Abstract

Research title : Study of soil quality affecting the habitats of crabs, crayfish, and mangrove plant species at Ban Thung Tasae Community, Yan Ta Khao District, Trang Province.
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Study of soil quality affecting crab habitat Crayfish and mangrove plant species of Ban Thung Tase community Amphur Yan Ta Khao, Trang Province objective have 1) To study soil quality that affects the habitat of crabs, crayfish and mangrove plant species in Ban Thung Tase community. 2) Comparing soil quality that affects the habitat of crabs, crayfish and plant species. Mangrove forest in Ban Thung Tase communityAmphurYanTaKhao, TrangProvinceThe method of operation is to measure soil quality according to the GLOBE methodology by measuring temperature, pH, temperature and temperature. Salinity value of soil sediment Soil fertility and plant species diversity Studies have shown that soil quality affects crab habitats. Crayfish and mangrove plant species Ban ThungTase Community AmphurYan Ta Khao,Trang Province It was found that factors affecting the habitat of crabs, crayfish and mangrove plant species. Ban Thung Tase Community The soil sediment temperature, salinity and pH, soil sediment and soil fertility were found in a total of 6 plant species from the classification in the area found in the mangrove forest of Ban Thung Tase community. Amphur Yan Ta Khao, Trang Province

Keywords : soil quality, soil sediment quality Habitat of crab holes, crayfish holes

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Research on soil quality study on plant and animal species in mangrove forest,Ban ThungTase community This was accomplished well due to the generosity of those who gave good advice. Thank you Mr.Yongyut Pukhao Director of WichianMatu School who approvedthe budget for educational research. Thank you to Mrs.Orapin Noonom for facilitating the research. in various locations, as well as providing advice and advice. We would also like to thank Wichian Matu School for supporting scientific equipment and laboratories in conducting research thatfacilitates research work to make this research successful. Value of this research We would like to extend our gratitude to all our benefactors as well as the authors of the texts and documentsthat the researcher references in this research. The research team would like to thank you very much.

Introduction

Mangrove forestsare a natural resource that is very rich and important for aquatic life, providing refuge for aquatic animals during monsoons, and providing food and habitat for people in the community. The mangrove forests in southern Thailand are the fishing grounds of the villagers and are home to the mangroves of the Thung Tase community. It is an important resource of the community. It is another place that should promote and synthesize knowledge about forest species of villagers in the area. This leads to research and research from people who know directly in the community. "Ban Thung Tase" has an area of about 2,000 rai, located in the area of Moo 9, Thung Krabue Subdistrict, Ta Khao District, Trang Province, along the banks of the Palian River and in contact with Kantang District and Palian District. There are also many distinctive and diverse plant species such as tabun, mangrove. It is also home to many aquatic animals such as otters, monkeys, lemurs, marmots, squirrels, tigers, fish. Dolphins are sometimes found swimming around in the mangrove soil. It is important for a variety of plants and animals. They live together under a brackish soil environment with regular flooding.

Objective

1. To study soil quality that affects crab habitat. Crayfish and mangrove plant species of Ban Thung Tase community Amphur Yan Ta Khao, Trang.
2. Soil quality affects crab habitat Crayfish and mangrove plant species of Ban Thung Tase community Amphur Yan Ta Khao, Trang.

Research question

The quality of the soil in each area affects the habitat of crabs. Crayfish and plant species of mangrove plants?

Research hypothesis

Different soil qualities affect the habitat of crabs. Crayfish andplant species are different.

Initial variable

To study soil quality that affects crab habitat. Crayfish and mangrove plant species of Ban Thung Tase community Amphur Yan Ta Khao, Trang.

Dependent variable

Different soil quality has different effects on the habitats of crabs, crayfish, and plant species.

