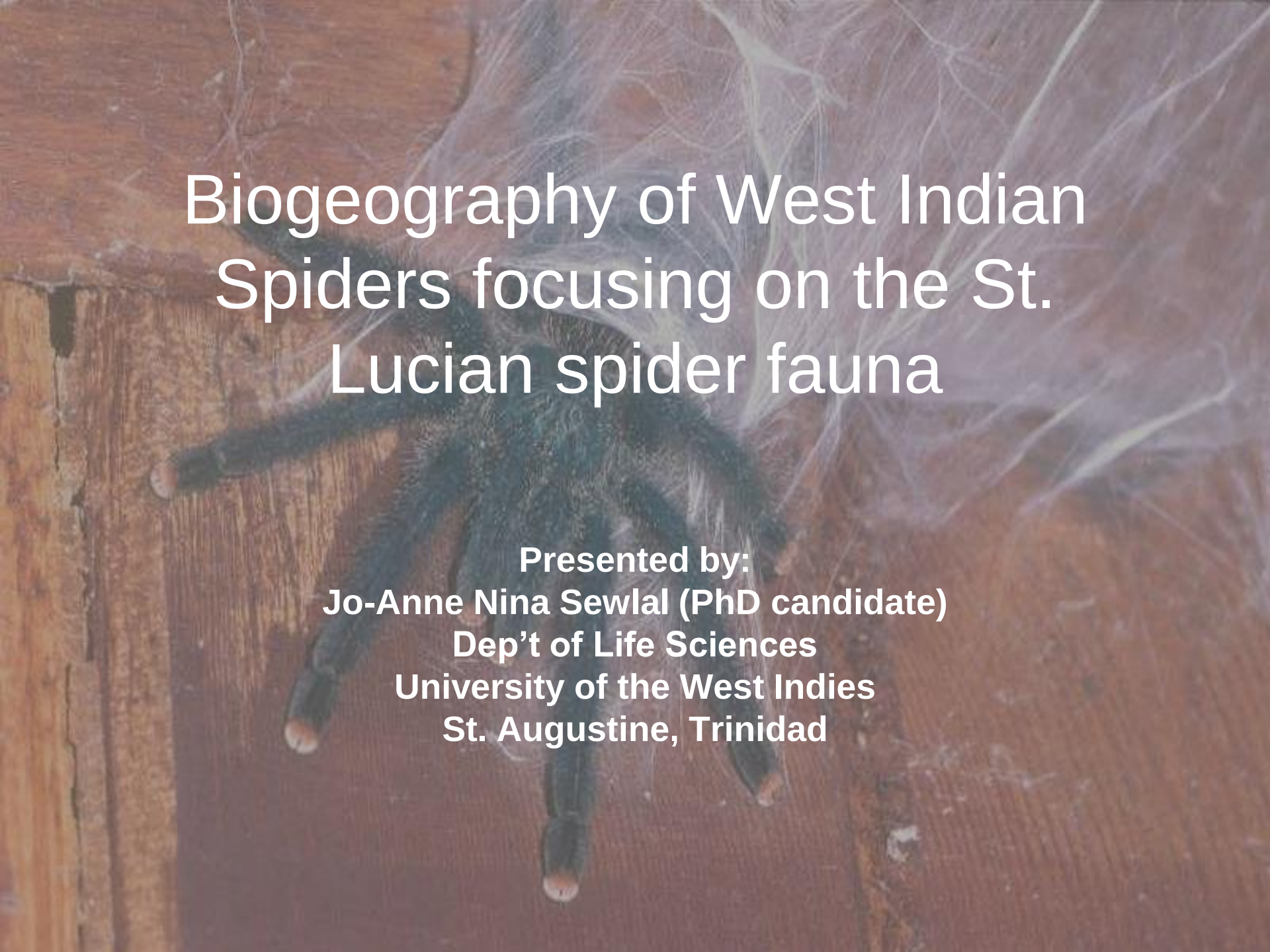
