

**UNIQUE
TREES & ROOTS
IN AUSTRALIA**

生き残るための特性

SPRINGBROOK

National Park

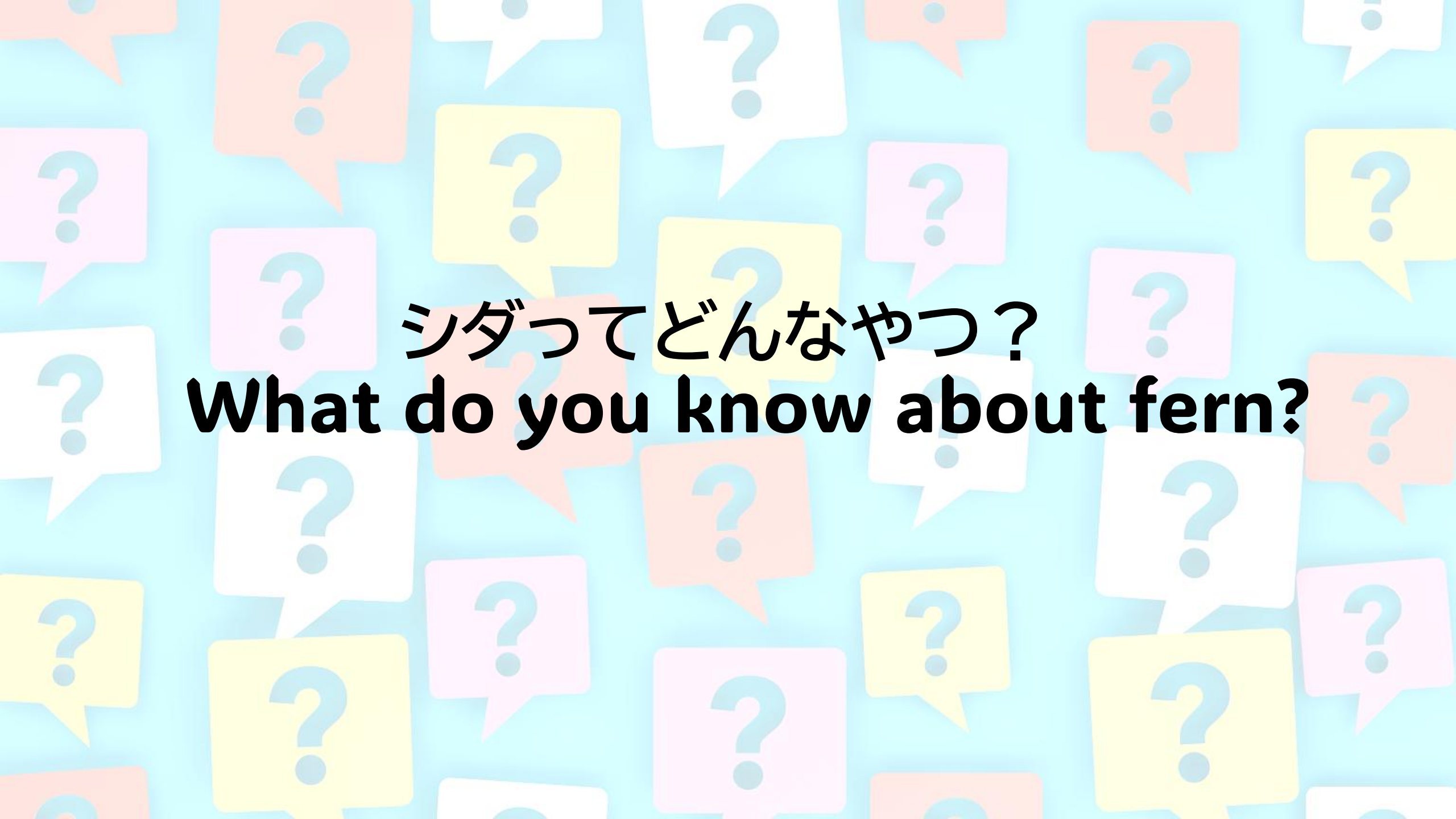


SPRINGBOOK

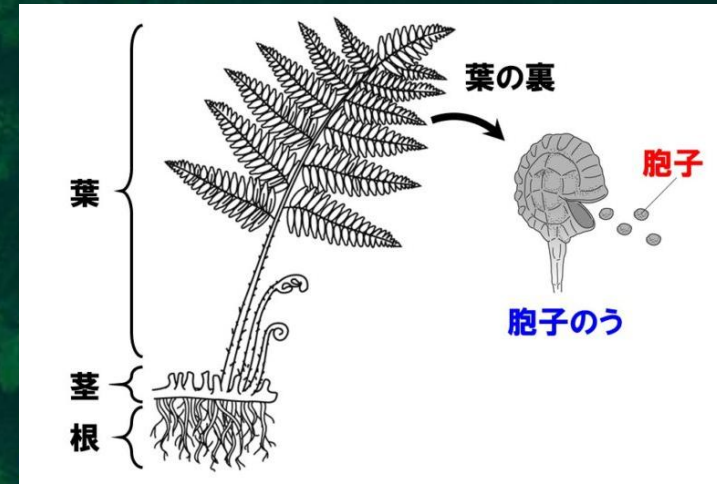


シダ
fern



The background of the image is a light blue color, covered with a repeating pattern of speech bubbles. Each speech bubble is a different color (pink, yellow, white, and light blue) and contains a large, dark blue question mark. The bubbles are scattered across the entire frame, creating a textured, question-themed background.

シダってどんなやつ？
What do you know about fern?



