The study on gastropods on edible macroalgae was conducted at Kodingareng island on the west-side of South Sulawesi. Macroalgae of the genera *Hypnea*, *Gelidium* and *Acanthophora* were sampled together with their molluscan fauna. A total of 36 genera of gastropods were found on the three genera of algae. The genera *Helic cus*, *Clypeomorus*, *Cerithium*, *Pyrene*, *Columbella*, *Mitra*, and *Morula* were present on all three genera of algae. *Cerithium* and *Rhinoclavis* were the most common herbivores on *Gelidium* and *Hypnea*, while *Littorina* was the most common herbivores on *Acanthophora*.

1. Introduction
Seaweed provide as feeding ground, shelter and protection from predators [1, 2, 3]. Information on gastropods occurring on macroalgae is limited, although it is well known that many herbivorous species depend on algae for food and as a substratum for laying of eggs, and carnivorous species prey on herbivores living on the algae [4, 5, 6, 7]. The aim of this study was to investigate if certain species of gastropods are living on specific genera of macroalgae.

2. Materials and Methods
The study sampling was conducted at Kodingareng, west of Makassar. Kodingareng island is about 2 hectares. Salinity is about 32 ppm with 7 pH, and water temperature range between 22 – 25 °C. Samples were collected randomly in the afternoon (after sunset) and early morning (before sunrise). Algae were placed in clear plastic bags, which were tied at the base. The algae together with associated fauna were cut from the substratum. Formaldehyde 4 % was used for preservation of both gastropods and macroalgae. Identification of gastropods was done to the generic level using [8, 9, 10, 11, 12]. Macroalgae were identified according to [13, 14, 15]. The species of gastropods present on algae was analysed by their relative frequency [16].

3. Results and Discussion
There were 36 genera of gastropods in 2 classes, 4 orders, 23 families on the three genera of macroalgae (Table 1). There were also contained 16 genera herbivores and 20 genera were carnivores.

A total of 28 genera were found on the red algae *Gelidium*. The genus *Cerithium* had the highest relative frequency (18%), followed by *Cypraea* (13%), *Morula* (11%), and *Rhinoclavis* (10%). The lowest relative frequency was for *Euchelus*, *Turbo*, *Littorina*, *Tectarius*, *Plinices*, *Natica*, *Tonna*, *Pissania*, *Thriss*, and *Atys*. A total of 21 genera of snails were present on *Hypnea*. The genus *Pyrene* had the highest relative frequency (20%), followed by *Littorina* (14%) and *Mitra* (12%). The lowest relative frequency was found for *Trochus*, *Turbo*, *Cypraea*, *Strombus*, *Chantarus*, *Conus*, *Peristina* and *Terebra*.
Tabel 1. Checklist of macrogastropodes on Hypnea, Gelidium, and Acanthophora