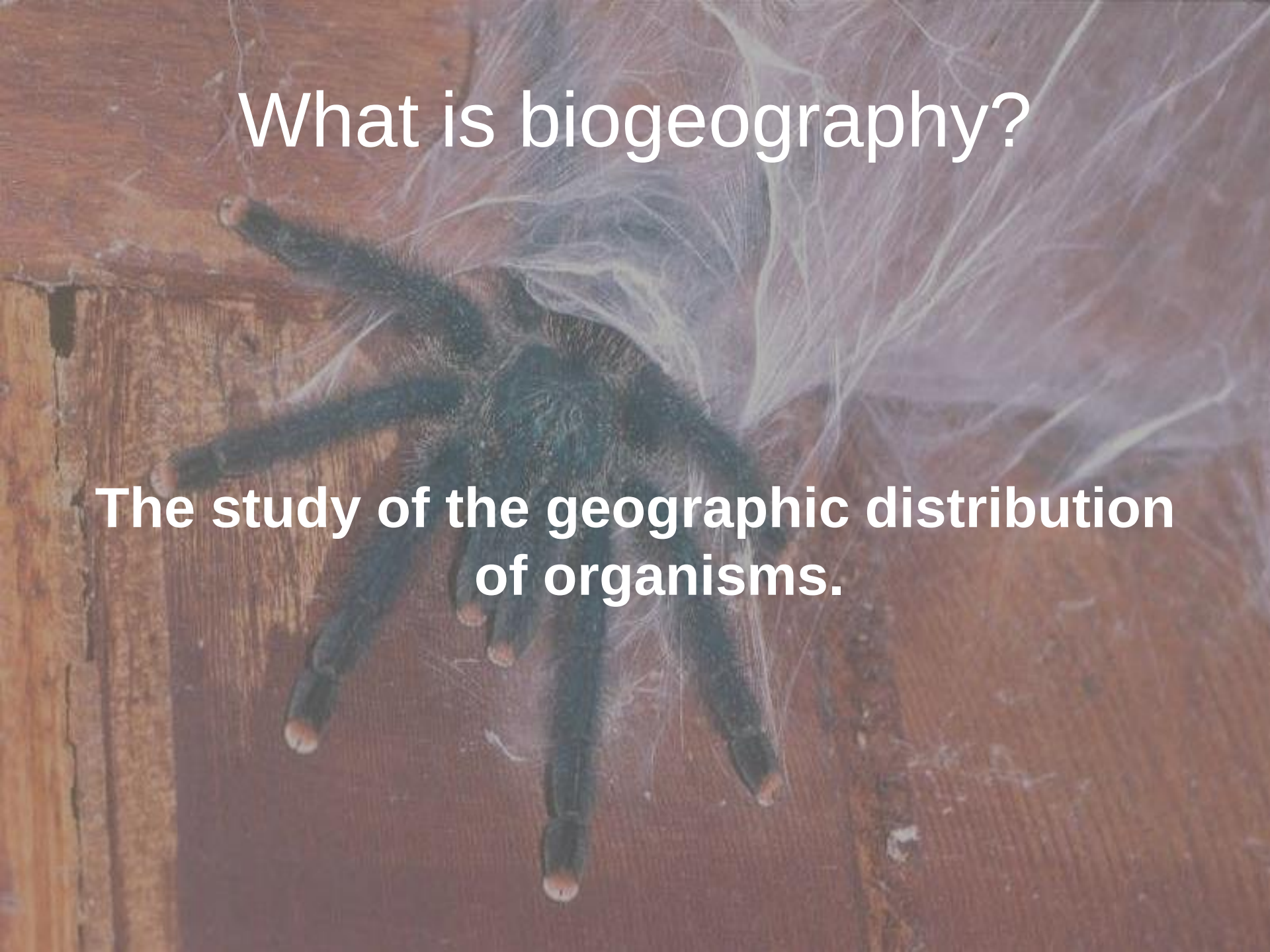