植物

種子植物

非種子植物

維管束

あり

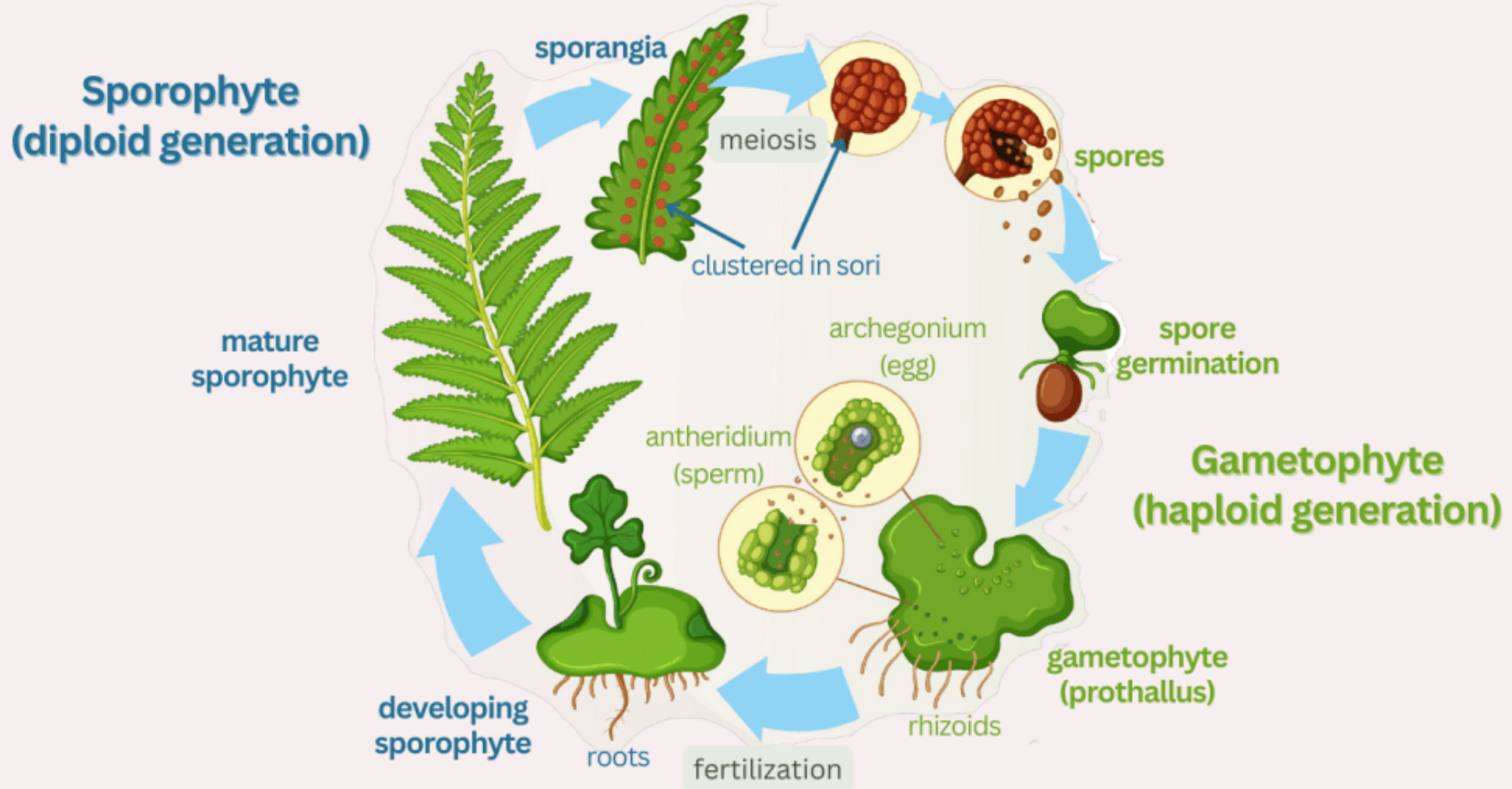
なし

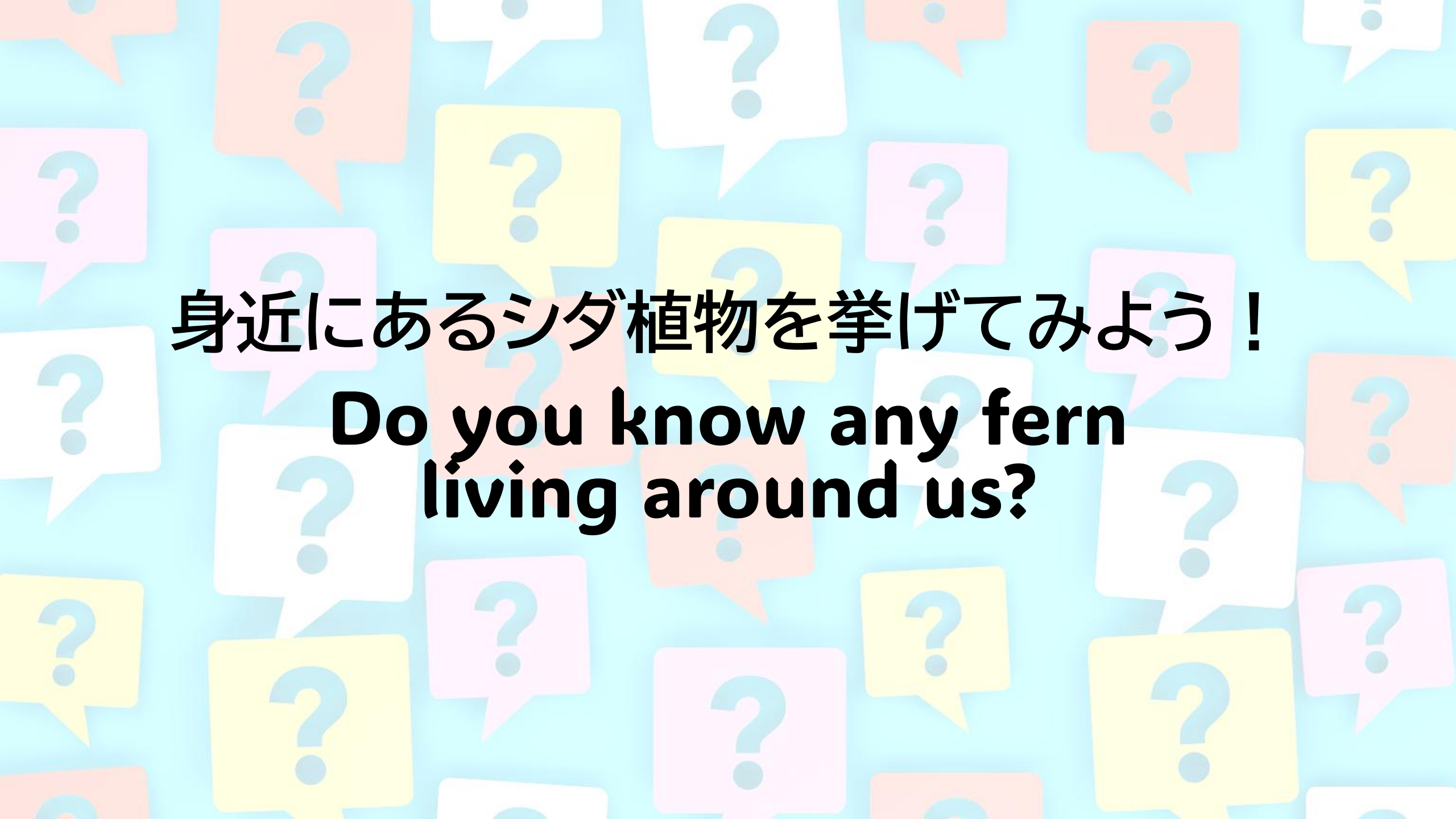
胞子で増えるやつら



Fern Life Cycle

The fern life cycle has alternation of generations, with both gametophyte and sporophyte phases.



The background of the image is a light blue color, overlaid with a repeating pattern of speech bubbles. These bubbles are in various colors including pink, yellow, and white, and each contains a blue question mark. They are scattered across the entire frame, creating a textured, questioning effect.

