

# **Georgia Basin Bog Spider Fact Sheet**

## *(Gnaphosa snohomish)*

Produced by: Madison Gbur and Sonja Leafloor

**English name:** Georgia Basin Bog Spider

**Scientific name:** *Gnaphosa snohomish*

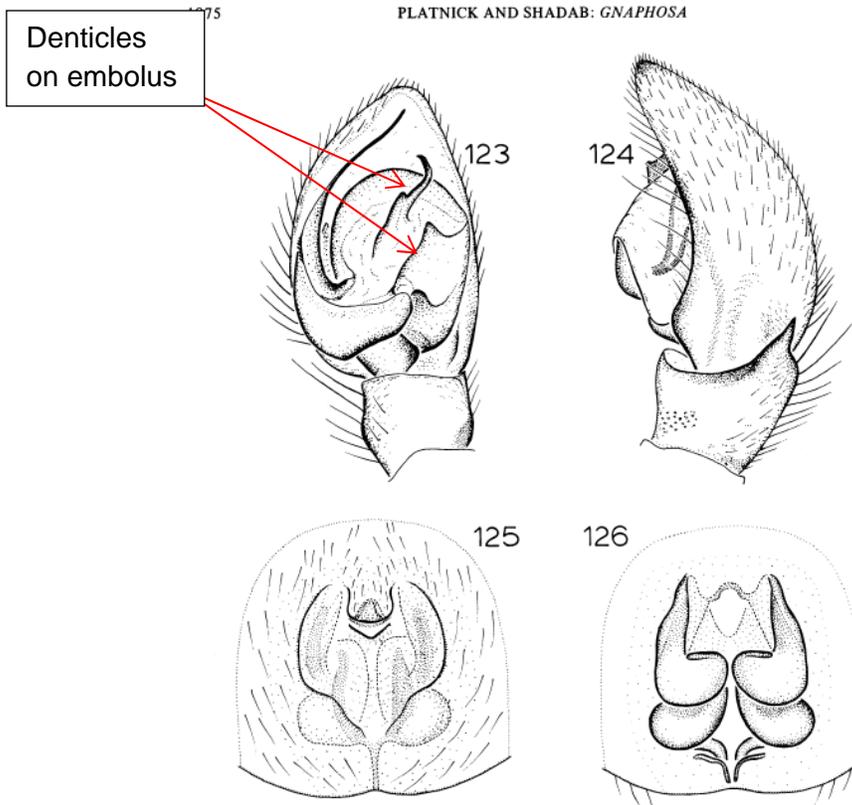
**Family Other English names:** Gnaphosidae, Ground Spiders

### **Wildlife Species Description and Significance:**

As of 1999 there were 12 species of *Gnaphosa* spiders within Canada, 6 of which are found in BC (Bennett, 1999.) Georgia Basin Spiders can be from 6 to 12 mm in length and usually have a light brown to dark chestnut brown carapace, abdomen, and legs. . The legs are covered in hairs (setae). Georgia Basin spiders are only found in Bog habitats and one Cattail marsh location. Non-bog specimens are thought to be ballooning incidences (i.e.: not indicative of its natural habitat.) Since the Georgia Basin Spider has such a limited distribution and particular habitat, it is very susceptible to environmental changes.

### **Identification tips:**

Males are relatively smaller in size than females (approximately 6-7mm total length in males, and 7-9mm total length in females.) The Georgian Basin Species most closely resembles a species called *Gnaphosa antipola*, found in much higher altitudes. The main distinguishing feature between the two species is as smaller embolus with denticles on the Georgia Basin spider (Figure 1). The full classification of this ground spider apart from other species of its genus requires analysis of the genitalia. In the field, a general guess of species could be made based on the habitat where the specimen was found. The best option for identifying this species would be to collect and preserve a specimen and send it to the BC museum for Identification.



FIGS. 123-126. *Gnaphosa snohomish*, new species. 123. Palp, ventral view. 124. Palp, retrolateral view. 125. Epigynum, ventral view. 126. Vulva, dorsal view.

Figure 1: Genitalia description of male and female *snohomish* species. 123-124 male palp. 125-126 female epigynum. (Platnick & Shadab, 1975)

### Distribution:

The Georgia Basin Spider is limited to the Georgia Basin and Western Washington State. Local occurrences have been reported in the Gulf Islands, south Vancouver, and one occurrence on southern Vancouver Island (Island View Beach.) All but one known location where this species is found are below 3 metres above sea level. Figure 2 shows the distribution of the Georgia Basin spider based on known specimen collections.

