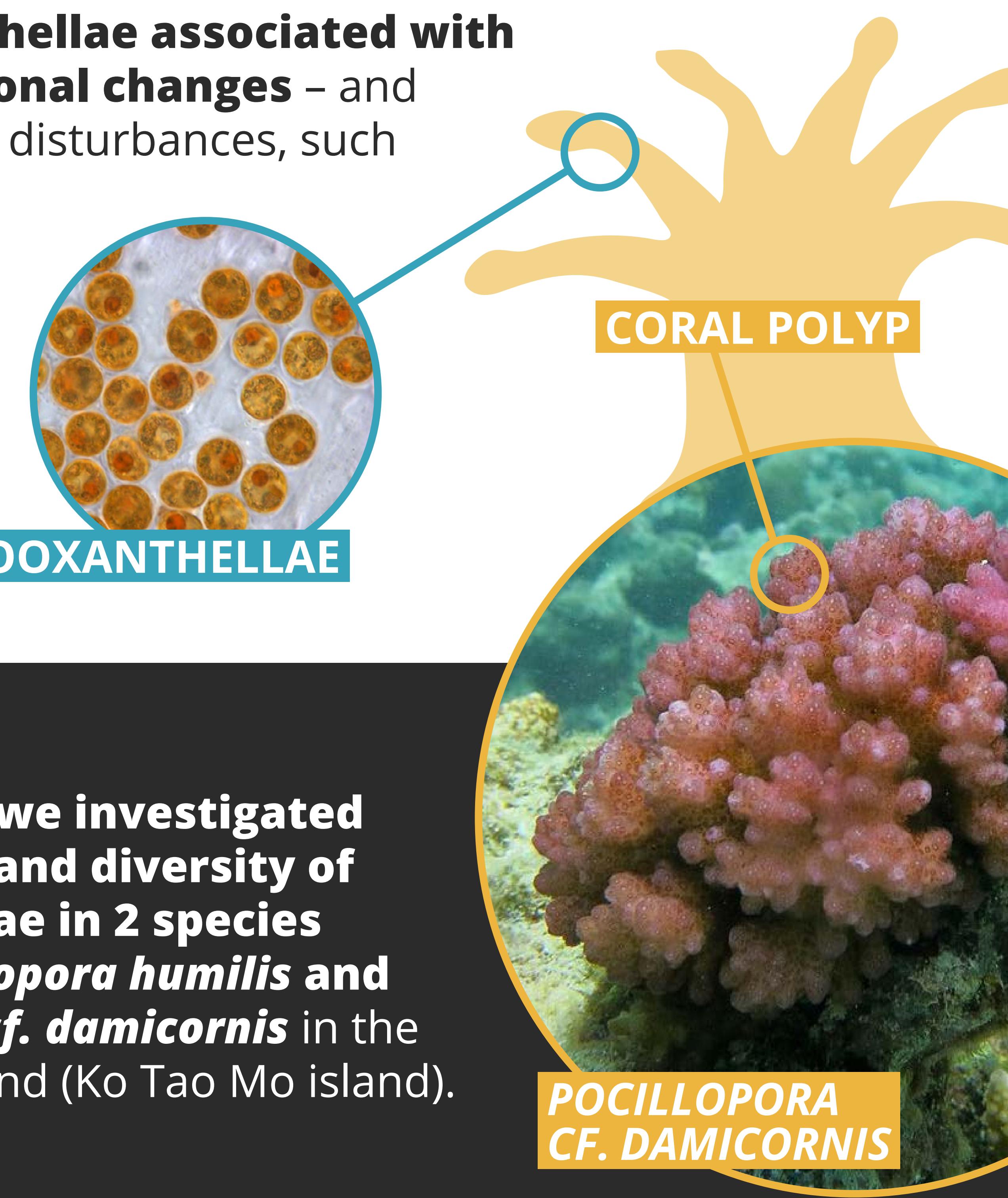
Corals & zooxanthellae: seasonal changes in 2 coral species