| Order                  | Family           | Genus     | Herbivores / Carnivores | Relative frequency |
|------------------------|------------------|-----------|-------------------------|--------------------|
|                         |                  |           | Hypnea               | Gelidium          | Acanthophora |
| Class Prosobranchia    | Archeogastropoda | Neritida  | Nerita     | Herbivores | 0.9 | - |
|                        |                  | Trochidae | Euchelus   | Herbivores | 0.4 | - |
|                        |                  |           | Clanculus  | Herbivores | 8.6 | - |
|                        |                  |           | Trochus    | Herbivores | 1.1 | 2.2 |
|                        |                  |           | Monilea    | Herbivores | 2.2 | - |
|                        | Turbinidae       | Turbo     | Herbivores | 1.1 | 0.4 | - |
| Mesogastropoda         | Architectonidae  | Heliacus  | Carnivores | 1.3 | 1.7 | 2.1 |
|                        | Cerithiidae      | Clypeomorus | Carnivores | 5.5 | 8.7 | 6.3 |
|                        |                  | Rhinoclavis | Carnivores | -   | 10.0 | 18.1 |
|                        |                  | Cerithium  | Carnivores | 2.2 | 18.2 | 20.1 |
|                        | Cypraeidae       | Cypraea   | Carnivores | 1.1 | 13.5 | - |
|                        | Littorinidae     | Littorina | Carnivores | 14.2 | 0.4 | - |
|                        | Naticidae        | Polinices | Carnivores | -   | 0.4 | - |
|                        |                  | Nativa    | Carnivores | -   | 0.4 | - |
|                        | Potamididae      | Cerithidea | Carnivores | 3.2 | 1.2 | 2.0 |
|                        | Strombidae       | Strombus  | Carnivores | 1.1 | 1.3 | - |
|                        | Tonniidae        | Tonna     | Carnivores | -   | 0.4 | - |
|                        | Turritellidae    | Turritella | Carnivores | -   | 1.3 | - |
| Neogastropoda          | Buccinidae       | Engina    | Carnivores | -   | 0.0 | 21.2 |
|                        |                  | Pissania  | Carnivores | -   | 0.4 | - |
|                        |                  | Pollia    | Carnivores | -   | -   | 2.1 |
|                        |                  | Chantarius | Carnivores | 1.1 | -   | - |
|                        | Columbellidae    | Pyrene    | Carnivores | 20.5 | 8.2 | 2.1 |
|                        |                  | Columbellae | Carnivores | 6.2 | 2.2 | 5.2 |
|                        | Conidae          | Conus     | Carnivores | 1.1 | -   | 6.1 |
|                        | Costellariidae   | Vexillum  | Carnivores | -   | 0.7 | - |
|                        |                  | Zierliana | Carnivores | 2.1 | 3.4 | - |
|                        | Fasciolariidae   | Peristina | Carnivores | 1.1 | -   | - |
|                        | Mitidae          | Mitra     | Carnivores | 12.0 | 1.2 | 2.1 |
|                        | Muricidae        | Morula    | Carnivores | 3.3 | 11.2 | 4.2 |
|                        | Terebridae       | Terebra   | Carnivores | 1.1 | -   | - |
|                        | Turridae         | Clavus    | Carnivores | -   | 0.9 | 4.2 |
|                        |                  | Turris    | Carnivores | -   | 0.4 | - |
|                        | Volutidae        | Melo      | Carnivores | -   | 9.1 | 4.2 |
| Class Opistobranchia   | Cephalospidae    | Buttidae  | Ays        | Herbivores | 9.9 | 0.4 | - |
|                        |                  |           |            |           | 16 | 20 | 100.0 | 100.0 | 100.0 |

A total of 13 genera were on Acanthophora. The genera Cerithium and Engina had the highest relative frequency (21%) followed by Rhinoclavis (19%). The lowest relative frequency was of order Cephalospidae (10.3%). The genera Heliacus, Clypeomorus, Cerithium, Pyrene, Columbella, Mitra, and Morula were present on all three genera of algae. According to Dharma [9, 10] all the recorded genera of gastropods are common in shallow water and intertidal areas. The three genera Cerithium, Cypraea, and Rhinoclavis were common on the red algae Gelidium. They are herbivorous and probably feeding on it. Morula was also common but this genus is carnivorous probably feeding on the herbivores [17, 18]. Similarly, Cerithium, Rhinoclavis and Engina were common on the Acanthophora. The first two are herbivores while Engina is carnivorous. Pyrene, Littorina and Mitra had the highest relative frequency of occurrence on the green alga Hypnea. Littorina is herbivorous while the two others are carnivorous.
The present study indicates that some genera of gastropods were present on all three genera of algae. However, some genera of snails were only found on certain species of algae indicating a preference which might be related to the existence of specific food webs. Carnivore (20 species) and herbivore (16 species) snails were found in equal proportions indicating that the algae both may serve as a food source for herbivores as well as a preying ground for carnivores. The most complex web was recorded on Gelidium while the least complex web was found on Acanthophora. Thus, marine macroalgae provide microhabitat which is beneficial for abundant and diverse fauna [19, 20, 21, 22, 23, 24].

4. Conclusion
A total of 28 genera were found on the red algae Gelidium, 21 genera of snails were present on Hypnea, and 13 genera were on Acanthophora. The present study indicates that some genera of carnivores (20 species) and herbivores (16 species) snails were present on all three genera of algae.

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