



## Research Paper

### Sighting of Giant Leopard Moth *Hypercompe scribonia* (Stoll, 1790) (Lepidoptera: Erebidae) from Middlebrook, Missouri, USA (North America), with systematic account and other aspects

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**Abstract:** The present communication deals with the sighting of *Hypercompe scribonia* (Stoll, 1790) the Giant Leopard Moth, belonging to subfamily Arctiinae (Family Erebidae, order Lepidoptera) from Douglas, Coffee County, USA, with systematic account and other aspects

**Keywords:** Sighting, Giant Leopard Moth, Douglas (Coffee County, Georgia, USA).

#### Introduction:

The moth fauna of North America was listed by Holland (1904) in his book 'The Moth Book'. The Arctiinae fauna (Lepidoptera: Erebidae) was catalogued by Ferguson & Opler (2006) with some taxonomic changes, later Schmidt and Opler (2008) revised the checklist of the tiger moths of the Continental United States and Canada and recorded five species under genus *Hypercompe* Hubner, 1819, from United

States, viz. *Hypercompe scribonia* (Stoll, 1790), the Giant Leopard Moth, *Hypercompe caudata* (Walker, 1855), *Hypercompe permaculata* (Packard, 1872), *Hypercompe suffusa* (Schaus, 1889) and *Hypercompe oslari* Rothschild (1910). The generic name and date followed here after Waston et al. (1980).

The moth fauna and other aspects of Missouri attracted the attention of various workers during the past (Munson, 1968; Dickerson and William, 1972; Wynne et al., 1991; Donahue, 1993; Chapman & Bruce, 1997; Takeda, 2005; Marquis et al., 2019; Haberyan, 2022; Steese et al., 2025) but not much is known about the moth diversity of Middlebrook.

Sometimes back, a good specimen of *Hypercompe scribonia*, the Giant Leopard Moth was sighted from Middlebrook, primarily a rural area, under Iron County and St. Francois Counties in Missouri (mid-

eastern US state) by Mr. Garrett Hargiss and recorded here with its systematic account, distribution and other aspects.

**Study Site: Middlebrook, Missouri, USA (North America).**

**Geography:** Middlebrook (37° 39' 45.94" N, 90° 38' 54.27" W; elevation 345 m/1132 ft), bordering Iron County and St. Francois Counties in Missouri (mid-eastern US state); primarily rural area, located near the St. Francis River tributary system; situated within Iron Mountain township; positioned along Missouri Route W, featuring nearby geographical features like First Creek; lies in mineral-rich Lead Belt region of Missouri; located ca. six miles north of Ironton, four miles east of Belleview and seven miles southeast of Belgrade and Caledonia.

**Climate:** Humid continental climate with cool, sometimes cold, winters and hot, humid, and wet summers, humid subtropical in southern part; often experiences extreme temperatures; highest recorded temperature 48 °C, lowest recorded -40 °C, both at Warsaw

**Flora:** *Elaeagnus umbellata*, the Autumn Olive (Family: Elaeagnaceae), an exotic invasive shrub in Ozark Highlands, widely planted in Missouri for wildlife food and cover; besides native shrubs and other vegetation.

**Systematic account, Distribution and aspects:**

***Hypercompe scribonia* (Stoll, 1790)**

*Phalaena scribonia* Stoll, 1790. Suppl. Cram. Pap. Exot./Aanhangsel Werk, *Uitl. Kapellen* (2-5): 177, 184, pl. 41, fig. 3.

*Bombyx chryseis* Oliver, 1790. *Encycl. Meth. Dict. Ins.*, 5: 58.

*Phalaena oculatissima* Abbot and Smith, 1797. *Nat. Hist. Lep. Ins. Georg.*, 2: 137, 69.

*Ecantheria scribonia*, Hubner, 1806. Sammlung exotischer Schmetterlinge *errichtet* (Sammal. Exot.

Schmett.) and Verzeichniss bekannter Schmetterlinge (Verz. Schmett.): 190.

*Ecantheria scribonia*, Gray, 1854. *List of the specimens of lepidopterous insects in collection of the British Museum*. Part I. Lepidoptera Heterocera. Catalogue of Lepidoptera Heterocera: 868; Holland, 1903. *The Moth Book, A popular guide to a knowledge of the moth of North America*: 120, pl. XVI, fig. 16; Fullard & Napoleone, 2001. *Animal Behaviour*, 62 (2): 353.

*Ecantheria confluens* Oberthuer, 1881. *Etud. d'Ent.*, 6: 110.

*Hypercompe scribonia scribonia*, Watson & Goodger, 1986. *Occ. Paper on syst. Entomology*, 1: 31.

*Hypercompe scribonia*, Schmidt and Opler, 2008. *Zootaxa*, 1677: 12; Fearnley, 2016. *Science NetLinks*.

**Common Names:** Eyed Tiger Moth, Giant Leopard Moth or Great Leopard Moth.

**Classification:** Class Insecta, order Lepidoptera, superfamily Noctuoidea, family Erebidae (formerly Arctiidae), subfamily Arctiinae, tribe Arctiini, subtribe Spilosomina, genus *Hypercompe* Hubner, 1819. *Samml. exot. Schmett.*, 1: pl. [191] (type-species: *Phalaena icasia* Cramer, 1777. *Uitlandsche Kapellen (Papillons exot.)*, 2: 130, 149, pl. 181, fig E (by subsequent designation by International Commission on Zoological Nomenclature, 1966. *Bull. zool. Nom.*, 23 (Opinion 789): 213. Suriname).