身近にあるシダ植物を挙げてみよう！

**Do you know any fern
living around us?**



スギナ（つくし）



ワラビ



様々な増え方

古生代の
シダ植物

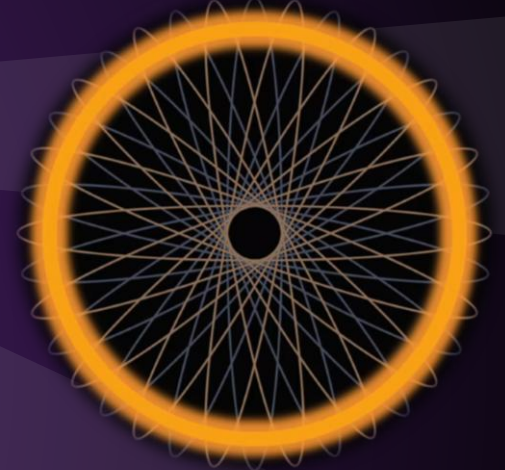
Paleozoic
ferns



TRIAL

5,000 KHS

50:50



「シダ」を漢字で書くと？

◆A: 鱗葉

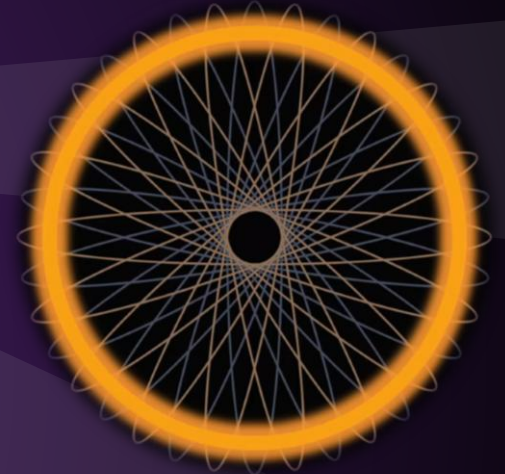
◆B: 羊齒

◆C: 齒獲

◆D: 鹿爪

TRIAL

10,000 KHS



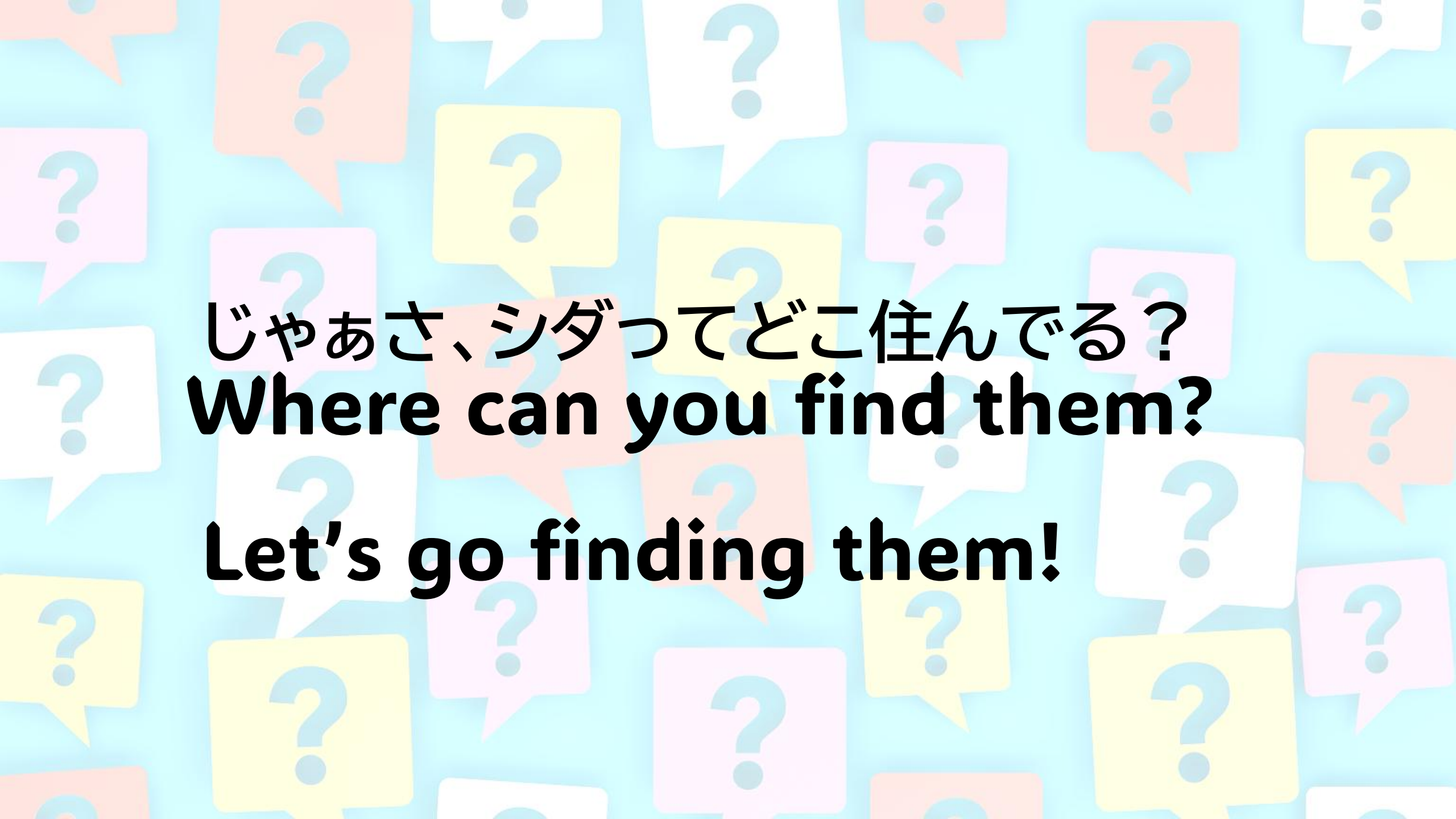
シダ植物が種子を持たないことで生じる
種子植物に劣る部分は？

◆A: 害虫に対する耐性

◆B: 風に対する耐性

◆C: 乾燥に対する耐性

◆D: 自己再生能力

The background is a light blue field filled with numerous speech bubbles of various colors (pink, yellow, white, and light blue). Each bubble contains a blue question mark. The bubbles are scattered across the entire frame, creating a pattern of inquiry.

じゃあさ、シダってどこ住んでる？
Where can you find them?

