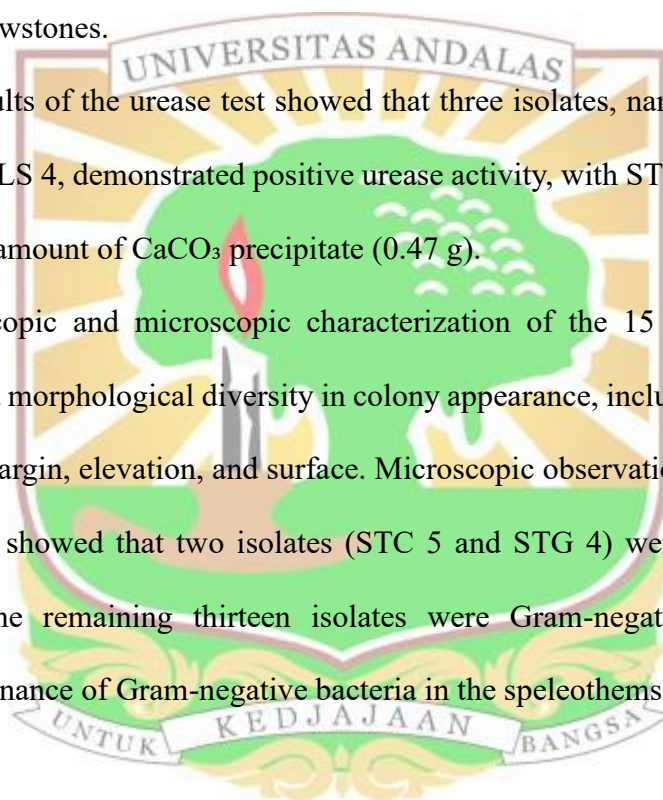


V. CONCLUSIONS AND SUGGESTIONS

5.1 Conclusion

Based on the findings of this research, it can be concluded that :

1. Isolation from the speleothems of Ngalau Tarang Cave, Agam, resulted in 15 bacterial isolates, consisting of 5 from stalactites, 4 from stalagmites, and 6 from flowstones.
2. The results of the urease test showed that three isolates, namely STC 4, STG 3, and FLS 4, demonstrated positive urease activity, with STC 4 producing the highest amount of CaCO_3 precipitate (0.47 g).
3. Macroscopic and microscopic characterization of the 15 bacterial isolates revealed morphological diversity in colony appearance, including variations in color, margin, elevation, and surface. Microscopic observations through Gram staining showed that two isolates (STC 5 and STG 4) were Gram-positive, while the remaining thirteen isolates were Gram-negative, indicating a predominance of Gram-negative bacteria in the speleothems of Ngalau Tarang Cave.



5.2 Suggestions

For further research, optimization of the ability of isolates that have the best precipitation ability can be done to optimize urease activity and calcite precipitation by bacteria. Conduct laboratory-scale applications to determine the ability of bacteria to precipitate calcite that plays a role in overcoming construction problems.