CORAL & ALGAE SYMBIOSIS

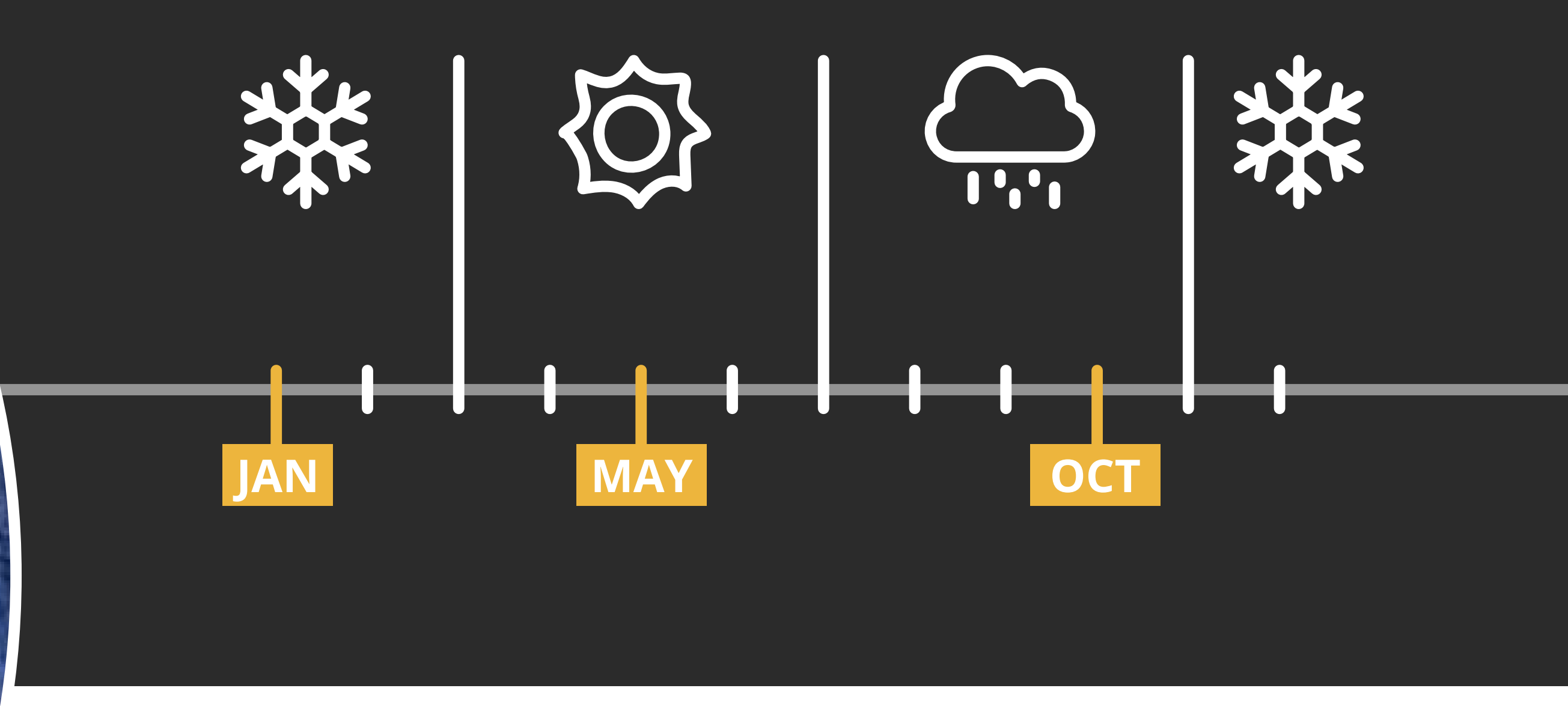
Most reef-building corals have a symbiotic relationship with dinoflagetllate algae (known as zooxanthellae). The corals and algae both benefit from this relationship by exchanging nutrients.

The amount and type of zooxanthellae associated with corals can be influenced by seasonal changes – and could make corals more resistant to disturbances, such as high water temperatures.



In this study, **we investigated the density and diversity of zooxanthellae in 2 species of coral: *Acropora humilis* and *Pocillopora cf. damicornis*** in the Gulf of Thailand (Ko Tao Mo island).