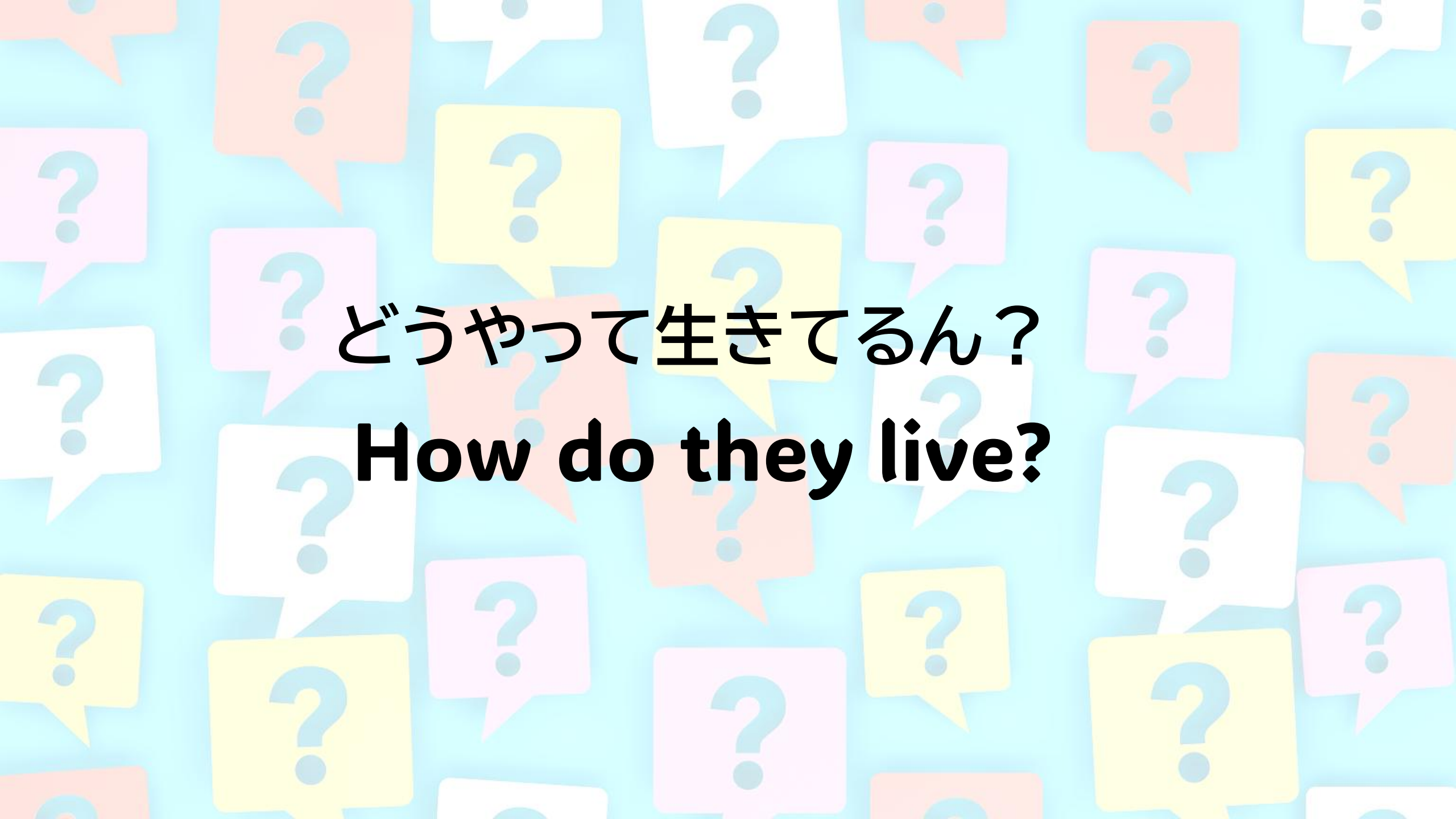
Let's go finding them!



着生シダ
Epiphytic fern

Staghorn fern (Platycerium)



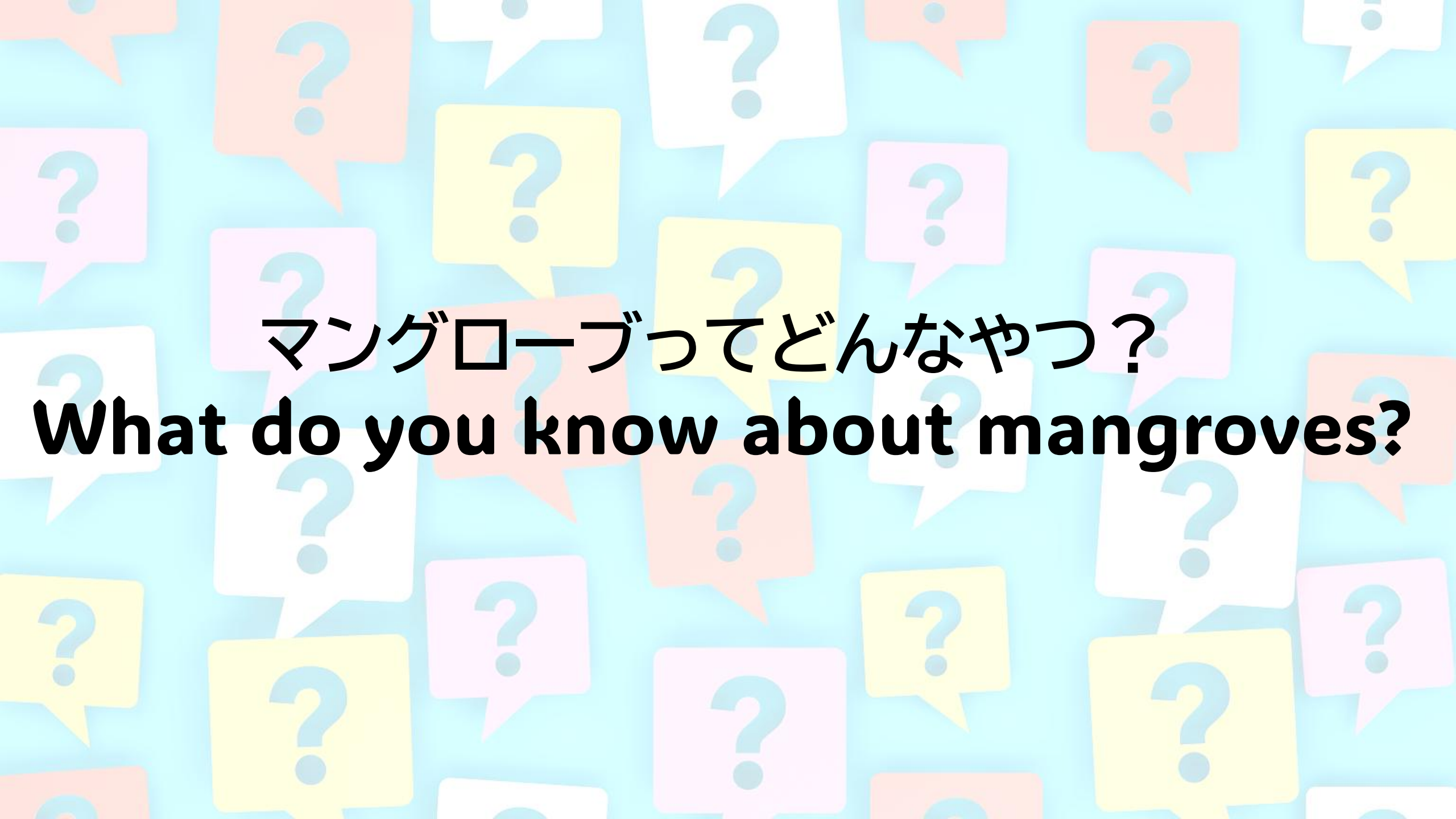
The background of the image is a light blue color, populated with a repeating pattern of speech bubbles. These bubbles are in various colors including white, light orange, light yellow, and light pink. Each bubble contains a blue question mark. The bubbles are scattered across the entire frame, creating a textured, questioning atmosphere.