Contral variable

Waether, Tidal current

Scope of study

Study of soil quality affecting crab habitat Crayfish and mangrove plant species Ban ThungTase Community Soil samples were collected in the mangrove forest area during November 2023
- January 2024 on the day and time of low tide. Measure salinity, pH, base and minerals in the soil by measuring nitrogen (N). phosphorus (P) and potassium (K) and analyze the relationship with plant species growth. Crabs and crayfish in the mangrove forest

Materials and equipment and methods for conducting research

1) basket
2) straw rope
3) Tape measure
4) Beaker
5) stick stirrer
6) Freud paper
7) Salinity Meter
8) pH meter
9) Distilled Water
10) notebook
11) Thermometer
12) Soil N P K Tester
13) Soil Classification Guide
14) small shovel
15) teaspoon

GLOBE measurement principles
Principles of soil measurement methods: Pedosphere (Soil)
Principles of Hydrosphere water measurement methods
Methods for examining land cover in the Biosphere

Defining Study Points

Study location: Mangrove forest area, Ban Thung Tase community AmphurYan Ta Khao,Trang Province Find the latitude Longitude will conduct field visits to collect samples.

Reasearch methods

1. Pre-research stage

1) Make a study point Select the topic you want to study.

2) Research Gather knowledge and theories related to the research.

3) Determine the purpose of the study.

4) Determine the sampling point in the study area.

2. Implementation stage

1) Conduct research planning.

2) Conduct a survey of the area to be researched.

3) Measure soil quality according to the GLOBE methodology by measuring temperature, pH, salinity, and s oil fertility. as follows

1) Determine the sampling point by dividing the study route into 3 study points: Area 1, Area 2, Area 3.
2) Measure the soil temperature of all points by bringing a thermometer to measure the temperature. Soil temperature readings Data collected 3 times
3) Measure the pH base using a pH Meter to read the soil temperature. Data collected 3 times
4) Measure soil fertility using soil nutrient monitor. Read and store data 3 times
5) Submit data to GLOBE Data Entry

Collecting soil samples to measure temperature, pH, salinity, and soil fertility.

1. Survey and collect soil samples. In the mangrove forest area of Ban Thung Tase community. During November 2023 - January 2024, samples were collected covering all sub-areas and recorded the habitat characteristics of Rupu Rukang. Growth pattern of plant species
2. Study on soil quality collected from mangrove forest area of Ban ThungTase community. To classify by finding soil fertility and determining the scientific name of each plant species using a manual to study the plants found in the mangrove forests of Trang Nakhon Si Thammarat.

Analysis and summary of research results

1) The obtained data areanalyzed and compared by statistics used to analyze the data, such as soil temperature, mean soil pH. Average soil salinity Average nitrogen, phosphorus and potassium in soil

2) Make a graph showing the comparative data average.

3) Conclusions

Results and data

Table 1 shows the geographic coordinates of the soil quality study that affect crab habitat. Crayfish and mangrove plant species Ban Thung Tase Community Amphur Yan Ta Khao, Trang

Found area	Geographic coordinates	
	Latitude (N)	Longitude (E)
Mangrove forest in Ban Thung Tase community Amphur Yan Ta Khao, Trang	7.3660630	99.6103130

From Table 1, geographical coordinates study the soil quality affecting crab habitat. Crayfish and mangrove plant species of Ban ThungTase community It is a mangrove forest that studies soil quality consisting of 3areas. It has a Latitude (N)coordinate of 7.3660630 and Longitude (E) of 99.6103130.

