



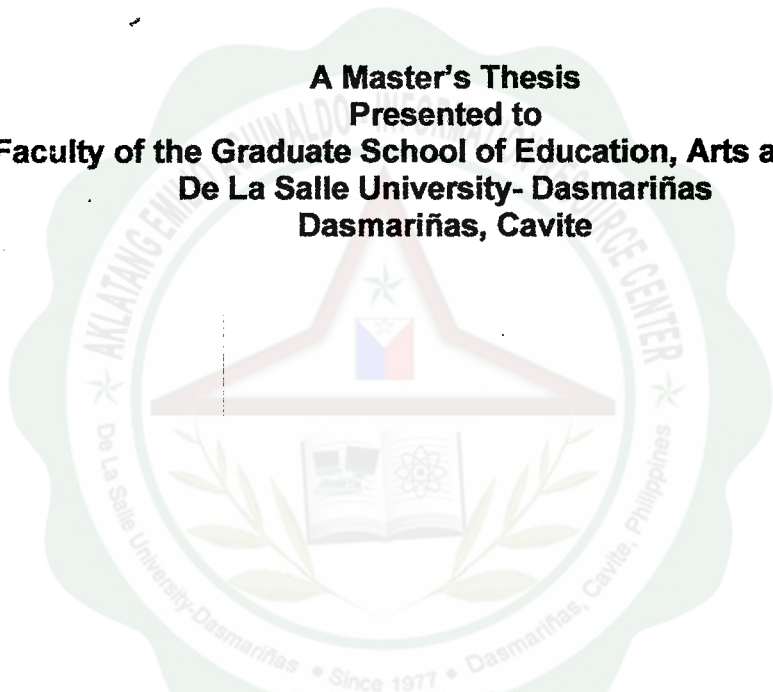
De La Salle University – Dasmariñas

GRADUATE PROGRAM

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**BIOMETRY OF THE FRESHWATER BRACHYURAN, *Ovitamon* gen. nov.
FOUND IN THE PALICPICAN RIVER OF MTS. PALAYPALAY- MATAAS
NA GULOD NATIONAL PARK, LUZON ISLAND, PHILIPPINES**

**A Master's Thesis
Presented to
the Faculty of the Graduate School of Education, Arts and Sciences
De La Salle University- Dasmariñas
Dasmariñas, Cavite**



**In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Biology**

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AKLATANG EMILIO AGUINALDO ARCHIVES



ABSTRACT

Name of Institution: De La Salle University – Dasmariñas
Address: Bagong Bayan, Dasmariñas, Cavite
Title: Biometry of the Freshwater Brachyuran, *Ovitamon* gen. nov. Found in the Palicpican River of Mts. Palaypalay- Mataas na Gulod National Park, Luzon Island, Philippines
Author: Cherry Zapanta-Cuevas
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OBJECTIVES OF THE STUDY:

A. GENERAL:

This study aimed to determine the biometry of *Ovitamon* gen. nov. found in the Palicpican River of Mts. Palaypalay-Mataas na Gulod National Park, Luzon Island, Philippines.

B. SPECIFIC:

Specifically, the study answered the following questions:

1. What species of the freshwater brachyuran, *Ovitamon* gen. nov. are present in the Palicpican River of Mts. Palaypalay-Mataas na Gulod National Park, Luzon Island, Philippines?



2. What are the meristic characters of the representative samples of *Ovitamon* gen. nov. as to the number or presence/ absence of the following (a) abdominal segments, (b) anterolateral teeth, (c) spines in the cheliped and maxilliped, and (d) spinnules in the cheliped and maxilliped?
3. What are the morphometric characters of the adult samples of freshwater brachyuran, *Ovitamon* gen. nov. obtained from the area under study in terms of (a) carapace length and width, (b) maxilliped length, (c) cheliped length, (d) propodus length, (e) frontal margin, and (f) eye diameter?
4. What are the observed dimorphic characters of the adult freshwater brachyuran, *Ovitamon* gen. nov. found at different elevations of Palicpican River?
5. What are the observed differences in the meristic and morphometric characters of male and female freshwater brachyuran, *Ovitamon* gen. nov. found in the National Park?

SCOPE AND COVERAGE:

This study focused on determining the meristic and morphometric characters of freshwater brachyuran, *Ovitamon* gen. nov. found in the Palicpican River of Mts. Palaypalay-Mataas na Gulod National Park, Luzon Island, Philippines. This was conducted during the months of January 2001 to March 2002.



METHODOLOGY:

Sampling was done along the Palicpican River of Mts. Palaypalay-Mataas na Gulod National Park, from 200 m to 360 m elevation above sea level. It involved day and night sampling with an average of ten (10) hours by four (4) to six (6) persons from the months of January 2001 to February 2002. Sampling techniques were by hand-picking or by using a “panukot” or shovel.

