



The ecology study of *Cubaris murina*(*Oniscidea*) for organic balance in agricultural areas



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Abstract

Ecology study of *Cubaris murina* The soil properties were measured at the source of the found address, and no shrimp paste was found. It was found that soil temperature, pH and soil moisture have a similar average. When compared with each other, there was no statistically significant difference at the .05 level. It was found that the locations where *Cubaris murina* were found contained nitrogen (N) 108.75±18.90 ppm, phosphorus (P) 7.92±1.26 ppm and potassium (K) 72.50±18.69 ppm, respectively. No *Cubaris murina* was found when the soil nutrient measurements were lower than average. It was found that nitrogen (N) 50.42±26.77 ppm, phosphorus (P) 3.53±1.37 ppm and potassium (K) 35.83±12.60 ppm, respectively. The comparative analysis showed a statistically significant difference at the .05 level.

When observing the behavior of *Cubaris murina* responding to environmental factors, it was found that *Cubaris murina* behavior was more towards the dark and wet side than the light side. Over time, *Cubaris murina* tended to choose dark and wet environment rather than bright and completely dry. Cassava is the best. The digestion rate was 65.41±4.44 percent, followed by the digestion rate of para rubber leaves with 53.92±2.96 percent and the digestion rate of sugarcane leaves with 37.42±2.76 percent, respectively. Cultivation of lettuce (*Lactuca sativa* L.) found that lettuce grown using soil mixture in the ratio of soil to material obtained from cassava leaves of *Cubaris murina* 1:3 and 2:2 were the same. Height 4.67±0.58 cm, number of leaves 3.00±0.00 leaves, respectively, which is similar to planting by using seedlings in the market.

Results

Chapter 1 Studying the source and factors in the life of the *Cubaris murina*.
Table 1 shows the relationship between the habitat of *Cubaris murina* and soil properties.

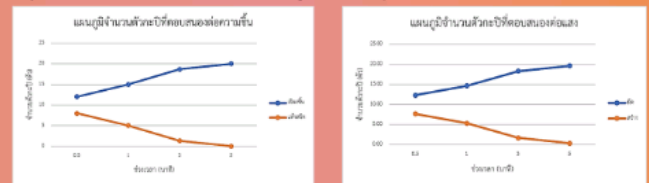
สถานที่พบ ในแหล่งที่อยู่	อุณหภูมิ (°C)	ธาตุอาหารในดิน (PPM)			ค่า pH	ค่าความชื้น (%)
		N	P	K		
พบตัวมด	23.17±2.20	108.75±18.90	7.92±1.26	72.50±18.69	7.02±0.65	52.33±6.26
ไม่พบตัวมด	23.57±1.30	50.42±26.77	3.53±1.37	35.83±12.60	6.98±0.90	48.00±6.10
วิเคราะห์ข้อมูล	ns	*	*	*	ns	ns

* = significant difference at P < 0.05 ns = not significantly at P < 0.05

From the soil properties measurement table in the area of the habitat found and no *Cubaris murina* was found. It was found that soil temperature, pH and soil moisture have a similar average. When compared with each other, there was no statistically significant difference at the .05 level. It was found that the places where *Cubaris murina* were found contained nitrogen (N) 108.75±18.90 PPM, phosphorus (P) 7.92±1.26 PPM and potassium (K) at 72.50±18.69 PPM, respectively. No *Cubaris murina* was found when the soil nutrient measurements were lower mean values were found that Nitrogen (N) 50.42±26.77 PPM, Phosphorus (P) 3.53±1.37 PPM and Potassium (K) 35.83±12.60 PPM, respectively. The comparative analysis showed a statistically significant difference at the .05 level.

Chapter 2 Study behaviors that affect stimuli. (light and humidity)

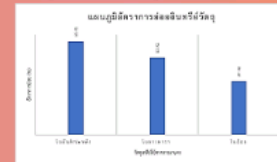
Graph 1-2 Number of *Cubaris murina* behaviors on light and humidity



The graph shows the behavior of *Cubaris murina* in response to environmental factors. The behavior of *Cubaris murina* was found to be on the dark and wet sides than on the bright and dry sides.