Table 2 shows the soil fertility values at the study area where soil quality affects crab habitats. Crayfish and mangrove plant species of Ban Thung Tase community Amphur Yan Ta Khao,Trang

Found area	Soil fertility					
	Salinity average (ppt)	pH	N	P	K	เฉลี่ย
The area 1	2.76	5.67	0.97%	1.33%	3.38%	1.9
The area 2	1.65	6	1.47%	1.84%	6.09%	3.13
The area 3	2.36	5.33	1.2%	1.63%	4.4%	2.41

From Table 2, it was found that the mangrove forest area of Ban ThungTase community. Area 2was the most fertile, with an average salinity of 1.65, pH of 6, nitrogen (N) of 1.47%,phosphorus(P) of 1.84%, potassium (K) of 6.09%, area 3 with the highest fertility, with an average salinity of 2.36, pH of 5.33, nitrogen (N) of 1.2%,phosphorus(P) of 1.63%,potassium (K) of 4.4%, and Area 1 with the least fertility with an average salinity of 2.76, pH of 5.67, nitrogen (N) of 0.97%,phosphorus(P) of 1.33%, potassium (K) of 3.38%(P) of 1.33%, potassium (K) of 3.38%

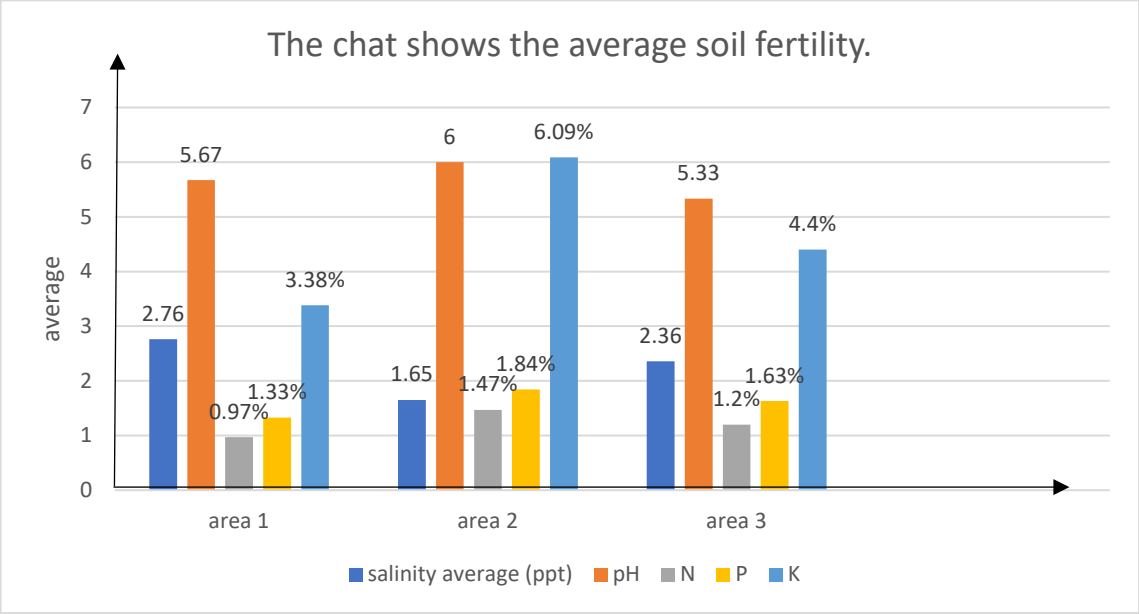


Table 3 shows the water values in the soil at the study site of soil quality that affect crab habitat. Crayfish and mangrove plant species of Ban Thung Tase community Amphur Yan Ta Khao, Trang

Found area	Water Quality			
	Salinity average (ppt)	temperature (° C)	pH	average
The area 1	2.50	24.75	6	11.08
The area 2	1.48	25	6.23	10.90
The area 3	2.29	26.58	5.78	11.55

Table 3 shows that in the mangrove forest of Ban Thung Tase community,the water quality of Area 3 has an average salinity of 2.29, a temperature of 26.58 degrees Celsius and a pH of 5.78, Area 1 has an average salinity of 2.50, a temperature of 24.75 degrees Celsius and a pH value of 6, and Area 2 has an average salinity of 1.48, a temperature of 25 degrees Celsius, and a pH value of 6.23.

