



UNIVERSITAS
GADJAH MADA

Morphological Characters and Foraging Behavior of The Stingless Bee *Tetragonula laeviceps* (Smith)
(Hymenoptera: Apidae) In Two Different Habitats: Faculty of Biology Universitas Gadjah Mada

Garden

and Sawit Sari Research Station

Ilham Alliya La'il, Drs. Ignatius Sudaryadi, M.Kes.

Universitas Gadjah Mada, 2024 | Diunduh dari <http://etd.repository.ugm.ac.id/>

TABLE OF CONTENTS

COVER.....	i
VALIDATION PAGE.....	ii
FOREWORD.....	iv
TABLE OF CONTENTS.....	v
TABLE OF FIGURES.....	vii
ABSTRACT.....	viii
INTISARI.....	ix
CHAPTER I	
INTRODUCTION.....	1
A. Background.....	1
B. Research Question.....	2
C. Purpose.....	2
D. Advantage.....	3
CHAPTER II	
LITERATURE REVIEW.....	4
A. Literature Review.....	4
1. Tetragoluna Laeviceps Beehives and Colonies.....	5
a. Queen.....	5
b. Drone/Male.....	6
c. Worker.....	6
2. Bee Feeding Sources.....	7
a. Nectar.....	7
b. Pollen.....	8
c. Propolis.....	9
3. Bee Feeding Behavior.....	9
B. Hypothesis.....	10
CHAPTER III	
METHODOLOGY.....	11
A. Time and place of implementation.....	11
B. Tools and Materials.....	11
C. Procedure.....	11
1. Identification of <i>Tetragonula Laeviceps</i>	11
2. <i>Tetragonula</i> sp. Behavior Observation.....	12
D. Data Analysis.....	13



UNIVERSITAS
GADJAH MADA

**Morphological Characters and Foraging Behavior of The Stingless Bee *Tetragonula laeviceps* (Smith)
(Hymenoptera: Apidae) In Two Different Habitats: Faculty of Biology Universitas Gadjah Mada**

Garden

and Sawit Sari Research Station

Ilham Alliya La'il, Drs. Ignatius Sudaryadi, M.Kes.

Universitas Gadjah Mada, 2024 | Diunduh dari <http://etd.repository.ugm.ac.id/>

CHAPTER IV

RESULTS AND DISCUSSIONS.....15

- 1. Morphological characteristics of *Tetragonula laeviceps*.....15
- 2. Comparing *Tetragonula laeviceps* morphometric in two sites.....17
- 3. *Tetragonula laeviceps* foraging behavior in two sites.....19
- 4. Species of flower foraged by *Tetragonula laeviceps*.....21
- 5. Environmental factors in both sites.....22

CHAPTER V

CONCLUSION AND SUGGESTION.....25

- A. Conclusion.....25
- B. Suggestion.....26

BIBLIOGRAPHY.....27

ATTACHMENT.....31



UNIVERSITAS
GADJAH MADA

Morphological Characters and Foraging Behavior of The Stingless Bee *Tetragonula laeviceps* (Smith)
(Hymenoptera: Apidae) In Two Different Habitats: Faculty of Biology Universitas Gadjah Mada

Garden

and Sawit Sari Research Station

Ilham Alliya La'il, Drs. Ignatius Sudaryadi, M.Kes.

Universitas Gadjah Mada, 2024 | Diunduh dari <http://etd.repository.ugm.ac.id/>

TABLE OF FIGURES

Figure 2.1. <i>Tetragonula laeviceps</i> bee.....	4
Figure 2.2. <i>Tetragonula laeviceps</i> Queen.....	5
Figure 2.3. <i>Tetragonula laeviceps</i> Drone.....	6
Figure 2.4. <i>Tetragonula laeviceps</i> Worker.....	6
Figure 2.5. Nectar.....	7
Figure 2.6. Pollen.....	8
Figure 2.7. Propolis.....	8
Figure 4.3.1. Foraging behavior graph.....	19
Figure 4.5.1. Foraging behavior graph.....	23