

# Preliminary *Bombus* sp. Surveys & Data Collection

Sherry Surrette, Ph.D.  
Mississippi Natural Heritage Program



# Program History

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- 1974 – Wildlife Heritage Committee Created

- 1976 – MS Natural Heritage Program Established

Created by MS Bureau of Outdoor Recreation, Heritage Committee & The Nature Conservancy

One of the 1<sup>st</sup> three NHP Program in U.S.

- Natural Heritage Law Passed

Established Natural Areas Program

Full administration of NHP assumed by MS Department of Wildlife Fisheries and Parks

Offices were moved of the MS Museum of Natural Science

# Current NHP Staff Members

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# Current Program Responsibilities

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- Database Management – current database contains over 30,000 occurrence records
- Environmental Reviews: Performed over 700 reviews in 2009. Charge \$45/review to private industry
- Natural Areas Registry - approx. 80 registries
- Scenic Streams Program - 10 state designated streams

# *Bombus* Sp. Of Mississippi

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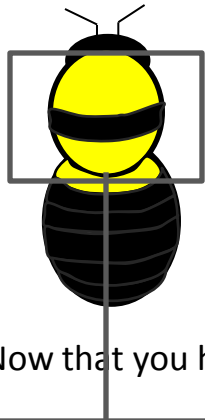
# Mississippi Natural Heritage Program

## Quick Guide to the Bumble Bees of Mississippi

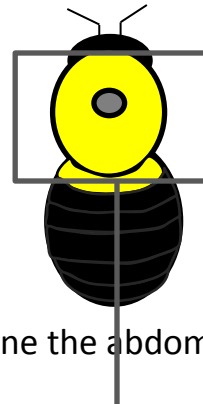


Step 1) Look at the bumblebee's thorax. Most all bumblebees in Mississippi fit one of the categories listed below. Selection of a thorax will really help to narrow down your options.

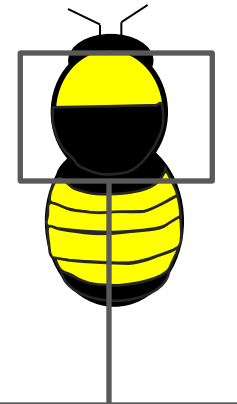
- a) Completely yellow; a small bare area might be present in center of thorax



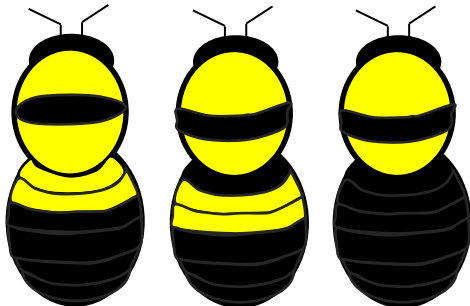
- b) Thorax banded above and below with yellow; center black band present.



- c) Upper portion of thorax banded in yellow, remainder in black.



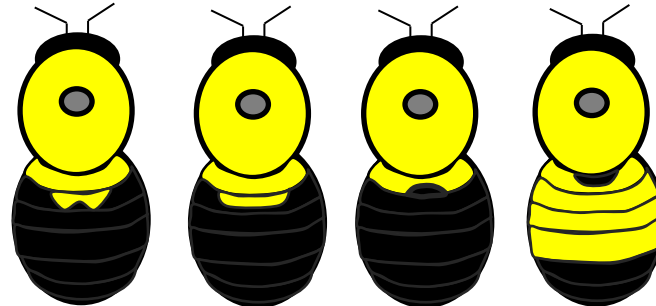
Step 2) Now that you have selected a thorax, examine the abdomen of your bumblebee



*Bombus fraternus*

*Bombus auricomus*

*Bombus variabilis*

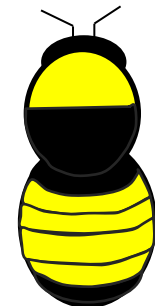


*Bombus bimaculatus*

*Bombus griseocollis*

*Bombus impatiens*

*Bombus nevadensis*



*Bombus pennsylvanicus*

# *Bombus* sp. Surveys & Data Collection

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- Bees of the Eastern United States