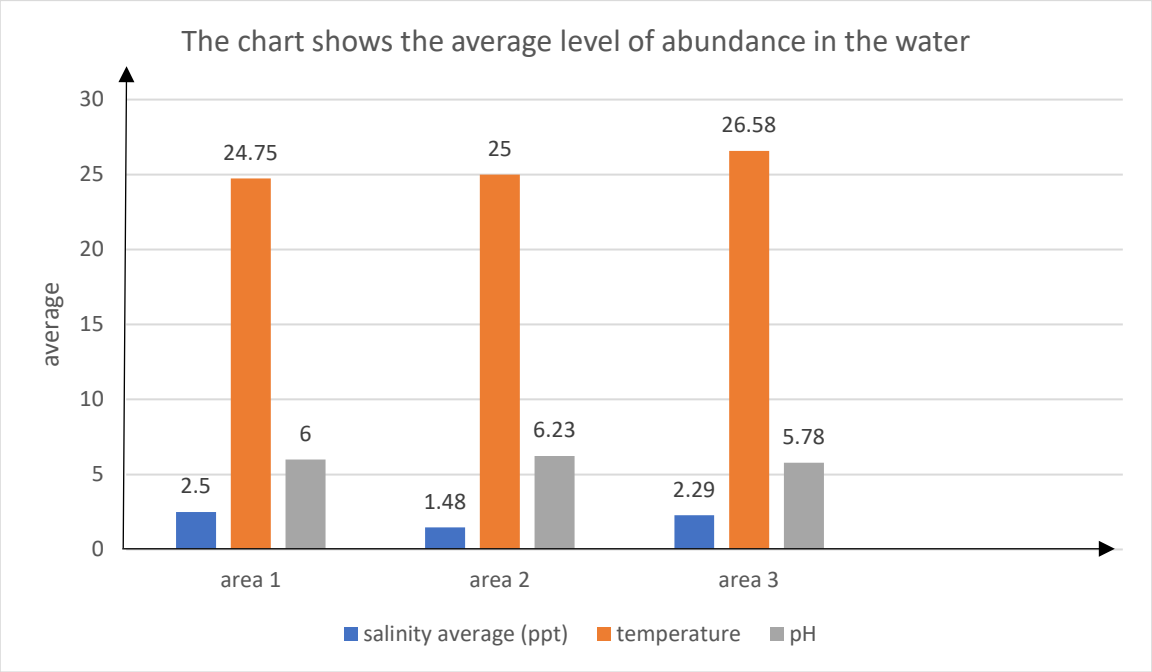


Table 4 Average table of habitats of crab holes, crayfish holes Mangrove area Ban ThungTase Community Amphur Yan Ta Khao, Trang Province

Found area	Habitat of crabs and crayfish		
	Crab hold	Crayfish hold	Totals
The area 1	106	34	140
The area 2	87	51	138
The area 3	92	50	142

From the table, it is found that the average of animals in each area is not the same. Area 3 has the highest average of 142 holes, Area 1 has the lowest average of 140 holes, and Area 2 has the smallest average of 138 holes.