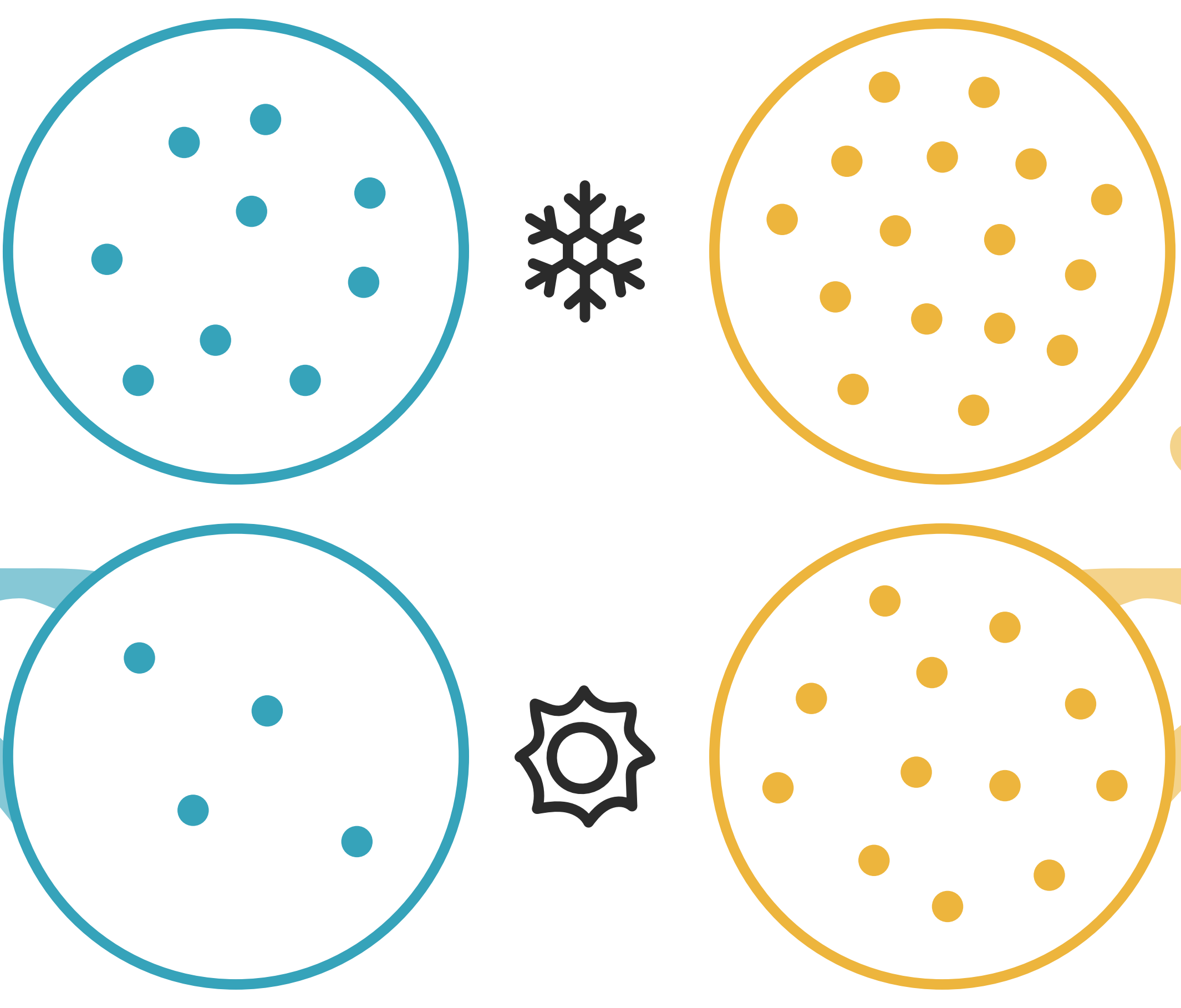
We sampled coral colonies in both summer, winter and rainy season.