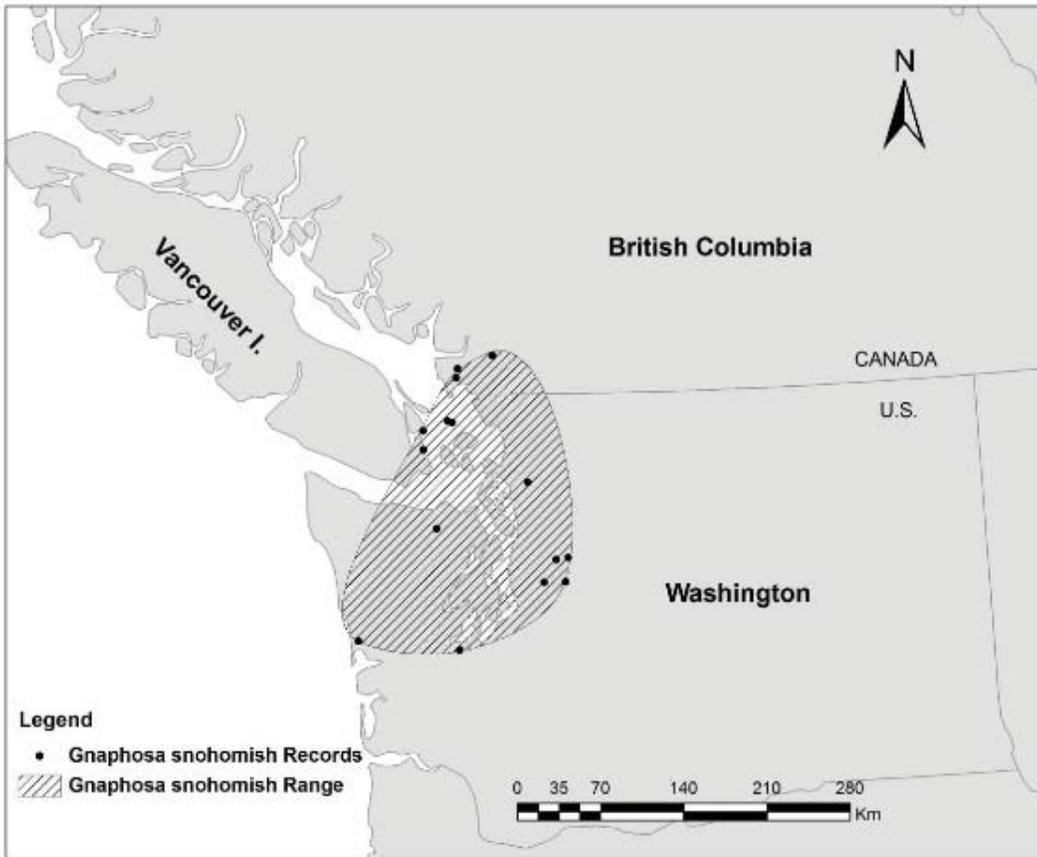


Figure 2: Global Distribution of the Georgia Basin Bog Spider, produced by Robb Bennett. (COSEWIC 2012)

**Habitat:**

The Georgia Basin spider is most commonly found in peatlands throughout the Georgia Basin and Western Washington. It was also found in one cattail marsh site on Tumbo Island (gulf islands). This spider is a nocturnal predator and would most likely be found at night, as during the day, it is likely to be beneath organic debris.

**Life history:**

The largest population was found to be at an old cranberry bog beside the Fraser River in Burnaby, BC. The site has since been redeveloped (July 2007) and it is unknown whether the population still exists in this location. Any non-bog occurrences are thought to be ballooning events, and are not considered the spiders' primary habitat. Much more research is necessary to develop a cohesive understanding of the Georgia Basin Spiders life history. Since its populations

are declining, there is becoming less and less opportunity to understand this species.

### **Why is this species at risk?:**

The Georgia Basin Bog spider has an incredibly limited global distribution. The main threat to this species' habitat is susceptibility to sea water inundation, as they inhabit bogs that are less than 3 meters above sea level. Secondary threats include peat removal, the diversion of water from the spiders' habitat, agricultural pollutants, and urban encroachment. The current reduction in numbers of this species is directly attributed to human activities.

### **What can be done to help this species?:**

The threat of greatest concern for this species is sea water inundation caused by rising sea levels. Reducing the causes of sea level rise is foremost solution to preserving the species. Further distribution research and habitat study could help in the development of protection strategies. Protecting rare bog habitats is another option to prevent extirpations of this species. Preventing changes in drainage patterns and limiting development near bogs could keep the species from extinction. This is a fairly new and understudied species of ground spiders, as such; we are unable to tell how many more species share the peat bog ecosystem habitat and thus warrants further protection of bog habitats.

### **Protection, status, and ranks:**

The Georgian Basin Bog Spider is classified by COSWEIC as Special Concern. It has a NatureServe ranking of nationally and globally imperilled (Encyclopedia of life); there remains no legislation which protects this spider's habitat. More research is required to better understand the exact distribution of this species of ground spider, as well as how big or small their numbers may be. In some cases, the species in some areas may already be extirpated due to development of areas previously occupied by bog habitats. It is recommended for identification and distribution purposes, that specimens be sent to the Royal BC museum for ID and study.

### **References:**

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