

Preserving Akahiretabira

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Team 03

Background & Purpose

Akahiretabira (*Acheilognathustabira subsp.R*)



Fig 1. Akahiretabira

Clams' decrease

River construction

Natural enemy species' increase



Decreasing spawning ground



Endangered species

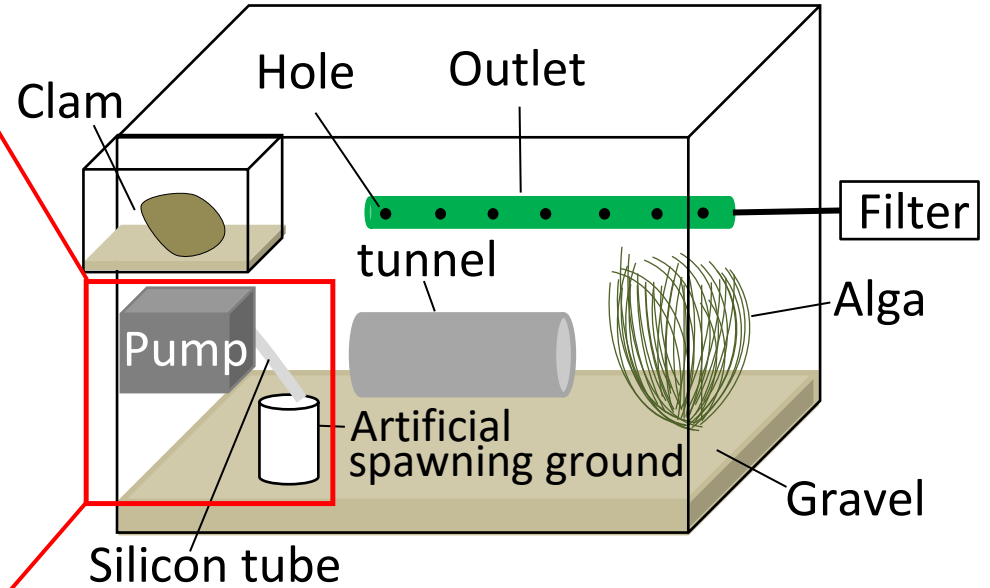
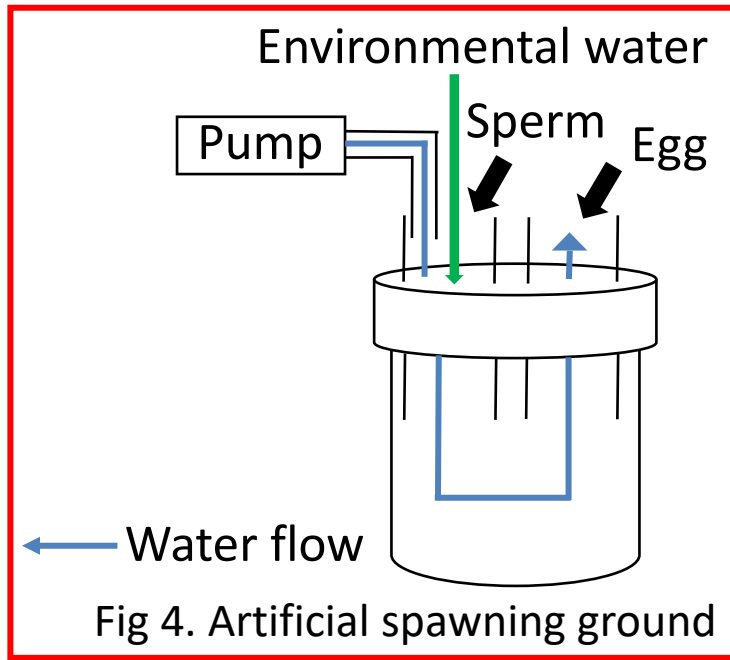
Purpose

To discover the condition of spawning action
To invent the artificial spawning ground



Spawning and preserving

Material



[Experiment target]
Tairikubaratanago



Fig 2. Tairikubaratanago

[Environment]

- Light/Dark cycle : 12h
- Temperature : 22~25°C⁴⁾
- Set clam to lead spawning³⁾

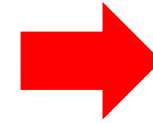
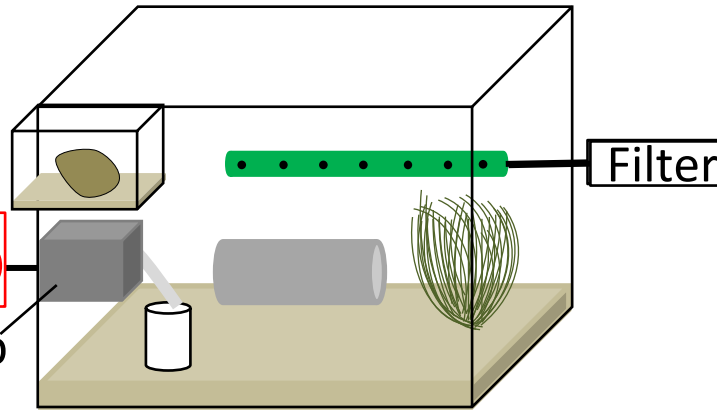
Experiment



Experiment 1

Arduino

Pump



Experiment 2

Previous study:

Decreasing water level promotes spawning action

▶ Decrease water level to half once a week

We discovered 4 eggs in the filter's outlet

always discharges water



Control is unnecessary

[Result]

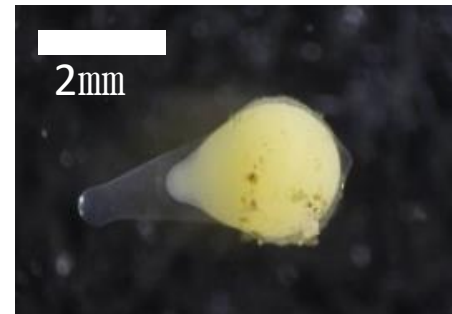


Fig 6. Egg of Tairikubaratanago

We got 8 eggs.

Interval of water incoming and outgoing is unnecessary.

[Result]

Experiment No.	1	2	3	4	5
Spawning organ observed	○	○	○	×	○
Spawning action	○	○	○	×	○
Spawning egg	×	×	×	×	×

They did spawning action, but they didn't spawn.

Conclusion

1. It effects leading spawning action only **when spawning organ appears**
2. About condition of spawning
Not needed : interval of water incoming and outgoing
Needed : right amount of water flow

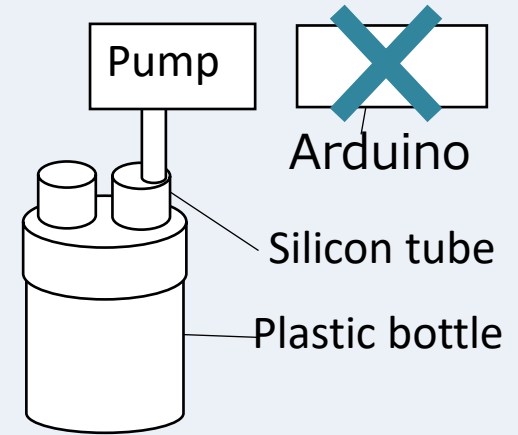


Fig 7. Schematic diagram of new device

Future Work

- Making a simpler and more efficient device
- Making a hatching device
- Discovering the new condition of spawning action



**To complete the device of artificial spawning ground
To increase the percentage of spawning**