



# Time for Nature



## Not afraid of spiders

### Arachnologists at work in Waterton Lakes National Park of Canada

John and Kathleen Hancock know a few things about spiders. They even have a spider named for them. *Ischnocolus hancocki* is a handsome species they discovered in Morocco. The husband and wife team of arachnologists has been busy cataloguing the spider species of Waterton Lakes National Park of Canada.

Originally from Britain, the couple moved to Alberta in 2000, where they set to work studying the province's spider population. They wanted to work in an undisturbed natural environment, and Waterton fit the bill. With its diverse vegetation, the park promised to have a variety of spider species.

### Why study spiders?

Spiders are "the top predators of the invertebrate world," says John. They can tell us a lot about the quality of our environment. If predators are doing well, the species they prey upon are probably healthy. And if the prey are healthy, likely the plants that support them are too.

Scientists commonly study large mammal predators such as the grizzly bear or cougar to determine the health of the ecosystem as a whole. The predator serves as an indicator of ecosystem health.

John maintains that spiders are important indicators at a smaller scale. While large mammals can indicate the health of larger ecosystems, spiders can provide information about the many smaller habitats in the landscape. We need to study creatures small and large to get the whole picture.

And besides, spiders are pretty cool in their own right. Consider Waterton's rare jumping spider, *Chalcoscirtus carbonarius*. With their big eyes, jumping spiders watch you watching them. Most live in the tropics or sub-tropics, but this one is found at over 2200 m elevation, where it lives under the snow much of the year.



*Phippus borealis* is one of the jumping spiders found in Waterton Lakes National Park. © John Hancock.



*Amaurobius borealis* is a blue silk spider found in Waterton. © John Hancock.



## Impressive results

By 2005, the Hancocks had tentatively identified over 400 species of spiders at Waterton. Some of these have yet to be confirmed because it is best to find both a male and a female to determine a spider's species. Of these, 74 species are new to Alberta and 7 have never before been recorded in Canada.

“Waterton Lakes National Park's arachnids appear to be very diverse and in great numbers,” says John. There may be as many as 700 species in all. This is pretty impressive, given that Canada as a whole is home to some 1400 known species of spiders.

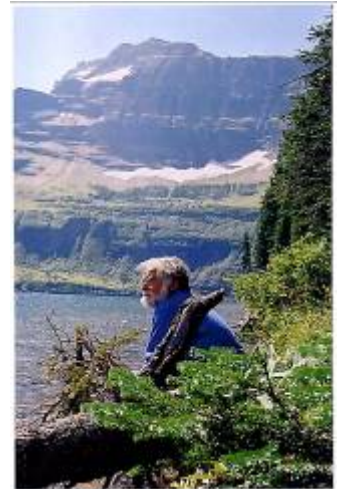
## Big plans for small creatures

John and Kathleen aren't finished studying spiders yet, though! They plan to continue their work to develop a detailed database on the spiders of Alberta. This will be a valuable aid to students and biologists, as well as Parks Canada.

## A school for spider lovers

The Hancocks like to spread the word, “to educate the public about the importance of the very small life forms with which we share the countryside.” That's why they started their Spider School Web site. (Check out the Spider of the Month.)

For more information visit [www.pc.gc.ca/waterton](http://www.pc.gc.ca/waterton)



John Hancock relaxing in Waterton: Is he thinking about spiders? © Geoffrey Hancock.