A large, hairy tarantula spider with dark brown and black body and legs is positioned in the center of the frame. It is surrounded by a complex, multi-layered web of fine, silken threads that are light brown and translucent. The spider is resting on a rough, weathered wooden surface with visible grain and some peeling paint. The background is a warm, reddish-brown color, possibly a wall or another wooden surface.

Biogeography of West Indian Spiders focusing on the St. Lucian spider fauna

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A close-up photograph of a large, hairy tarantula spider on a wooden surface. The spider is dark brown or black with very thick, light-colored hair covering its body and legs. It is positioned in the lower half of the frame, with its legs spread out. A large, intricate web is visible in the upper half of the frame, partially obscuring the spider's head. The background is a wooden surface with a vertical grain pattern.

What is biogeography?

**The study of the geographic distribution
of organisms.**

Biogeographic regions

- Nine primary terrestrial biogeographic regions of the World:
- **Antarctic**
- **Western Palearctic**
- **Eastern Palearctic**
- **Afrotropical**
- **Indo-Malayan**
- **Australasian**
- **Micronesia**
- **Nearctic**
- **Neotropical** (that's us)

Who is included in the Neotropics

- This region extends southward from the Strait of Tehuantepec, in southern Mexico and includes the Central and South America as well as several groups of oceanic islands:
- Antilles in the Caribbean Sea
- Galapagos in the Eastern Pacific Ocean
- Falklands in the Southern Atlantic Ocean

Oceanic vs. Continental Islands - definitions

Oceanic islands - are already separated by sea barriers when they first emerge above the surface.

A fall in the sea level can create a new island, or it can arise through vulcanism or uplift.

Continental islands - land masses that were originally part of a continent, but became islands through such processes as faulting, drifting and sea-level rise.

Oceanic vs. Continental Islands - fauna

Oceanic islands:

- High degree of endemism
- Lower species diversity
- Takes a long time for species diversity to build up

Continental islands:

