

Additional Notes On Indiana Bumble Bees (Bombidae, Hymenoptera)¹

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In a previous paper by the author (1), fifteen species and three color varieties of Bombidae were listed as occurring within the state. Three of these species were listed without definite state records. Studies of additional material have resulted in definite records of two of these species, *Bombus ternarius* Say and *Psithyrus ashtoni* (Cresson), as well as one other species of *Bombus* and two color varieties of *Bombus* heretofore unrecorded. New locality records for a number of species already known to occur are also given.

Species and Color Variants New to Indiana

Bombus affinis var. *novae-angliae* Bequaert. This is a color variant of *B. affinis* Cresson and is known only from the worker and male castes. It differs from the typical species by the presence of some ferruginous pile on some of the abdominal tergites after the second. The Indiana specimen is a male and has the apical portion of the third abdominal tergite and the basal portion of the fourth abdominal tergite covered with ferruginous pile.

The specimen was collected by Prof. R. T. Everly of Purdue University in Miami County, two miles north of Peru. It was taken September 14, 1950 on aster. A typical male of *B. affinis* was taken on an adjacent goldenrod at the same time.

Bombus bimaculatus var. *ridingsii* Cresson. This color variant differs from the typical *B. bimaculatus* Cresson by the presence of yellow pile on some of the abdominal tergites after the second. The Indiana specimen is a male that has the fourth abdominal tergite entirely covered with yellow pile. It was taken on *Mentha* sp. by the author in Ripley County (Friendship) on July 11, 1951.

Bombus ternarius Say. A considerable amount of controversy has arisen in regard to the presence of this species within the state. Say, in his original description, noted "Inhabits Indiana". Franklin (2) doubted that it occurred in Indiana and Chandler (1) did not know of a record of its occurrence.

¹ The author wishes to express his sincere appreciation to those persons who contributed specimens for this study; especially Mr. Charles Everly, Prof. R. T. Everly, Prof. G. E. Lehker, Dr. B. E. Montgomery, and Mr. Paul Roth.

Since this paper went to press a worker of *B. borealis* Kirby, taken by John Payne, a Purdue student, has been studied. This specimen was taken July 23, 1951 from the insect drift of Lake Michigan at Miller's Beach, Gary, Lake County. This is the first record of a worker of this species from Indiana.

During the 1951 Indiana State Fair, a 4-H insect collection belonging to Miss Florence Augustin of Newton County (Morocco) contained a worker of this species labeled "Newton County, Ind., 7-18-50, on flower". The specimen was removed, and arrangements are being made by Profs. G. E. Lehker and R. T. Everly to have the specimen deposited in the Purdue University collection.

Bombus terricola Kirby. A worker of this species, taken in St. Joseph County, was given to the author by Mr. Paul Roth, a student in forestry at Purdue. It was collected September 6, 1950.

The queens and workers of this species have the occiput black; the dorsum of the thorax yellow in front, the interalar region and scutellum black; pleurae black; the second and third abdominal tergites yellow; the remainder of the abdomen black, except for brown or light pile on the apical tergites. The males have some yellow pile on the face; thorax as in queens and workers; the second and third abdominal tergites yellow; the remaining abdominal tergites black, except for a considerable amount of light pile on the apical tergite.

Psithyrus ashtoni (Cresson). A male of this species was given the author by Mr. Paul Roth. It was collected on September 6, 1950 in St. Joseph County as was the worker of *B. terricola*. *P. ashtoni* is reported by Plath (4) to be an inquiline in the nests of *B. affinis* and *B. terricola*. Milliron (3) believes it to be most commonly inquilineous in the nests of *B. terricola* in Michigan.

New Locality Records of Bumble Bees Previously Reported from Indiana

Bombus affinis Cresson. Miami County

Bombus americanorum (Fabricius). DeKalb, Jefferson, Knox, Noble, St. Joseph, Scott Counties.

Bombus auricomus (Robertson). Clinton, DeKalb, Gibson, Howard, Jackson, Jefferson, Scott, White Counties.

Bombus bimaculatus Cresson. Jackson, St. Joseph Counties.

Bombus fervidus Kirby. DeKalb, Warren Counties.

Bombus fervidus var. *dorsalis* Cresson. Clinton, Fountain, Hendricks, Howard Counties.

Bombus fraternus (F. Smith). Fountain, Knox, Morgan Counties.

Bombus griseocollis (DeGeer). Carroll, Clinton, Jackson, Jefferson, Kosciusko, Scott Counties.

Bombus impatiens Cresson. Carroll, Clinton, Jackson, Jefferson, Miami, St. Joseph, Scott Counties.

Bombus vagans F. Smith. DeKalb, Miami, St. Joseph, Warren Counties.

Psithyrus laboriosus (Fabricius). Allen, Miami Counties.

Psithyrus laboriosus var. *citrinus* (F. Smith). Miami, Noble, Warren Counties.

Psithyrus variabilis (Cresson). Carroll, Ripley Counties.

No new state records of *Bombus borealis*, *Bombus perplexus*, or *Bombus vagans* var. *helanae* have come to the writer's attention. Neither has any definite record of the occurrence of *Psithyrus insularis* within the state been found.

A Note on a Melanic Queen.

While melanic specimens have been reported they are indeed rare. Franklin (2) reports seeing three such specimens, all queens, of *B. americanorum* and *B. auricomus*. The author has in his possession a melanic queen of *B. affinis* labeled "Tippecanoe County, April 16, 1925". As Franklin (2) states, the portion of the pile which is typically yellow is sooty and hard to differentiate from the black. Other than the abnormality of coloration, the specimen does not differ morphologically from normally colored specimens.

Literature Cited

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4. PLATH, O. E. 1934. Bumblebees and their ways. New York: The Macmillan Co., 201 pp. illust.