どうやって生きてるん？

How do they live?

A photograph of a mangrove forest. The foreground shows the intricate, reddish-brown prop roots of mangrove trees emerging from a muddy, greenish ground. The trees themselves are lush with green foliage, some with small yellow flowers or fruits. The background is filled with more dense vegetation under a cloudy sky.

マングローブの特性 Mangrove

The background of the image is a light blue color, overlaid with a repeating pattern of speech bubbles. These bubbles are in various colors including pink, yellow, and white, and each contains a blue question mark. They are scattered across the entire frame, creating a theme of inquiry or questions.

マングローブってどんなやつ？

What do you know about mangroves?

マングローブの特性

Mangrove



70 species in the world
46 species in AUS

seed

Salt tolerant

- >reduce water loss**
- >partition salt in cells**
- >prevent entry at root via membrane**



マングローブの必要性 **Why we need it?**

Provide habitat

Protect from coastal erosion

Trap sediment

Blue carbon



Red mangrove



Gray mangrove



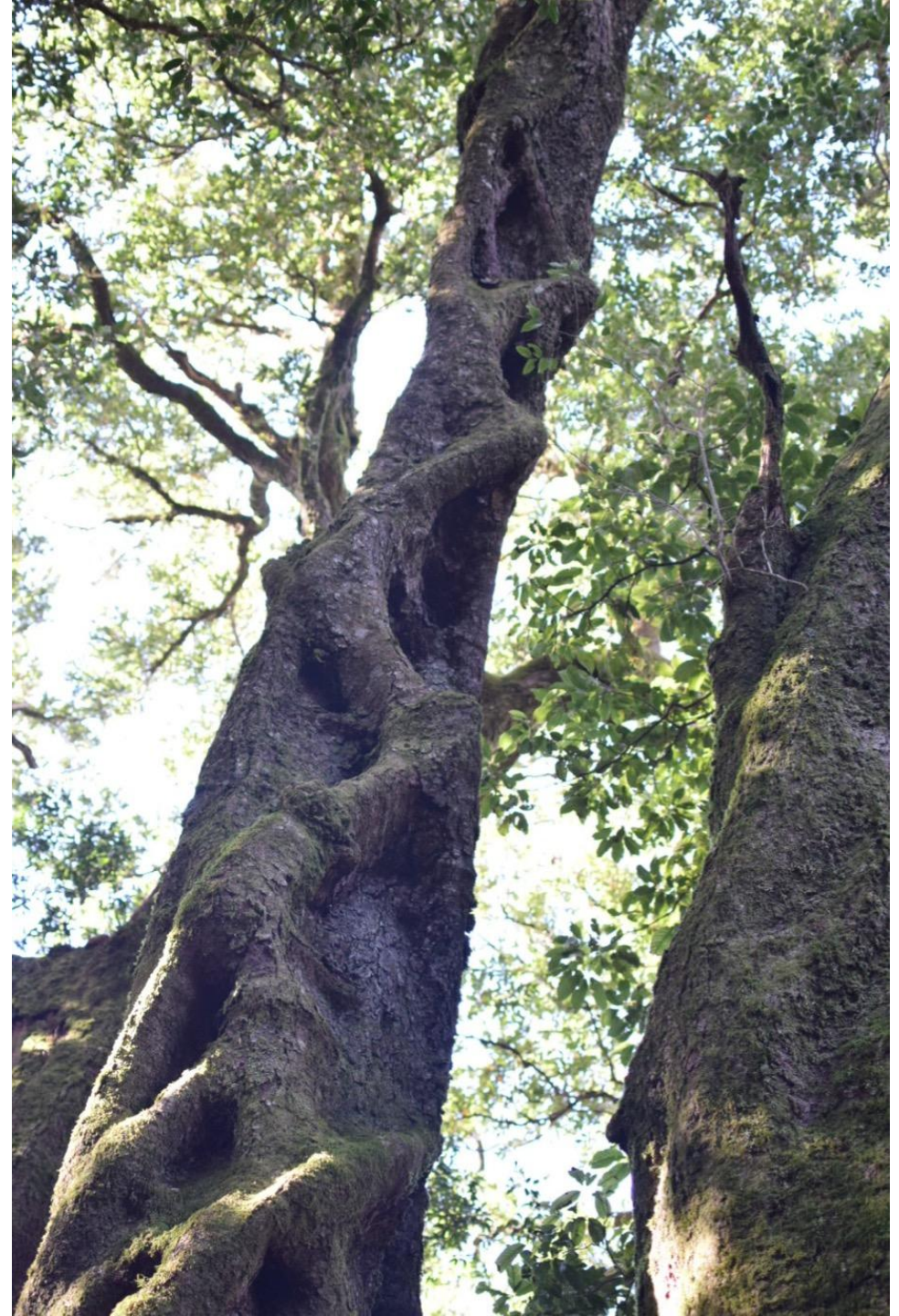
光沢多肉質な葉っぱ





この木なんの 🌲

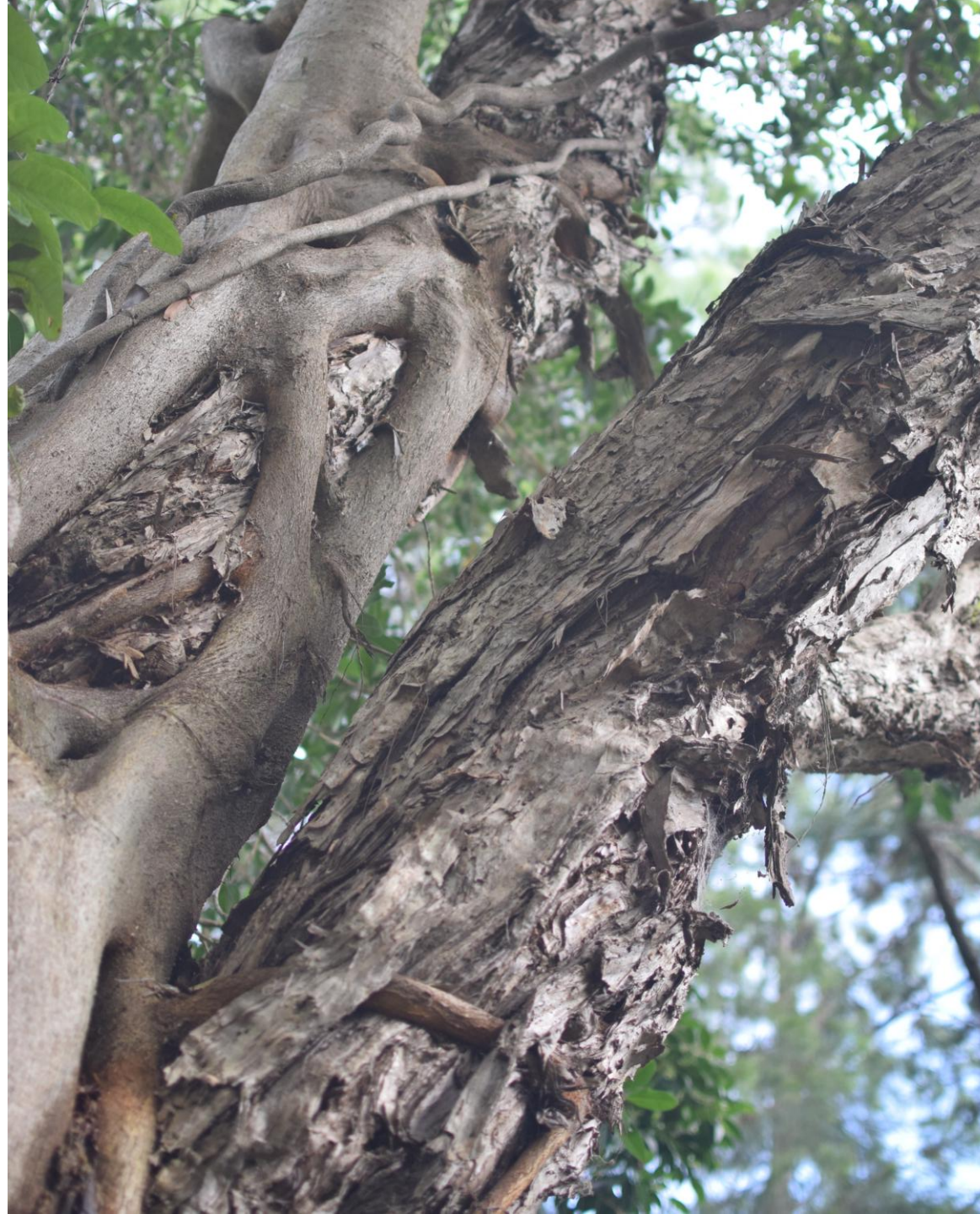
なんで中空洞？



なんで中空洞？

Strangler fig

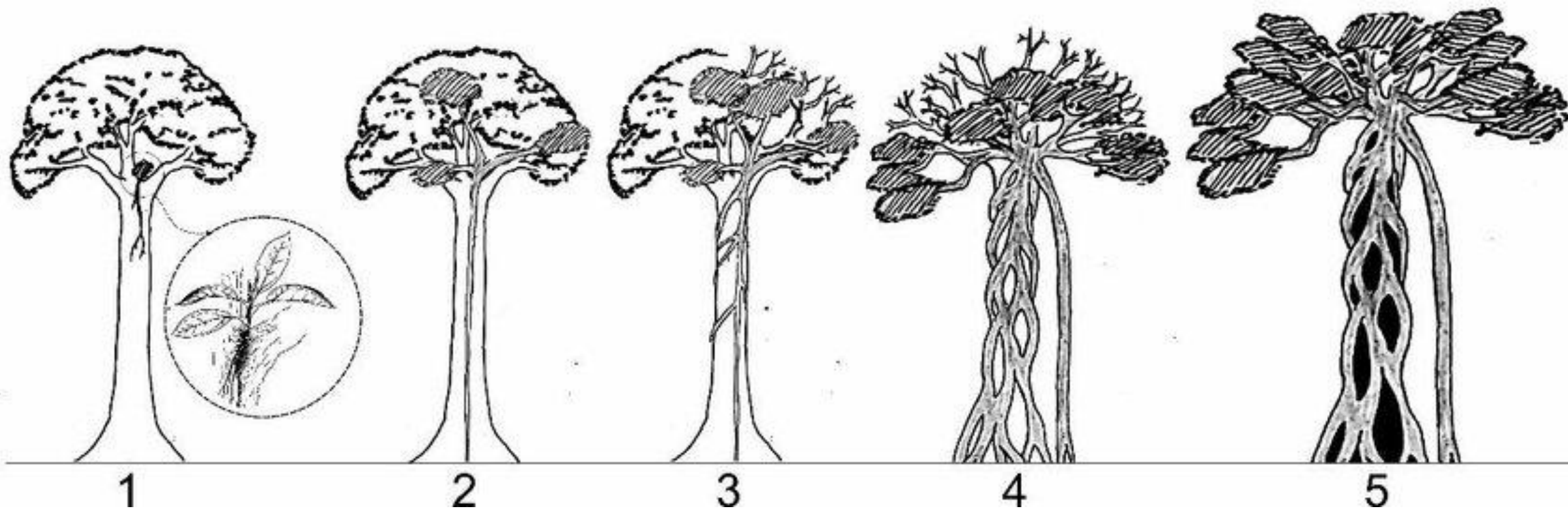
締め殺しのイチジク



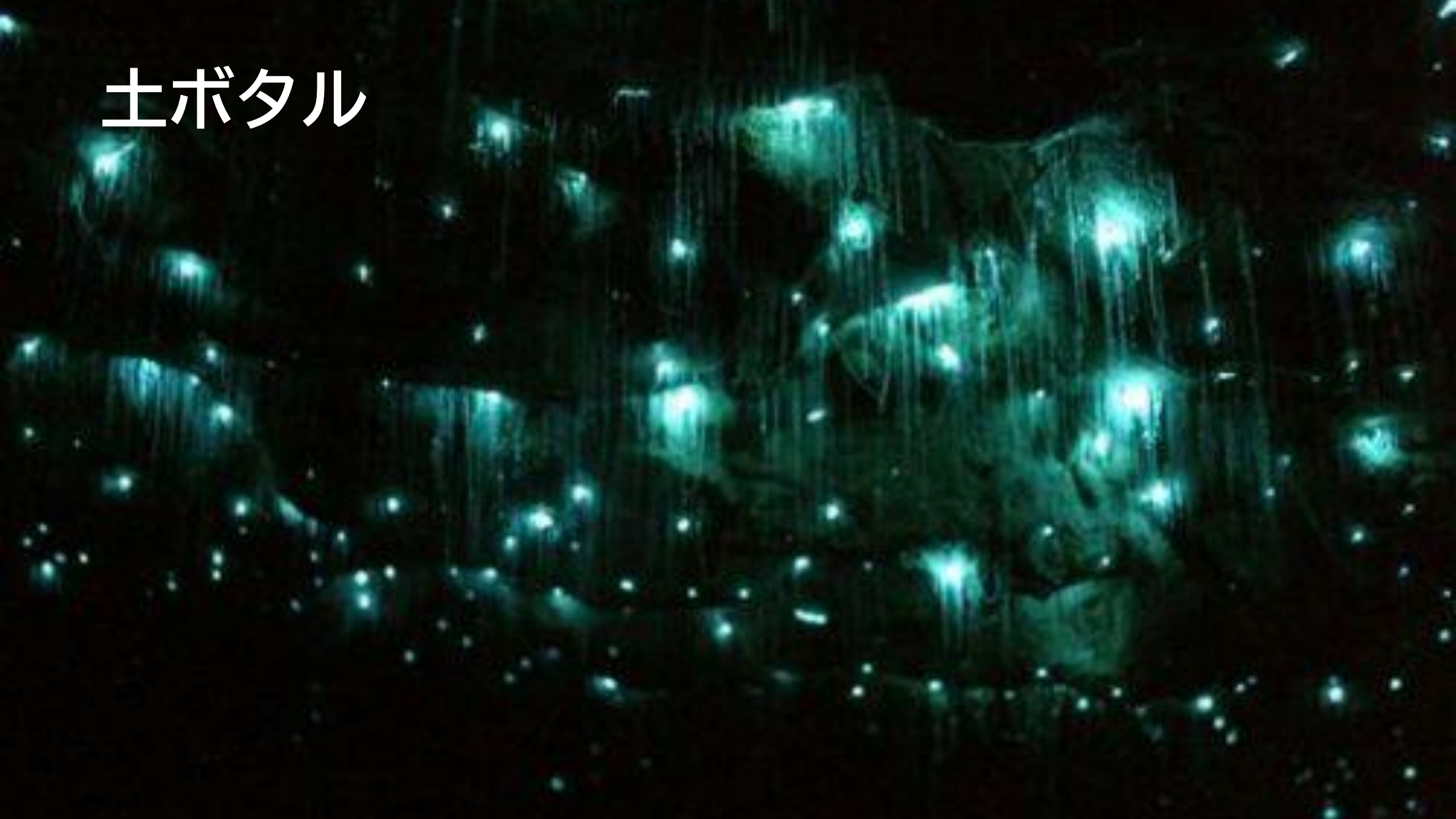
なんで中空洞？

Strangler fig

締め殺しのイチジク



土ボタル



“土ボタル” は蛍じゃない！？



蛍
Firefly



ヒカリキノコバエ
Glow-worm





Why do glow-worms emit fluorescence?

To attract small insects and to eat them





Unique Roots

根っこ

なんでこの形なのでしょうのコーナー



なんでこの形なのでしょうのコーナー





なんでこの形なのでしょうのコーナー

なんでこの形なのでしょうのコーナー