Chapter 3 Study on the degradation of organic matter that is agricultural waste of *Cubaris murina*

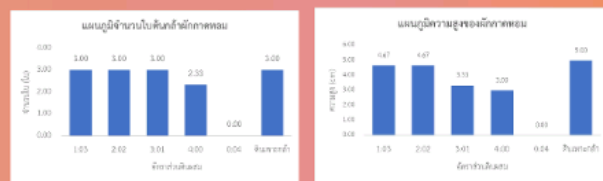
Chart 1 Rates of degradation of organic matter from agricultural waste



From the chart *Cubaris murina* can digest agricultural waste differently. It was found that *Cubaris murina* digested the best cassava leaves at the digestion rate of 65.41±4.44 percent, followed by the digestion rate of para rubber leaves 53.92±2.96 percent and the digestion rate of sugarcane at 37.42±2.76 percent, respectively, as shown in the figure. in the chart.

Chapter 4 Study on application of materials obtained from cassava leaf digestion of *Cubaris murina* for use in plant cultivation.

Chart 2-3 growing lettuce (*Lactuca sativa* L.)



From the lettuce (*Lactuca sativa* L.) growth chart, lettuce grown in *Cubaris murina* soil mix at 1:3 and 2:2 leaf material ratios were 4.67±. 0.58 cm, number of leaves 3.00±0.00, respectively, similar to planting using potting soil in the market.

Conclusion and Discussion

Ecology study of *Cubaris murina* The soil properties were measured at the source at *Cubaris murina* was found and not found. Soil temperature, pH and soil moisture were found have a similar average. When compared with each other, there was no statistically significant difference at the .05 level. It was found that the locations where *Cubaris murina* were found contained nitrogen (N) 108.75±18.90 ppm, phosphorus (P) 7.92±1.26 ppm and potassium (K) 72.50±18.69 ppm, respectively. No *Cubaris murina* was found when the soil nutrient measurements were lower than average. It was found that nitrogen (N) 50.42±26.77 ppm, phosphorus (P) 3.53±1.37 ppm and potassium (K) 35.83±12.60 ppm, respectively. The comparative analysis showed a statistically significant difference at the .05 level. It can be seen that the *Cubaris murina* can add nutrients to the soil and the ecosystem in that area very well. Including, if wanting the *Cubaris murina* to be able to digest organic matter better, must not disturb the habitat with suitable environmental factors as the experimental results. *Cubaris murina* that responds to environmental factors with behavior towards the dark side more than the light side. Over time, the *Cubaris murina* had a behavior to choose a dark, wet place over a completely dry light. Therefore, it's a guideline for choosing to make use of this information. It can be seen from the experimental results that *Cubaris murina* can digest many agricultural waste materials such as cassava leaves, para rubber leaves and sugar cane leaves. Turning these wastes into benefits by adding organic matter to the soil and ecosystems, especially in Kalasin province where agriculture is done, resulting in a large number of these waste materials, and then create pollution by burning. But if using the digestion of *Cubaris murina* instead will make the ecosystem in that area more complete. As can be seen from the experimental application of material obtained from cassava leaf digestion for lettuce (*Lactuca sativa* L.) cultivation, it was found that lettuce grown using soil mixture in the ratio of soil to material obtained from cassava leaves. The cassava leaf digestion of shrimp paste 1:3 and 2:2 is similar to the cultivation of seedlings in the market. Therefore, activities that will destroy the ecosystem of the *Cubaris murina* should be refrained.

Reference

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Introduction



The land was used for a lot of farming.



Soils may deteriorate or lose biodiversity.



The area where organic remains were deposited was found to be densely populated with *Cubaris murina*.



It was hypothesized that *Cubaris murina* would have an effect on the degradation of those organic matter.

Objective

1. To study the ecology of *Cubaris murina* in the local ecosystem
2. To study the behavior of *Cubaris murina* on moisture and light intensity.
3. To study the effect of organic matter digestion of *Cubaris murina* for application

Experimental Method

1. Determine 5 points to study and collect general soil data by measuring soil properties in the area where *Cubaris murina* was found and no *Cubaris murina* was found.



2. Design experiments for behavior of light and humidity *Cubaris murina*.



3. Study the rate of degradation of organic matter in *Cubaris murina*.



4. study on the application of decomposed materials



โรงเรียนกาฬสินธุ์พิทยาสรรพ์ อำเภอเมือง จังหวัดกาฬสินธุ์

มหาบัณฑิต สาขาวิชาศึกษาศาสตร์ บัณฑิตวิทยาลัย, ขอนแก่น, มหาวิทยาลัยขอนแก่น

ศึกษาการประยุกต์ใช้วัสดุที่ได้จากการย่อยสลาย