MAJOR FINDINGS:

1. Those species/conspecifics (?) of freshwater brachyurans identified were *Ovitamon* sp. 1, *Ovitamon* sp. 2 and *Ovitamon* sp. 3 present in the Palicpican River of Mts. Palaypalay-Mataas na Gulod National Park, Luzon Island, Philippines. The *Ovitamon* is a new genus recognized by Ng and Takeda (1992) which belongs to the family Potamidae.
2. The meristic characters of these three (3) new *Ovitamon* species/conspecifics (?) (both female and male) are the following: (a) the seven (7) abdominal segments; (b) the two (2) anterolateral teeth protected by the third maxilliped.; (c) the well developed inner distal spines in the cheliped and maxilliped; and (d) the spinnules present in the cheliped of *Ovitamon* sp. 1 and *Ovitamon* sp. 3 and the spinnules in the maxilliped.



3. The morphometric characters of the unidentified species/conspicifics (?) of these freshwater *Ovitamon* spp. found in the study site were the following: (a) male *Ovitamon* sp. 1 had a carapace length which ranged from 22.25 mm by 16.98 mm to 27.21 mm by 19.02 mm with a mean of 25.21 mm and that of female *Ovitamon* sp.1 ranged from 26.38 mm by 22.46 mm to 31.69 mm by 22.06 mm with a mean of 28.37 mm by 21.11 mm. For male *Ovitamon* sp. 2 on the other hand, ranged from 21.80 mm by 13.47 mm to 26.75 mm by 24.14 mm with a mean of 24.25 mm by 7.82 mm and female *Ovitamon* sp. 2 measured from 24.24 mm by 18.19 mm to 33.30 mm by 24.27 mm with a mean of 29.13 mm by 21.30mm. Male *Ovitamon* sp. 3 carapace length ranged from 24.58 mm by 18.75 mm to 33.15 mm by 22.06 mm with a mean of 28.10 mm by 20.64 mm and female *Ovitamon* sp. 3 measured from 23.71 mm by 15.32 mm up to 34.23 mm by 25.19 mm with a mean of 29.07 mm by 21.40 mm; (b) male *Ovitamon* sp. 1 maxilliped measured from 4.51 mm to 7.77 mm with a mean of 5.44 mm and female *Ovitamon* sp. 1 maxilliped ranged from 15.11 mm to 7.58 mm with a mean of 6.38 mm. For *Ovitamon* sp. 2 on the other hand, maxilliped ranged from 4.51 mm to 7.61 mm with a mean of 5.90 mm



and from 5.25 mm to 9.15 mm with a mean of 6.74 mm respectively. Male *Ovitamon* sp. 3 measured from 4.86 mm to 9.15 mm with a mean of 6.44 mm and female measured from 5.23mm to 9.15 mm and with a mean of 7.86 mm; (c) the propodus of *Ovitamon* sp. 1 measured from 5.16 mm to 7.51 mm with a mean of 6.29 mm for male and 5.87 mm to 7.58 mm and with a mean of 6.62 mm for female. For male *Ovitamon* sp. 2 propodus measured from 5.11 mm to 6.31 mm with a mean of 5.67 mm and female from 5.58 mm to 7.51 mm with a mean of 6.40 mm. For male *Ovitamon* sp. 3 propodus ranged from 5.38 mm to 7.99 mm with a mean of 6.68 mm while female from 5.18 mm to 7.71 mm with a mean of 6.76 mm; (d) the frontal margin measured from a range of 6.11 mm to 9.84 mm with a mean of 7.25 mm for male *Ovitamon* sp. 1 while for female from 6.98 mm to 9.93 mm with a mean of 8.11 mm. Male *Ovitamon* sp. 2 ranged from 6.11 mm to 8.13 mm with a mean of 7.03 mm and female from 6.80 mm to 9.84 mm with a mean of 8.06 mm. Male *Ovitamon* sp. 3 frontal margin ranged from 6.18 mm to 9.84 mm with a mean of 7.66 mm while female from a range of 6.56 mm to 9.89 mm with a mean of 8.55 mm; (e) the eye diameter of *Ovitamon* sp. 1 ranged from 3.19 mm to 4.73



mm with a mean 3.75 mm for male samples and 3.48 mm to 4.90 mm with a mean of 4.30 mm for female. For male *Ovitamon* sp. 2 eye diameter ranged from 3.15 mm to 4.73 mm with a mean of 3.75 mm while for female from 3.63 mm to 5.14 mm with a mean of 4.30 mm. Male *Ovitamon* sp. 3 eye diameter ranged from 3.85 mm to 5.25 mm with a mean of 4.50 mm and for female from 3.53 mm to 4.90 mm and with a mean value of 4.30 mm.