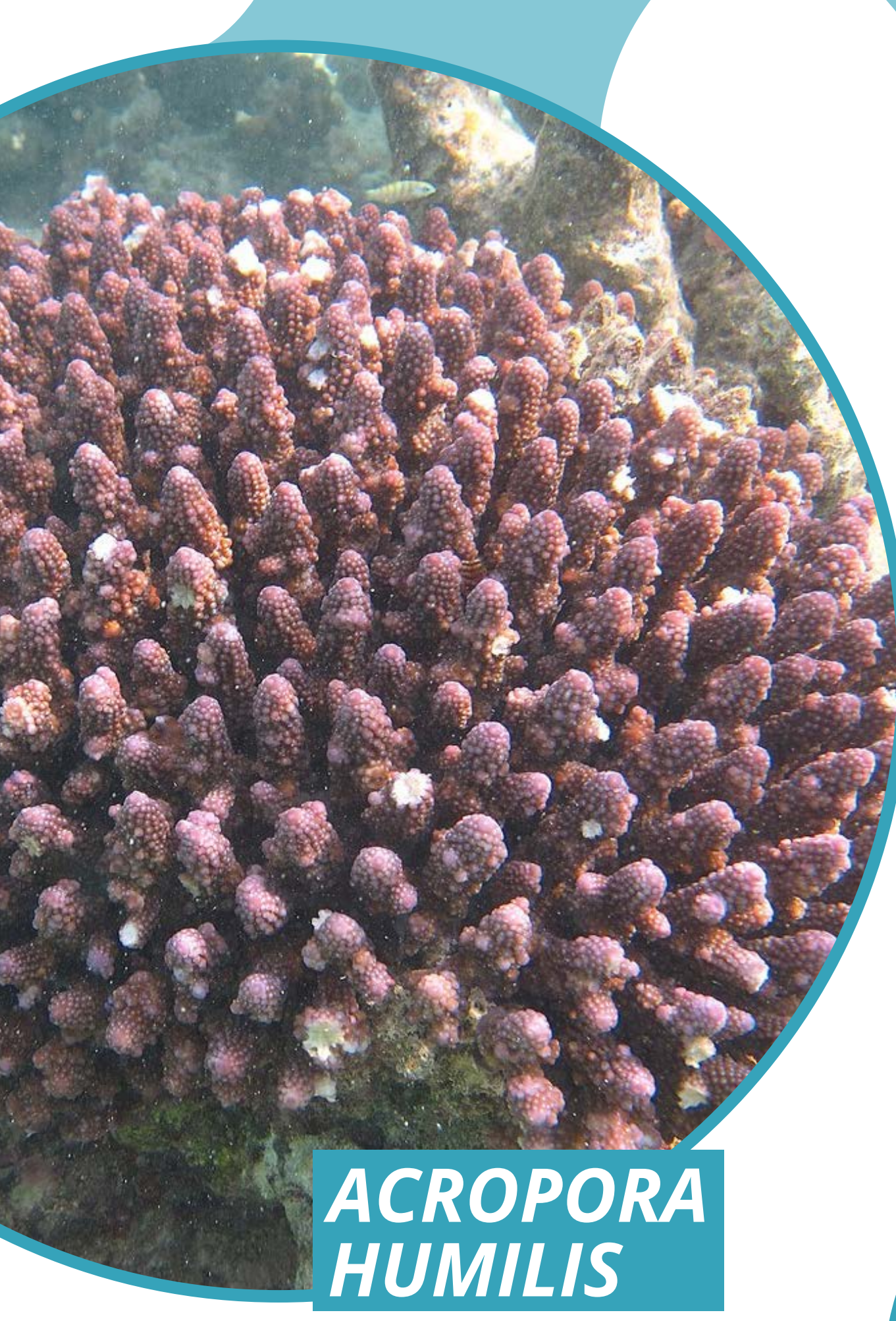


RESULTS

We found that **zooxanthellae density differed in the 2 coral species, as well as within the species in each season.**

