Klamath Network Featured Creature

National Park Service
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Natural Resource Stewardship & Science
Klamath Network

Trogloraptor

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Trogloraptor marchingtoni

Field Notes

Recent Discovery

Legends of giant spiders haunting your spelunking dreams? As it turns out, there might be some truth to the fiction. *Trogloraptor marchingtoni*, the only described species in its genus and family (Trogloraptoridae), is believed to be a relict within the six-eyed spider superfamily Dysderoidea, and thus far has nearly exclusively been found deep inside caves in Oregon; the one exception is a juvenile spider found in the debris of old growth redwood forests in California. This juvenile, however, is likely a new species of *Trogloraptor,* awaiting discovery of the adult stage.

Trogloraptor means “cave robber” in reference to its hook-like tarsi (last segments on their legs), which are likely used to capture flying insects straight out of the air.



Photo: Trogloraptor spider with hook-like leg segments. From Griswold et al. 2012

General Description

This yellow-brown spider has a body length of 7–10 mm and a maximum leg span of 7.6 cm. Its abdomen is purple-brown. The flexible hooked tarsi are a very rare trait amongst spiders. Another unusual aspect of this spider: it has two rows of teeth! The last unusual *Trogloraptor* trait, marking it as a primitive spider, is that it only has two simple trachea on each side of its body, as opposed to its closest living relative, the goblin spider (Oonopidae), which has hundreds of tubes.

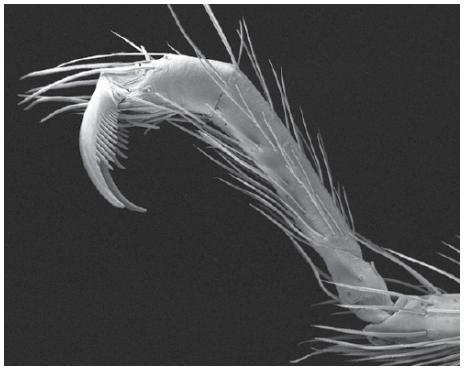


Photo: Close-up of the hook-like tarsus. From Griswold et al. 2012

Ecology

Trogloraptor webs are but a few strands hung from the roofs of caves. Griswold, lead author of the first study on *Trogloraptor,* believes that they probably hang upside down on their webs, similar to the Nelson cave spider of New Zealand (*Spelungula cavernicola*), and snatch their prey out of the air. However, exactly what they consume is unknown. In captivity, they were offered moths, crickets, and other spiders, but the *Trogloraptor* starved after two weeks, suggesting that they prefer something specific. Human blood…? Unlikely! While it does have venom glands, there is no evidence showing that *Trogloraptor* venom is harmful to humans. Rather, the spider seems quite stage shy and scuttles away when it finds itself in the spotlight of flashlights.

Where Found in Klamath Network:

One juvenile *Trogloraptor* (though likely not *T. marchingtoni*) was found in Jedediah Smith State Park. Given the habitat where this family of spiders has been found, perhaps *Trogloraptor* is yet to be discovered in Oregon Caves National Monument.

Fun Facts

— The name, *marchingtoni*, was given to the spider in honor of amateur cave biologist and Deschutes County deputy sheriff Neil Marchington, one of the original discoverers of the spider.

— Don’t think seven centimeters is big? They’re probably more surprising when they’re hanging from the ceiling on just a few strands of silk above your head, backlit by your headlight.

— Griswold speculates that the spiders might have had a wider range fifteen million years ago, with the redwood forests extending further east than they do today. But when this forest area decreased, so did the habitat of *Trogloraptor*, and the species might have then retreated into caves.

References and Further Reading

Griswold, C. E., T. Audisio, and J. M. Ledford. 2012. An extraordinary new family of spiders from caves in the Pacific Northwest (Araneae, Trogloraptoridae, new family). Zookeys 215: 77–102.

http://www.pbs.org/newshour/rundown/this-picture-shows-the/