4. The species/consppecifics (?) of adult male and female *Ovitamon* gen. nov. found in the Palicpican River of National Park showed sexual dimorphism as to the size of the body and in the shape of the abdomen. Female freshwater brachyurans had larger ovoid body covered with carapace than male. The shape of female abdomen is round and triangular in male. No difference was observed as to the three, *Ovitamon* sp. 1, *Ovitamon* sp. 2 and *Ovitamon* sp. 3 found in higher (360 m) and lower (200 m) elevation.
5. The observed differences in terms of meristic characters could only be seen in the presence of spinnules in the cheliped of *Ovitamon* sp. 1, and *Ovitamon* sp. 3. All other meristic characters such as abdominal segment, anterolateral teeth, and spines were the same among the species/



conspecifics (?) of *Ovitamon* present in the study area. The morphometric characters of *Ovitamon* sp. 1, *Ovitamon* sp. 2, and *Ovitamon* sp. 3 that were observed different between sexes were the carapace, maxilliped, and the frontal margin. Female species/conspecifics (?) of *Ovitamon* have larger carapace than male freshwater brachyuran. In terms of maxilliped, female *Ovitamon* bear longer maxilliped than male samples. Female *Ovitamon* spp. have wider frontal margin compared to male samples.

CONCLUSIONS:

1. There are three possible species/conspecifics (?) belonging to the new genus *Ovitamon* (Ng and Takeda, 1992) of family Potamidae present in the Palicpican River of Mts. Palaypalay-Mataas na Gulod National Park, Luzon island, Philippines.
2. Male and female species/conspecifics (?) of *Ovitamon* have seven (7) abdominal segments, two (2) anterolateral teeth protected by the third maxilliped, and well-developed inner distal spines in the cheliped and maxilliped. The spinnules were observed present only in the cheliped of *Ovitamon* sp. 1 and *Ovitamon* sp. 3 and in the maxilliped.
3. The morphometric characters of *Ovitamon* found in the study area varied in terms of carapace length, maxilliped length, and frontal margin.



4. Species/conspecifics (?) of adult male and female *Ovitamon* gen. nov. found in the Palicpican River of National Park showed sexual dimorphism in terms of body size and abdominal shape. There were no differences in terms of sexual dimorphism among specimens collected at different elevations.
5. The *Ovitamon* gen. nov. found in the Palicpican River of Mts. Palaypalay-Mataas na Gulod National Park were observed different meristically with the absence of spinnules in *Ovitamon* sp. 2 cheliped. All other meristic characters were the same among the three (3) species/conspecifics (?) of freshwater brachyuran. In terms of their morphometric characters, male and female *Ovitamon* were observed different in their carapace, maxilliped and frontal margin.

RECOMMENDATIONS:

1. This study on the biometry of freshwater brachyurans in the Palicpican River of National Park is a pioneering work thus, future taxonomic study should be undertaken to confirm the existence of new species/ variety/ ecotypes/conspecifics.
2. Further investigations on the species populations and other ecological parameters must be conducted to describe the crab faunal diversity.
3. Future studies on DNA, chromosomal morphology must be carried out to provide information on genetic diversity.



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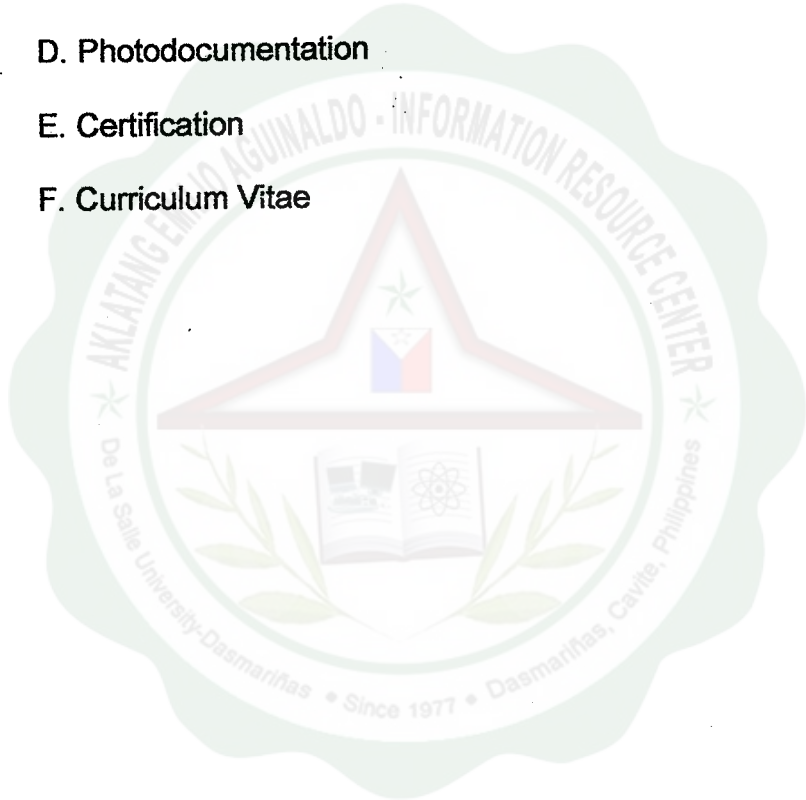
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