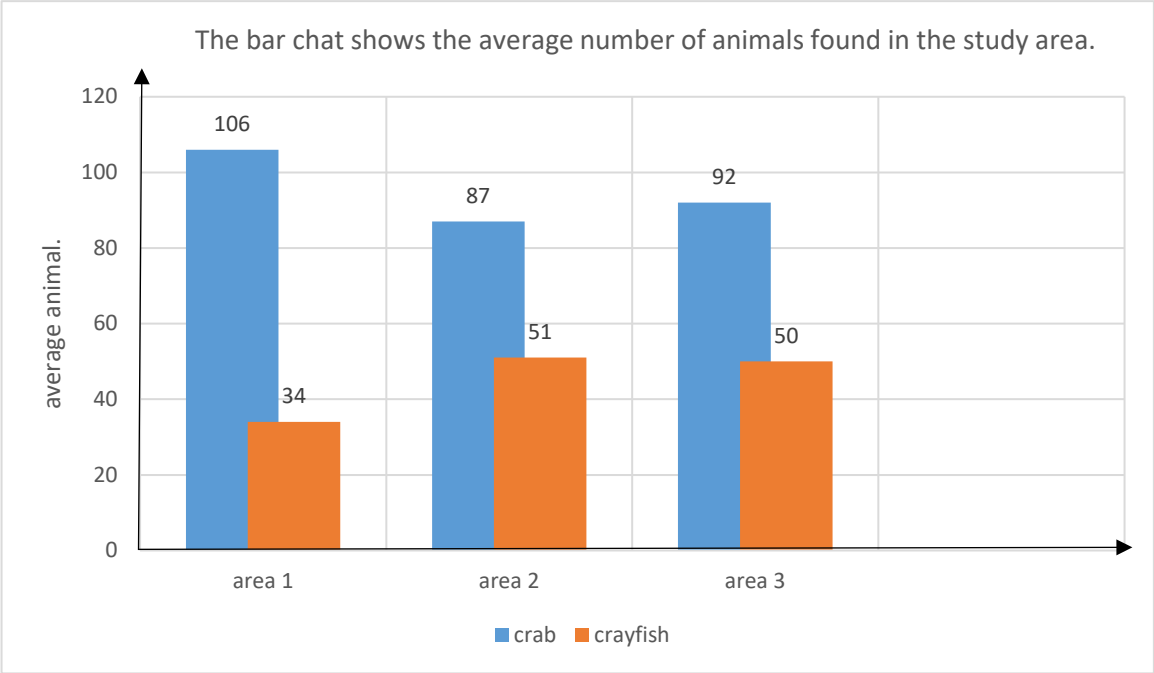
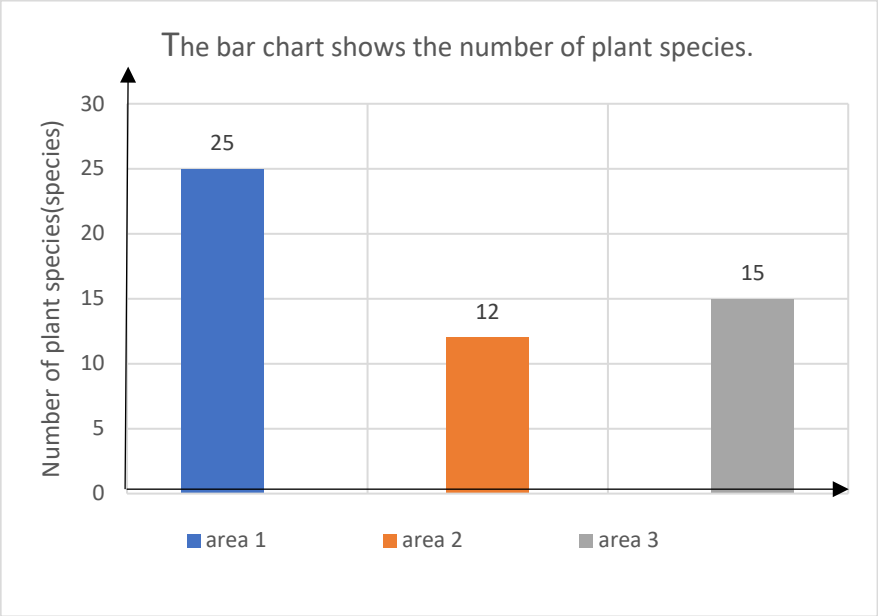


Table 5 shows mangrove plant species. Ban Thung Tase Community Amphur Yan Ta Khao, Trang

