

Investigation of bacteria found in dead ornamental fishes

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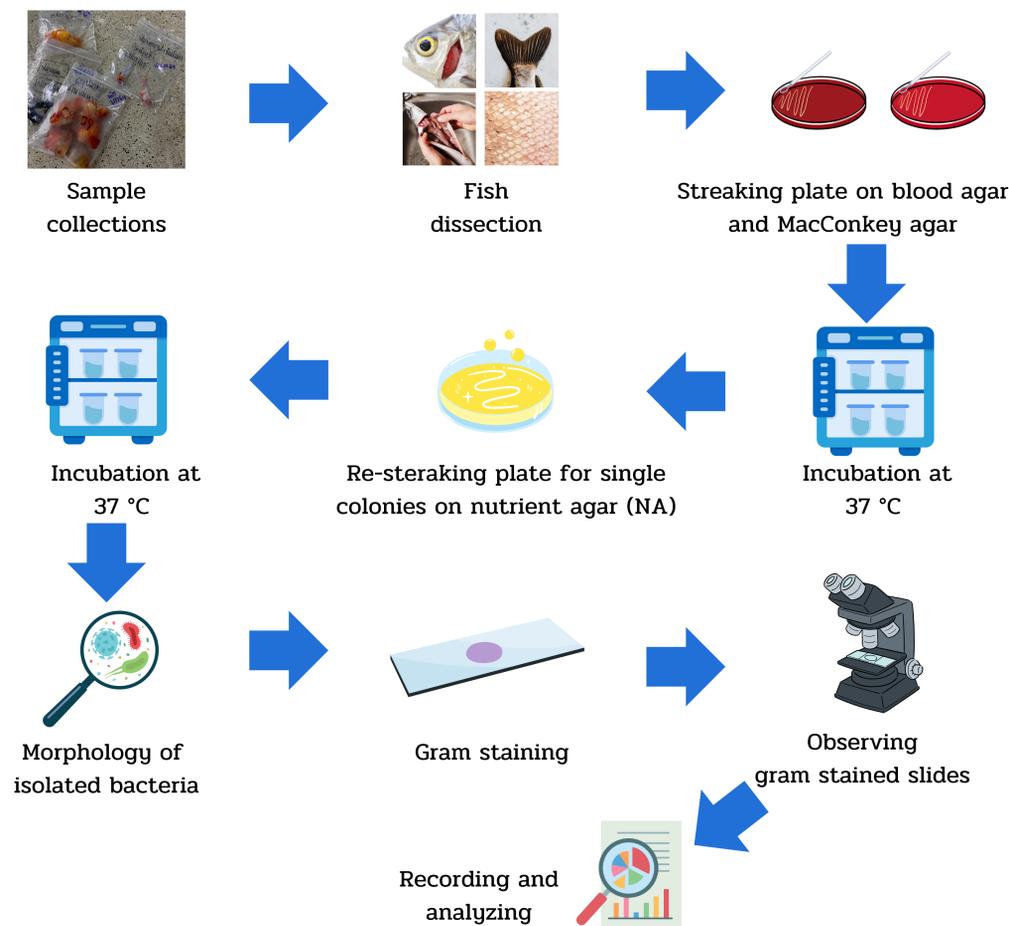
Abstract

The ornamental fish industry has experienced consistent growth, however, fish farming often faces challenges related to diseases that arise from variations in weather patterns, water quality, and bacterial infections. The objective of this study was to investigate the diversity of bacteria isolated from naturally dead ornamental fishes. Ornamental fishes were dissected to collect tissue samples from four organs: caudal fins, gills, intestines, and skin. Each organ was swabbed and used as a reservoir on blood agar and MacConkey agar using the streak plate technique. Subsequently, bacterial colonies were subcultured on nutrient agar using the same technique. Each bacterial isolate was then Gram-stained and examined under a microscope. The morphological characteristics of the bacteria were observed and photographed. The results of the study showed that, out of 24 fish samples, the caudal fins, gills, intestines, and skin had bacterial isolates of 47, 45, 48, and 48, respectively. Further classification and identification of the isolated bacteria will be conducted to determine their potential role in infections of ornamental fishes.

Introduction & Objective

The popularity of ornamental fish as pets is attributed to their ease of care, minimal space requirements, and affordability. Furthermore, the breeding and export of these fish constitute a growing industry, with Thailand recognized as a major exporter. However, intensive aquaculture, characterized by high-density fish farming, elevates the risk of disease outbreaks. Disease etiologies in ornamental fish encompass diverse factors, including compromised water quality, temperature fluctuations, and bacterial infections. Notable bacterial diseases include fish tuberculosis, dropsy, fin rot, and ulcer disease. Notably, there is a paucity of research specifically addressing bacterial infections in ornamental fish within Thailand. Therefore, this study aims to investigate and identify bacterial species implicated in diseases affecting sick ornamental fish.

Methodology



Results

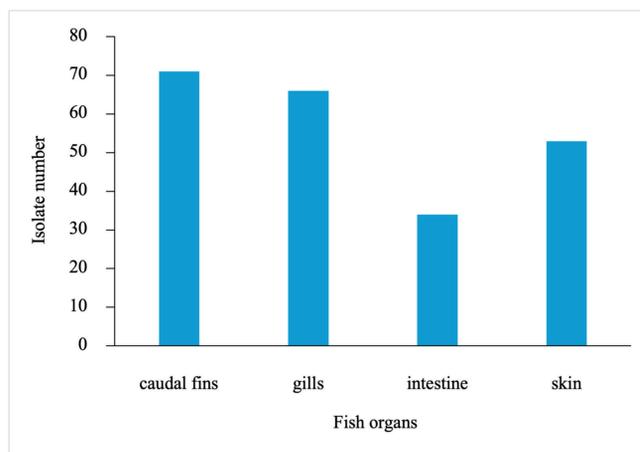


Fig.1 The number of distinct bacterial colony types isolated from various organs of ornamental fish on MacConkey agar.