- High species diversity
- Established ecosystems

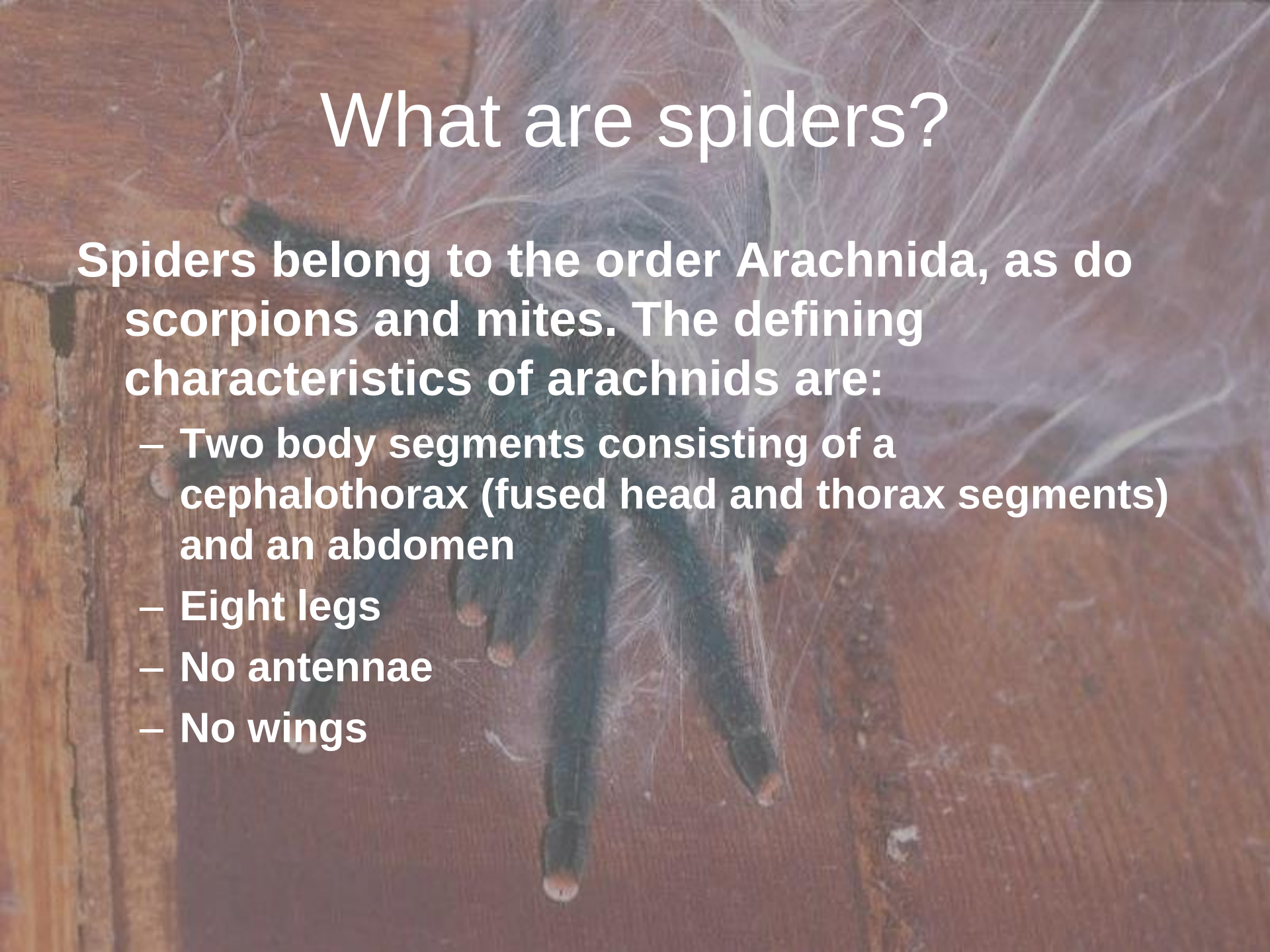
Introduction to the spiders

- Spiders have a worldwide distribution, occupying all land environments except at the polar extremes (Foelix 1996).
- Currently there are approximately 40,700 known species worldwide (Platnick 2009).
- This is believed to be approximately one-fifth the total.
- Thus the world's fauna is far from being known, especially in the neotropics.

What are spiders?

Spiders belong to the order Arachnida, as do scorpions and mites. The defining characteristics of arachnids are:

- Two body segments consisting of a cephalothorax (fused head and thorax segments) and an abdomen**
- Eight legs**
- No antennae**
- No wings**



What are spiders? (cont'd)

There are two main groups of spiders;

Mygalomorphae to which
the tarantulas belong

Araneomorphae which
house the other types,
like hunting, jumping
and web-building
spiders.



How do spiders reach these islands?

- Float on debris
- Blown by the wind
- Brought in by humans – visitors or through imports.