ZOOXANTHELLAE DENSITY

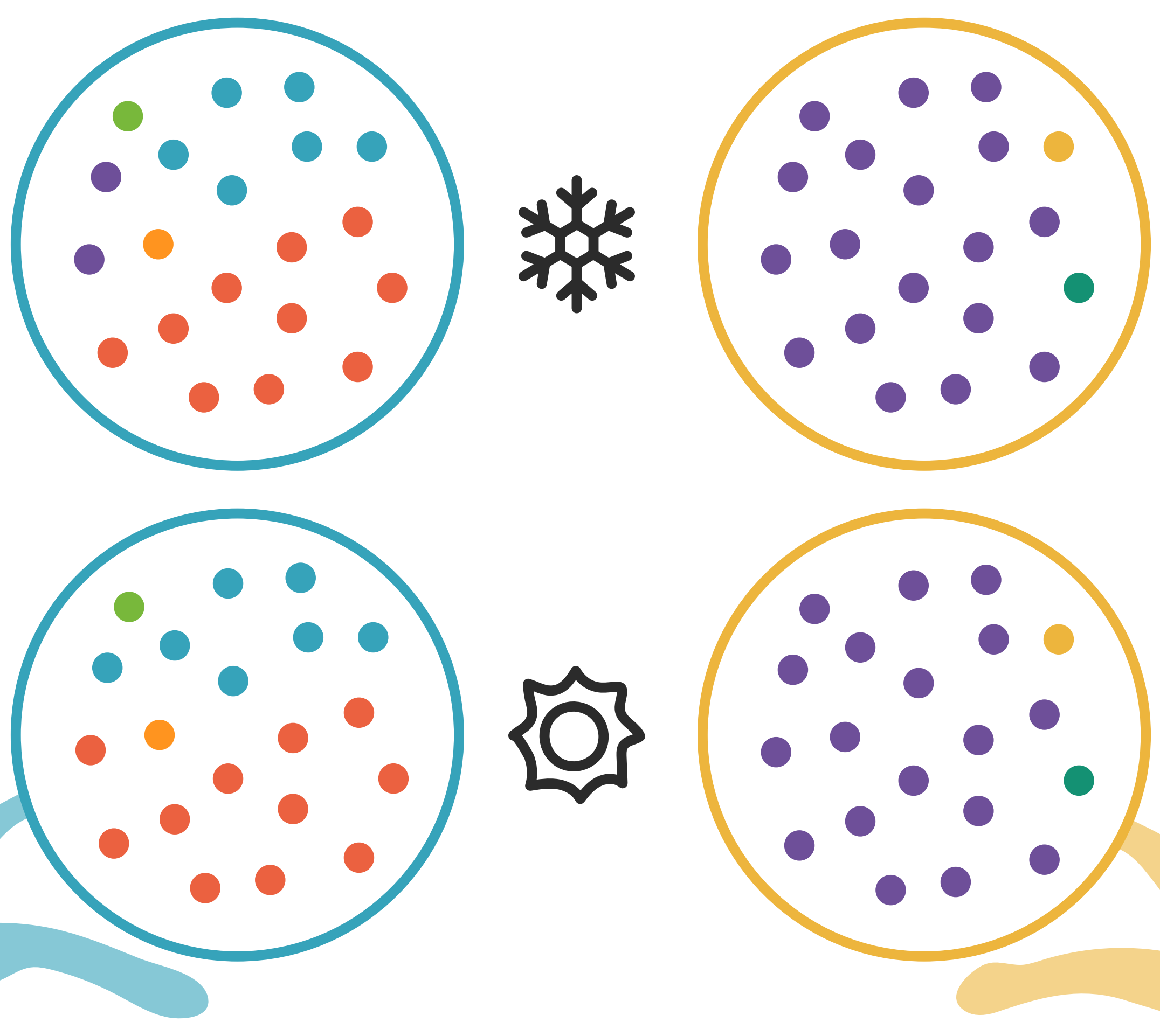




Zooxanthellae diversity also differed between species and between seasons.

ZOOXANTHELLAE DIVERSITY

Each color represents a different zooxanthellae species



CONCLUSION

The results showed that **each coral species can select the appropriate species of zooxanthellae in response to local environmental stressors** for adaptation.

This study provides some information on the coral-zooxanthellae relationship between seasons, which may be used to predict the potential adaptation of corals in local reef environments.

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