi Marin)**, Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

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ACKNOWLEDGEMENTS

First of all, I would like to thank to my project supervisor, Dr. Zaleha Kassim, which proposed me this title and guide me a lot until I'm finished this project successfully. I would like to thank to Dr. Siti Aishah Abdullah (Program coordinator of Marine Biology), for advise and guidance all the way from the beginning. I would also like to appreciate Dr. Juanita Joseph (supervisor of this paper) from the beginning until end of this project.

My thanks also, to colleagues Uzair and Maizah that accompany me during my sampling at Sungai Pulai, Johor and also other colleagues for a great determination in these two semester that gave me strength and encourage me to finish this project. I'm grateful to biodiversity lab assistant, En. Zam, En. Jalal, Puan Kartini, En. Maliki for a great helps during sorting and drawing process of my project. Also to En. Nasir and Puan Rosita (SEM lab officer) that help me a lot during the analysis process of my sample using SEM method.

Finally, I would like to take this opportunity to give my deepest gratitude to my lovely family that make me stronger in facing a lot of problem by giving me moral and financial support. Most of all, I thank to Allah S.W.T that make all the process in conducting this project smoothly.

THANK YOU.

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LIST OF ABBREVIATIONS

P.1 – P.5	-	First until five swimming legs (pereipod)
P.6	-	Six swimming leg
e.g.	-	Example
mm	-	millimeter
μm	-	micrometer
μg	-	microgram
%	-	percent
CMPC-9	-	mounting media
$^{\circ}\text{C}$	-	degree Celsius
M	-	molarity
h	-	hour(s)
10X	-	10 times microscope power
♀	-	Female
♂	-	Male
γ	-	Gamma
α	-	Alpha
β	-	Beta
sp.	-	species
~	-	Approximately

LIST OF APPENDICES

Appendix A: The red-blue coloration that was found at the P1 and caudal rami of the *Porcellidium airoa*.

Appendix B: The *Porcellidium* sp. urosome with the anterior and posterior lobes are divided with lateral scar, according to Harris and Iwasaki, 1996b.

ABSTRACT

This taxonomic study of harpacticoid (Porcellidiidae) was carried out using the sample collected from the seagrass (*Enhalus acoroides*) from Sungai Pulai, Johor that was collected on 31st August 2007. Samples were prepared on slides for observation under high magnification compound microscope and details of the fine structure on its body surface were further examined by using Scanning Electron Micrograph method. A total of three species was described which is *Porcellidium aiiroa*, *Dilatatiocauda medialis* and *Porcellidium* sp.. The female *Porcellidium aiiroa* described by the unique features of rhomboid caudal rami with the present of λ , μ and ν terminal setae and for the male the caudal rami is rectangular with the absent or third terminal setae. The *Dilatatiocauda* that was found during the study was classified by the unique features of maxilliped that widely separated at the middle part of two coxal lobes and the absent of fimbriate process. The location of the α and β setae at the middle of caudal rami make it's named as *D. medialis*. *Porcellidium* sp. found in this study has unique features of caudal rami with highly bevelled at the outer edge.

KAJIAN TAKSONOMI DAN ULTRASTRUKTUR BAGI FAMILI
PORCELLIDIIDAE (HARPAKTIKOIDA, COPEPODA) DARIPADA RUMPUT
LAUT (*Enhalus acoroides*) DARI SUNGAI PULAI JOHOR.

ABSTRAK

Kajian taxonomi harpatikoid (Porcellidiidae) ini telah dijalankan dengan menggunakan sampel yang di ambil daripada rumput laut (*Enhalus acoroides*) dari Sungai Pulai, Johor pada 31 Ogos 2007. Sampel disediakan pada kepingan kaca untuk pemerhatian di bawah mikroskop kompoun berkuasa tinggi dan pemerhatian yang lebih teliti berkenaan stuktur-struktur halus pada badannya dilakukan dengan menggunakan Mikroskop Pengimbas Elektron. Sejumlah tiga spesis telah diperolehi terdiri daripada *Porcellidium airoa*, *Dilatatiocauda medialis* dan *Porcellidium* sp.. *Porcellidium airoa* betina yang diperolehi mempunyai ciri unik pada caudal rami yang berbentuk rombus dengan kehadiran seta hujung 1, 4 dan γ dan bagi jantan caudal rami nya berbentuk segiempat dengan seta hujung yang ketiga tidak wujud. Pada *Dilatatiocauda*, ciri unik yang penting untuk pengelasannya adalah dengan merujuk kepada bahagian maxilliped yang coxal lobes nya terpisah dan fimbriate process yang tidak wujud. Posisi seta α dan β yang terletak ditengah-tengah caudal raminya menyebabkan ianya dinamakan *D. medialis*. *Porcellidium* sp. yang dijumpai dalam kajian ini mempunyai caudal rami yang menyerong dibahagian sisi luarnya.