**Sighting:** Middlebrook, Iron County/St. Francois County, Missouri, USA (North America); 25.vii.2017; by Mr. Garrett Hargiss.

**Diagnosis:** A beautiful large white moth, characterized by hollow black spots.

**Description:** A beautiful large white moth with black spots, solid and hollow.

Adult: Wings bright white, fore-wings with numerous black and shiny blue spots, ring-

like or somewhat triangular with hollow white centers and a few black triangular/roundish spots; dark markings appear iridescent blue in light; hind-wings shaded with black along their inner edge and bear spots near outer tip; abdomen top with striking lines of iridescent metallic blue or black with orange or yellow stripes on sides/between segments, underside white with solid black dots; legs banded with black and white; males have a yellowish band along lateral sides of their abdomen.

Gray (1854: 689) noted ringlets on thorax and fore-wings vary in size, number and shape, their borders in some specimens thickened and in others occupy whole surface and convert ringlets to spots; spots of hind-wings also vary in size and number. Wing-span: males can have a wingspan up to 3 inches, with females being smaller ([www.google.com](http://www.google.com)); 2.25-3.50 inches ([mdc.mo.gov](http://mdc.mo.gov)); wing-span 76 mm (3 inches) ([en.wikipedia.org](http://en.wikipedia.org)).

Sexual dimorphism: spots of hind-wings fewer in male than in female and hind-wing of male slightly caudate and that of female hardly dilated (Gray, 1854: 689); males about two inches long, females slightly more than half that size (Fearnley, 2016/[www.aaas.org](http://www.aaas.org)); male about 51 mm (2 inches) in length, female grows up to 30 mm (1.2 inches) ([en.wikipedia.org](http://en.wikipedia.org)).

Caterpillar: Woolly bear- type caterpillar, black with red and orange bands between body segments (visible on curling), with shiny tufts of stiff black bristles on brownish tubercles of each segment; spiracles (small rounded openings on the side of each segment) orange or red; toxic, not generally poisonous but can cause mild irritation; hibernates during winter, spinning itself into a cocoon in spring season.

Size: 7.6 cm (3 inches) long (in Missouri) ([mdc.mo.gov](http://mdc.mo.gov)).

### **Distribution:**

#### **North America:**

Canada: Southern Ontario.

USA (southern and eastern):

Missouri state (mid-eastern part): Middlebrook, Iron County/St. Francois County (present record)

Rest of USA: Across the eastern and southern states- Michigan (upper mid-eastern), New England and New York (north-eastern), Missouri (mid-eastern), Florida and Georgia (south-eastern), North Carolina and South Carolina states (eastern) and Texas (south).

Mexico (North America).

**South America:** Colombia (north-western part); French Guiana [Guyane] (Cayenne capital city) and Suriname (south-eastern coast).

**Habitat:** Open areas, across fields, gardens, meadows, woodlands and forest edges.

**Food & Feeding:** Adults feed on nectar, sucking from flowers.

**Life-cycle:** Usually univoltine, taking one year to complete its life cycle; mating notably long-lasting, taking more than 24 hours; larvae over-winter under logs, barks of decaying wood or leaf litter and caterpillars becoming fully grown in early summer, going through pupation stage in thin cocoon that incorporates its own hairs. Multivoltine in Missouri population.

**Occurrence:** Adults generally seen during April/May-September.

**Habit:** Nocturnal, flies only at night. Fullard & Napoleone (2001) studied flight activity pattern in Nearctic lepidopterans including this species.

**Self-defense:** When handled or threatened, it may release drops of foul-tasting yellow fluid from its thorax to ward off predators.

**Larval Host Plants:** highly Polyphagous, feeding on a variety of broad-leaved plants: *Acer* (Maples), *Bougainvillea*, *Brassica*

*oleracea* (Cabbage), *Brumansia* (Angel trumpet), *Cannabis* (Hemp), *Citrus* (Lemon; orange), *Dioscorea* (Tuberous lianas), *Euphorbia* (Spurge), *Helianthus* (Sunflower), *Lagerstroemia* (Crepe myrtle), *Lactuca sativa* (Lettuce), *Lonicera* (Honey-suckle), *Magnolia* (flowerin plant), *Morus* (Mulberries), *Musa* (Banana), *Ocimum basilicum* (Basil), *Paulonia* (Princes tree), *Persea* (Avocado), *Phytolacca* (Pokeweed), *Plantago* (Plantains), *Prunus* (Cherries), *Pyrostegia* (Flame-vine), *Ricinus* (Castor), *Robinia* (Locusts), *Salix* (Willows), *Syringa* (Lilac), *Taraxacum* (Dandelion) and *Viola* (Sage-brush violet) (Fearnley, 2016; [www.google.com](http://www.google.com)).

**Remarks:** Slosson (1888) opined for a new variety *demudata* under *Ecpantheria scribonia*, found differing from forma typica in pellucid and denuded tips of both anterior and posterior wings and no more yellow on abdomen, which could be due to aging, however subject needs further investigation to reach any conclusion.

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By Garrett Hargiss [permitted]

Lives in Ironton, Missouri

Middlebrook, Iron County/St. Francois County, Missouri (MO), USA; 25.7.17; by Mr. Garrett Hargiss

Iron County/St. Francois County



**Figure: Hypercompe scribonia, the Giant Leopard Moth (photo credit Mr. Garrett Hargiss)**