

## **SDI Review Form 1.6**

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Journal Name:	<b><u>Physical Science International Journal</u></b>
Manuscript Number:	<b>2014_PSIJ_9390</b>
Title of the Manuscript:	<b>Spectral Discrimination of Coral Reefs on the Small Islands,Spermonde Archipelago, Indonesia</b>
Type of the Article	<b>Original Research Article</b>

### **General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

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#### PART 1: Review Comments

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	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<b>Compulsory</b> REVISION comments	<p>This manuscript presents a work describing an important finding of spectral discrimination of coral reefs in Indonesia. Although the results presented in this manuscript are important for coral reef community to determine the spectral characteristics of living and dead corals, the study overall fails to establish the findings, contains a number of results and data presentation problems, that preclude its recommendation for publication in present form. However, a major revision is needed in clarifying and improvement the manuscript.</p> <p>The results and discussion are not clearly presented in the manuscript. The authors described their results and discussion together once and again they discussed separately, it's a big discussion but not clearly conclude the results. One of the most important portions are algae they have been described in the manuscript but they couldn't identify any algae. What species of algae are involved to cover dead/rubber corals. They mentioned in the abstract "The samples comprised living and dead coral covered with alga and coral rubber covered with algae". What alga and what kinds of algae are actually involved. As they mentioned that single alga and algae, it should be clearly discussed and identify the species and which area covered by single alga and which are not.</p> <p>Also it is important to identify species (algae) because</p>	<ul style="list-style-type: none"> <li>Revised see the yellow background color.</li> <li>This study is not identify the species of algae and need specific study to identify the species can be seen <b>Table 1</b>.</li> <li>Compe-tition between corals and algae probably is widespread on coral reefs, but also that the interaction varies considerably. Widespread replacement of corals by algae may often indicate coral mortality due to external disturbances, rather than competitive overgrowth, but may lead to competitive inhibition of coral recruitment, with consequences for reef recovery. (Reference : McCook., et all, 2001. Competition between corals and algae on coral reefs: a review of evidence and mechanisms. Coral reefs (2001) 19:400417</li> <li>The competition between corals and macroalgae is a critical step during such reef degradation (Reference : McCook., et all, 2001. Competition between corals and algae on coral reefs: a review of evidence and mechanisms. Coral reefs (2001) 19:400417</li> </ul>



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	<p>it is reported that some species of algae are resist the coral reefs from ocean acidification. If not possible, then author should discussed clearly why not.</p> <p>The results is not clearly mentioned in the figure legends, e.g., fig 2.</p> <p>Overall, the conclusion is difficult to understand for reader.</p>	
<b><u>Minor</u></b> REVISION comments		
<b><u>Optional/General</u></b> comments		

Table 1. Comparison of studies which directly test effects of algae and corals on each othes