Theodore B. Mitchell (1960)



- **There is evidence of “lessened numbers of native bees”**
- **“ Some studies indicate that native bee species are more effective pollinating agents than the honey bee with respect to certain crops”**
- **“The native bee fauna probably is much more important than the honey bee in the conservation of wild life and game management”**

# *Bombus* spp. potentially found MS according to Mitchell

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- 1) *Bombus bimaculatus*
- 2) *Bombus fraternus*
- 3) *Bombus nevadaensis*
- 4) *Bombus auricomus*
- 5) *Bombus pennsylvanicus*
- 6) *Bombus grisecollis*
- 7) *Bombus impatiens*
- 8) *Bombus fervidus*
- 9) *Bombus perplexus*
- 10) *Bombus vagans*
- 11) *Bombus sandersoni*
  
- 12) *Bombus (Psithyrus) citrinus*
- 13) *Bombus (Psithyrus) variabilis*

# *Bombus* spp. found MS according to MSU Entomological Museum & MMNS Collections

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Based on 1,264 occurrence records from 1905 to 2009

**Bombus bimaculatus**

**Bombus fraternus**

Bombus nevadaensis

**Bombus auricomus**

**Bombus pennsylvanicus\***

**Bombus grisecollis**

**Bombus impatiens**

Bombus fervidus\*