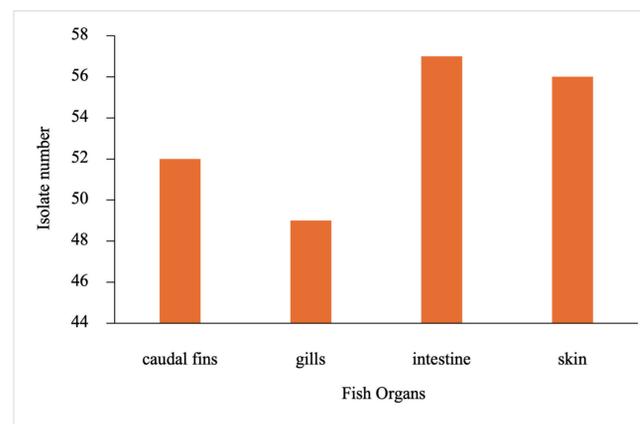
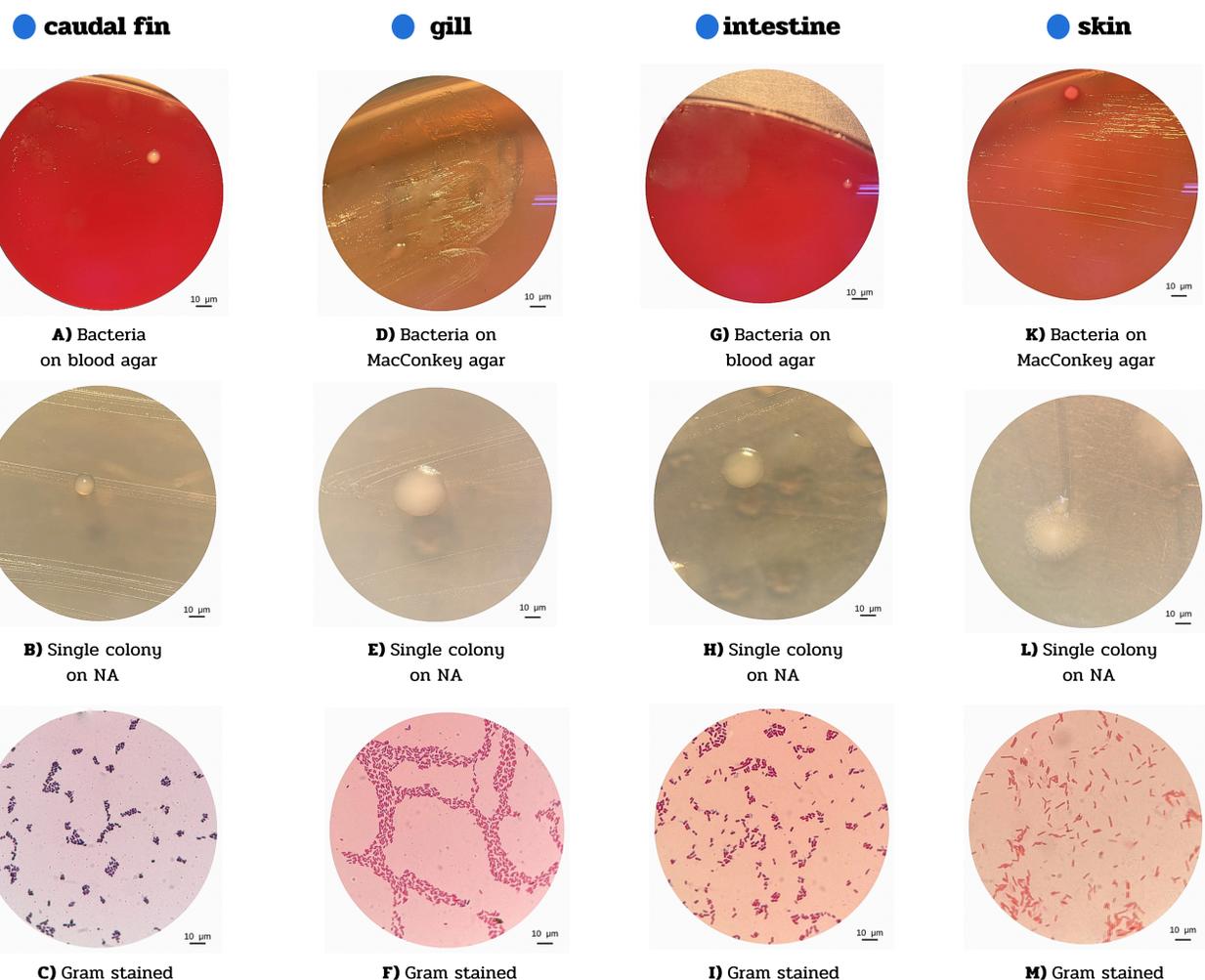


Fig.2 The number of distinct bacterial colony types isolated from various organs of ornamental fish on blood agar.



Acknowledgements

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References

Elham I. Atta. 2017. Bacteriological study of fish samples collected from different markets in some Egyptian governorates and antimicrobial sensitivity of isolates. *International Journal of Current Microbiology and Applied Sciences*. 6 : 2765-2776.
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Conclusion

- Caudal fins and gills exhibited high bacterial counts on MacConkey agar, intestines and skins showed higher bacterial counts on blood agar.
- Bacterial isolates from ornamental fish demonstrated a range of colony morphologies, with a preponderance of Gram-positive bacteria.