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Reference	Location, region	Impacts, methods and evidence		Comments	Algal taxa/functional group	Coral taxa/life form group
		A	C			
Hughes (1989)	Rio Bueno, Jamaica, Caribbean	–	Macroalgal removal treatment and natural encounters; coral bleached or dead where in contact with macroalgae; macroalgae outcompeted coral by overgrowth	Experiment design not specified but results clear-cut	Unspecified/ "Fleshy algae"	<i>Agaricia</i> spp. + 20 spp. listed/ most forms
Coyer et al. (1998)	California, temperate Pacific rocky kelp bed	–	Coral transplantation to different algal abundance; overgrowth of corals after 1 year; corals damaged by brushing; 10 years	Temperate location; non-reef building coral; results clear cut	<i>Cystoseira</i> ; <i>Dictyota</i> ; CCA; kelp holdfast/ Leathery; Cort Foliose; Crustose	<i>Balanophyllia</i> /Solitary (small)
Tanner (1995)	Heron Island, GBR	–0	Algal removal treatment and natural encounters; energetic cost to corals from algal contact; algae reduced cover, growth and fecundity of some corals but not all, and, importantly, did not affect survival	Clear-cut experiment, limited by low cover of both algae and coral – may underestimate effects	Various <sup>a</sup> /Artic Calc; Crustose; Filament; Leathery; Cort Macro; Cort Foliose	<i>Acropora brueggemannia</i> ; <i>Acropora cuneata</i> ; <i>Pocillopora damicornis</i> / Branching
Miller and Hay (1996)	North Carolina, temperate Atlantic; inshore-offshore gradient	–	Algal removal, coral transplantation, herbivore exclusion, and nutrient enrichment; algae inhibited growth and recruitment of coral, due to shading or abrasion	Temperate location; non-reef-building coral; results clear cut	Various <sup>b</sup> /Leathery; Cort Foliose; Filament; Cort Macro	<i>Oculina arbuscula</i> / Branching; recruits
Miller and Hay (1998)	Florida, Caribbean	–	Corals transplanted to herbivore exclusion cages with and without algae present; coral growth reduced in presence of algae	Coral growth rate differences may be slightly confounded by different predator bite rates on corals	Various <sup>c</sup> /Cort Foliose; Artic Calc; Cort Macro; Filament	<i>Porites porites</i> / Branching

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Jompa and McCook (1998)	Inshore, central GBR; 2 sites, 2 reefs; inshore-offshore gradient	+		Canopy algal removal; algal canopy protected corals from bleaching damage (shading?)	Demonstrates variable impacts of macroalgal beds	<i>Sargassum</i> /Leathery	Diverse/Diverse
McCook (2001)	Inshore, central GBR	0	-	Removal of massive corals or turf algae along gradient of terrestrial runoff: corals inhibited turf growth more than vice versa; coral success not related to nutrient or sediment inputs.		Various (listed)/Filament	<i>Porites lobata</i> /Massive
Recruitment study: Heyward and Negri (1999)	Lizard Island, GBR and Ningaloo, Western Australia	+		Calcified red algae induced metamorphosis/settlement of coral larvae	Demonstrates positive impacts of algae on coral. Not intended to address competition	<i>Lithophyllum</i> <i>Hydrolithon</i> <i>Neogoniolithon</i> <i>Amphiroa</i> ; <i>Mesophyllum</i> ; <i>Peysonnella</i> /Crustose; Artic Calc	<i>Acropora millepora</i> ; various/Recruits
Lesion studies: Bak et al. (1977)	SW Curacao, Caribbean	-		Algal turfs which initially colonised experimental lesions on corals were overgrown by coral	Not intended to address coral-algal competition but demonstrates coral overgrowth of colonising algae	Unspecified/Filament	<i>Agaricia agaricites</i> ; <i>Montastrea annularis</i> /Foliose and massive
Meesters and Bak (1993); Meesters et al. (1994, 1997)	Curacao, Caribbean	-	-	Colonisation of experimental lesions by algae influenced but did not generally prevent coral overgrowth of algae. Duration and type of algal colonisation affected recovery	As above	Unspecified/Filament	<i>Montastrea annularis</i> ; <i>Porites astreoides</i> ; <i>Meandrina meandrites</i> /Massive
van Woerk (1998)	Okinawa, Japan	-	-	As above	As above	Unspecified; <i>Padina</i> /Filament; Cort Foliose	<i>Porites</i> spp./Massive

<sup>a</sup>*Halimeda*, *Peysonnella*, *Chlorodermis fastigiata*, *Turbinaria*, *Sargassum*, *Amphiroa*, *Caulerpa*, *Hypnea*, *Enteromorpha*, *Padina*

<sup>b</sup>*Sargassum*, *Lobophora*, *Dictyota*, *Dictyopteris*, *Zonaria*, *Ectocarpus*, *Chondria*, *Hypnea*

<sup>c</sup>*Dictyota*, *Halimeda*, *Laurencia*, *Coelothrix*, *Galaxaura*, *Amphiroa*, *Styopodium* and filamentous reds