Bombus perplexus

Bombus vagans

Bombus sandersoni

Bombus (*Psithyrus*) citrinus\*

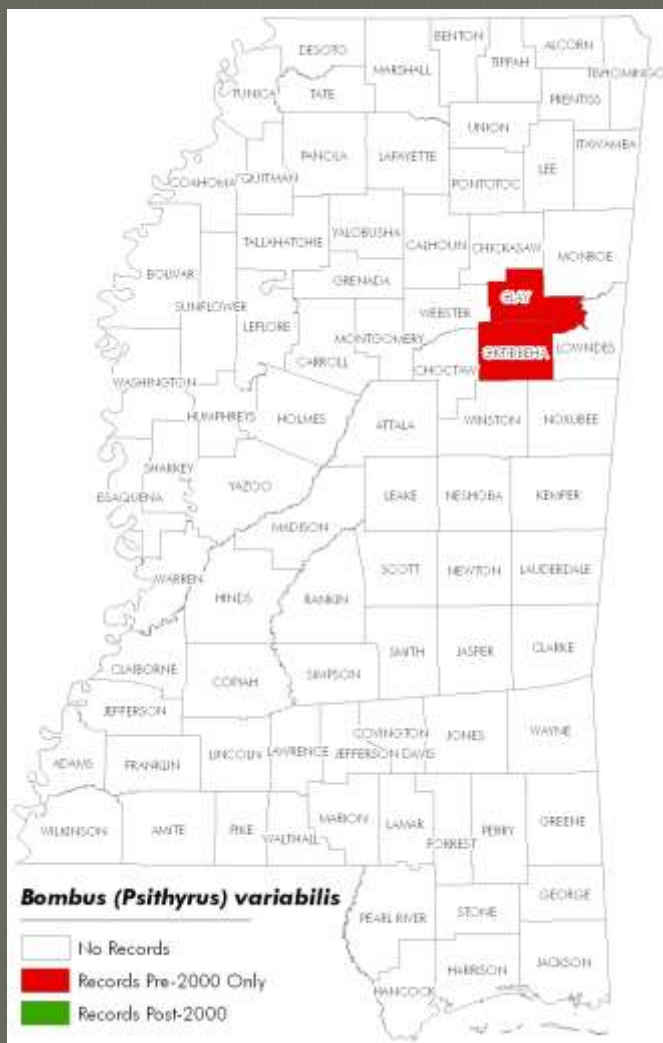
**Bombus (*Psithyrus*) variabilis**

\* - NatureServe occurrence request list



# Most Rare *Bombus* Spp. Identified

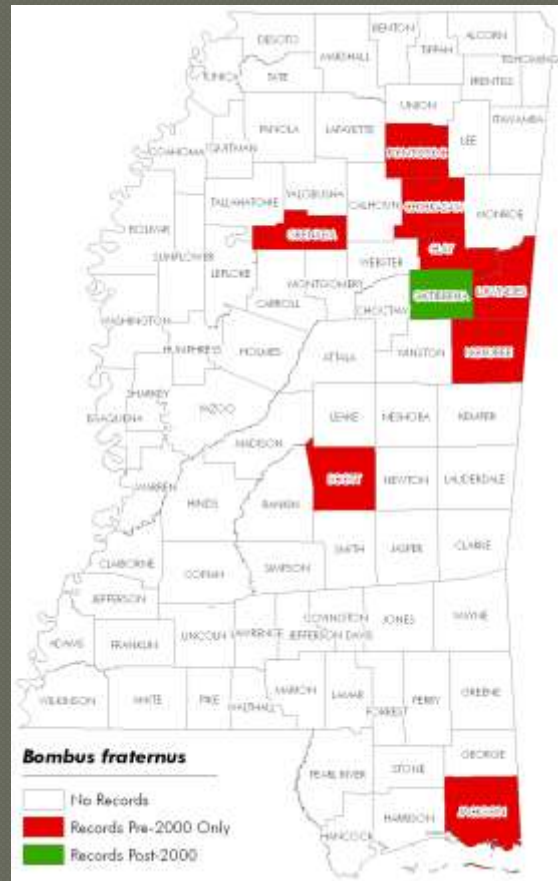
(based on no. of records)





# All Other *Bombus* Sp.

(based on no. of records)



## 2010 -Future Work

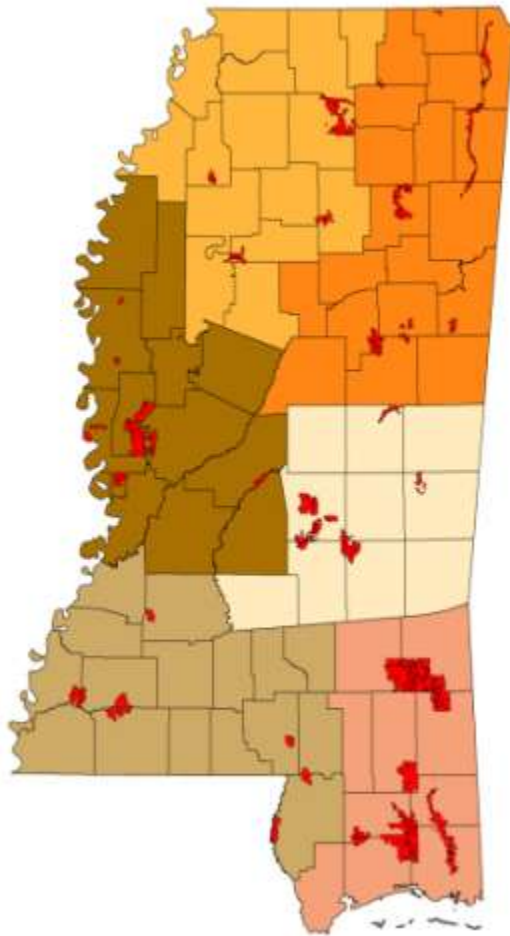
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- Identify previously collected occurrence records

### Potential Sources:

- University of Mississippi Collections
- University of Southern Mississippi Collections
- Thad Cochran Southern Horticulture Lab. – Dr. Blair Sampson

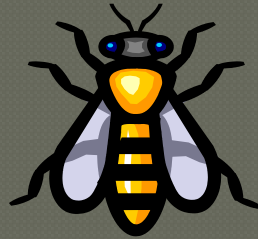
# 2010 – *Bombus* sp. Surveys



- 42 Wildlife Management Areas owned and/or operated by MDWFP
- Collecting 10 to 15 *Bombus* specimens per WMA
- Eventually collect 10 to 15 *Bombus* sp. at 42 disturbed sites that do not provide adequate habitat.

# Thank You!!

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Any Questions  
or Suggestions?