Problems

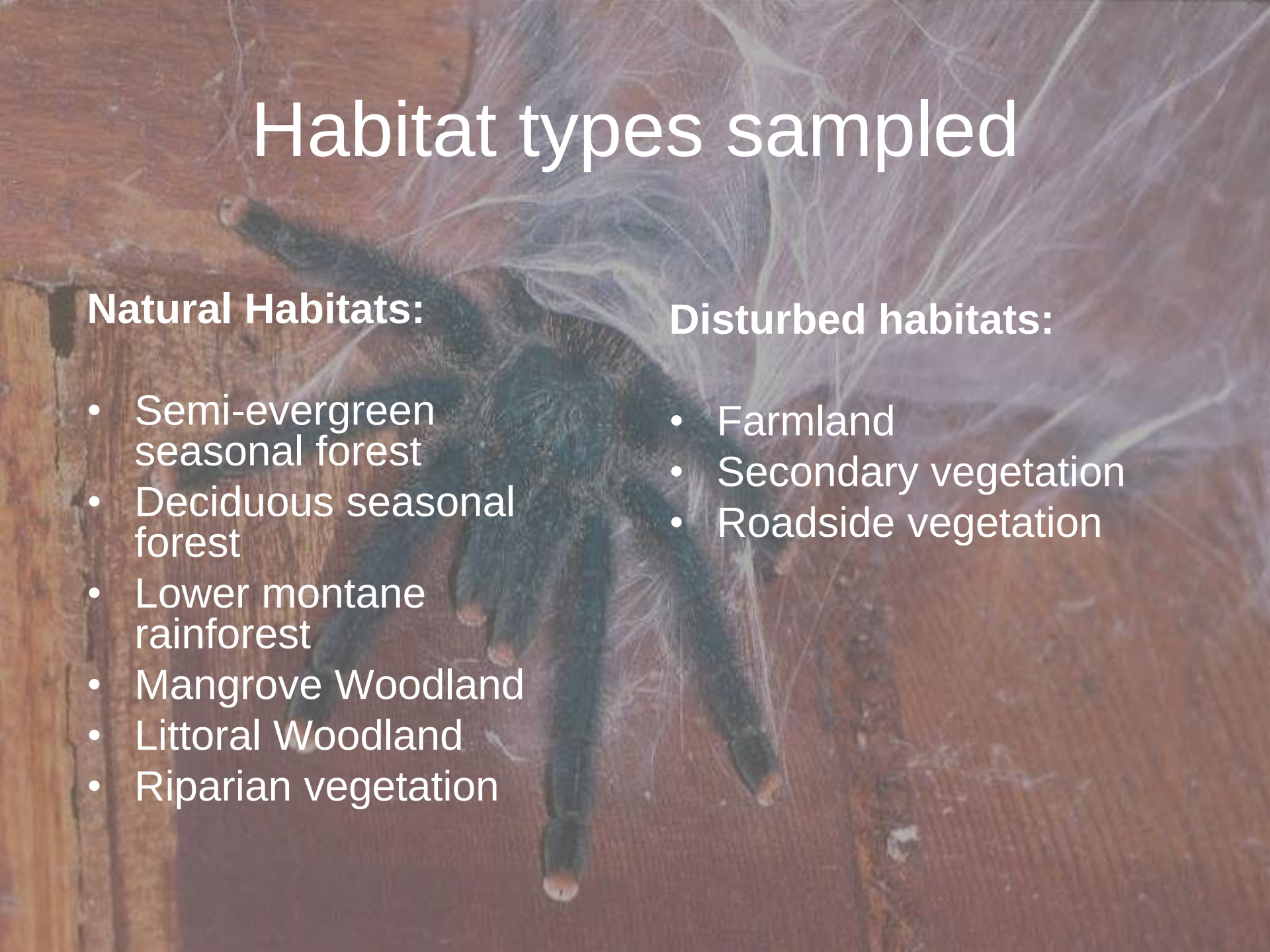
- Exotic species are introduced
- They may be able to compete better for habitats and food
- They may eliminate the native species
- They may become a problem to humans, for example, the Black Widow (*Latrodectus mactans*)

Methodology

- Field:
 - Sweep-netting
 - Visual search
 - Ground search
- Aerial search
- Lab:
 - Identification
- Data analysis



Habitat types sampled

A tarantula spider with dark, hairy legs is positioned in the center of the slide. It is surrounded by a delicate, white spider web that extends across the upper right portion of the image. The background is a textured, reddish-brown wooden surface.

Natural Habitats:

- Semi-evergreen seasonal forest
- Deciduous seasonal forest
- Lower montane rainforest
- Mangrove Woodland
- Littoral Woodland
- Riparian vegetation

Disturbed habitats:

- Farmland
- Secondary vegetation
- Roadside vegetation

Preliminary Results

Family	Number of species
Araneidae	7
Linyphiidae	2
Miturgidae	1
Oecobiidae	1
Oxyopidae	1
Pholcidae	3
Salticidae	4
Sparassidae	1
Tetragnathidae	3
Theridiidae	2
Thomisidae	1
Uloboridae	1
Unidentified species	7
TOTAL	29