Found area	Type of plant
The area 1	25
The area 2	12
The area 3	15

From Table 5, study of plant species of mangrove areas. Ban ThungTase Community It was found that the most mangrove plant species were found in the 1st area,followed by the 2nd area, and the least was the 3rd area. *Cycadales. , Xylocarpus moluccensis. Xylocarpus granatum. , Flagellaria indica. , Heritiera littoralis* Aiton*. , Debregeasia longifolia* (Burm.f.)Wedd*. , Stenochlaena palustris* (Burm.f.) Bedd*. , Zizyphus oenoplia* L. *Mill. var. bruoniana Tardieu. , Atalantia monophylla* DC*. , Acanthus ebracteatus* Vahl*. , Bruguiera sexangula. , Rhizophora apiculata* Blume*. , Sonneratia ovata. , Salacia chinensis* L. *, Excoecaria agallocha. , Bruguiera gymnorrhiza. , Derris indica* (Lamk.) Benn*. , Pericampylus glaucus* (Lam.) Merr*. , Acanthus ebracteatus* Vahl*. , Rhizophora apiculata* Blume*. , Avicennia alba* BIume*. , Epipremnum giganteum* (Roxb.) Schott *. Garcinia xanthochymus. Salacia chinensis* L*. , Derris elliptica.*



Discussion

From the study of soil quality that affects the habitat of crabs. Crayfish and mangrove plant species of Ban Thung Tase community It was found that factors affecting the diversity of plant species Studies have shown that soil quality affects crab habitats. Crayfish and mangrove plant species of Ban ThungTase community It was found that factors affecting the habitat of crabs, crayfish and mangrove plant species in Ban ThungTase community. The soil sediment temperature, salinity and pH of soil sediment and soil fertility were found in a total of 6 plant species from the classification in the area found in the mangrove forest of Ban Thung Tase community. This study resulted in the discovery of factors affecting the growth of plant species and the habitat of the crab holes. Crayfish hole, which is a miniature plant of very high value. Although Thailand still does not see the value and benefits of this group of plants very much. But for foreign researchers, they are keeping an eye on the resources that are in Thailand. Therefore, this study is another knowledge that can be developed to further utilize the benefits of mangrove plants from the forest.

Conclusion

According to the study, the physical characteristics of soil sediments affect the soil quality that aff ects the habitat of crabs. Crayfish and mangrove plant species Ban Thung Tase Community AmphurYan Ta Khao,Trang Province It was found that the soil temperature in the mangrove forest area at point 3was the highest because this area has less vegetation cover because when it rains, the soil temperature decreases, causing less vegetation cover and flooding than other areas. It has the highest salinity value. Area 2 It has minimal salinity because the growth of vegetation in mangrove forests increases at a high rate of salinity. As a result, if there is a lot of salinity, the number of vegetation densities in the mangrove forest will be large. The sediment pH in area 2 has the highest sediment pH. In the third area, the pH of soil sediment is minimal, probably because the base of the plant has a thick accumulation of sediment. By comparison, soil quality affects the habitat of crabs. Crayfish and mangrove plant species Ban Thung Tase Community Amphur Yan Ta Khao, Trang Province It was found that soil fertility in the mangrove forest area 2 has the highest fertility value. In the mangrove forest area 3, the fertility value is the least because the plant species in this group are found in areas with high NPK nutrients. Crayfish holes in this group are very rare and do not affect the density of crab and crayfish habitats.

From the study of mangrove plant species in Ban Thung Tase community. Ta Khao District Many plant species, including spruce, small-leaved mangrove, cichlid gills, red-flowered and white-flowered mangrove forests, are found in the mangrove forest of Ban Thung Tase community, Ta Khao district, Trang province, the most covered, probably due to the high soil fertility in the mangrove forest of Ban Thung Tase community. Amphur Yan Ta Khao, Trang Province. The area is the most fertile area, making it suitable for species growth. As for the mangrove forest area, Ban Thung Tase community, Ta Khao district, Trang province, where Rupu lived. Minimal crayfish holes due to the fact that the habitat in this area is characterized by high altitude areas. The value of salinity is also large.

Citations

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