Some common spiders in St. Lucia



Argyrodes elevatus



Leucauge argyra



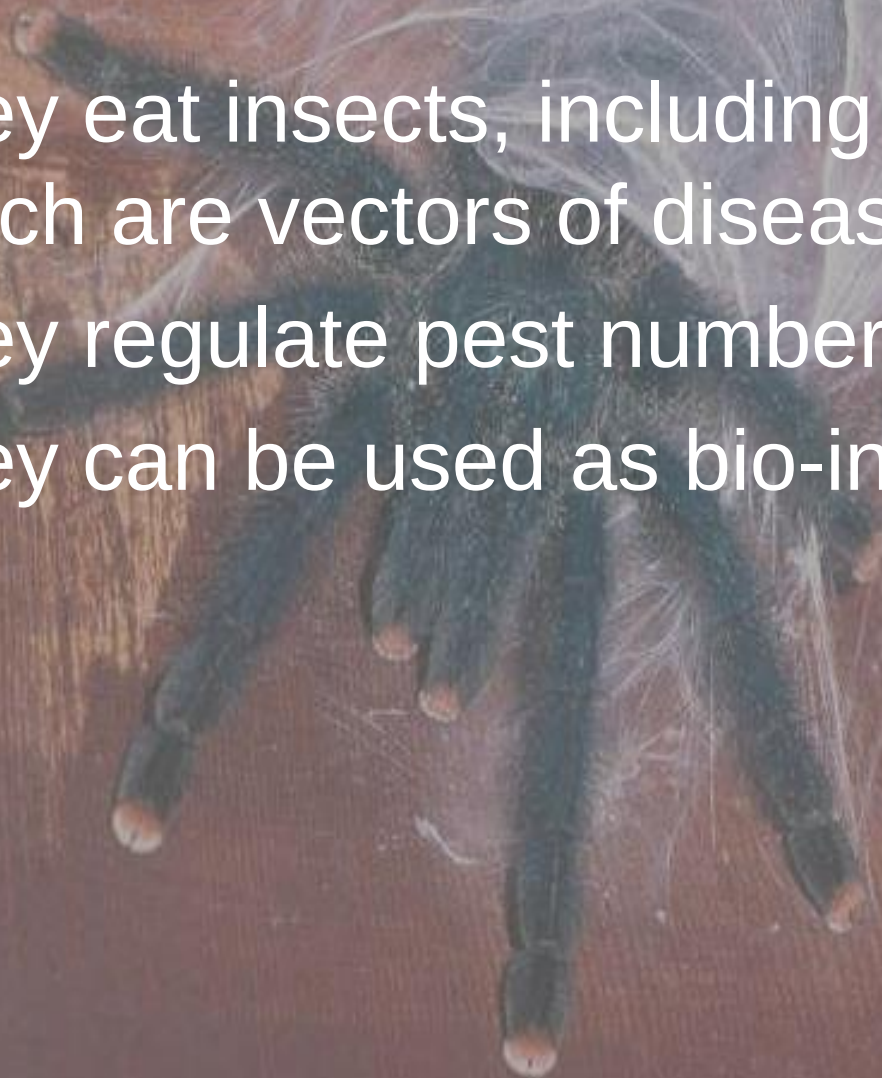
Cyclosa sp.



Argiope argentata with
prey

So what good are spiders?

- They eat insects, including mosquitoes which are vectors of disease.
- They regulate pest numbers in crop fields.
- They can be used as bio-indicators



Acknowledgements

A tarantula spider with dark, hairy legs is positioned in the center of the frame. It is on a reddish-brown wooden surface. A large, intricate spider web is visible in the upper right corner, partially obscuring the spider's body. The background is a textured wooden surface.

This project was partially funded by a grant from the British Arachnological Society and a Percy Sladen Memorial Fund Grant from The Linnaean Society of London.

Thank you also to Greg Pereira, Alwin Dornelly and the staff and foresters of the Dept. of Forestry St. Lucia for facilitation and assistance.

A close-up photograph of a large, hairy tarantula spider resting on a weathered wooden surface. The spider is dark brown or black with very thick, light-colored hair covering its body and legs. Its legs are spread out, and its body is positioned towards the left side of the frame. In the background, a large, intricate web is visible, made of fine, silken threads that catch the light. The wood grain of the surface is clearly visible, showing some cracks and texture. The overall lighting is soft, highlighting the texture of the spider's fur and the web.

The End