

**A DESCRIPTIVE CATALOGUE OF
THE HARVEST SPIDERS
(PHALANGIIDAE) OF OHIO,
VOL. XVI, PP. 543-563, NO. 950**

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A descriptive catalogue of the harvest spiders (Phalangiidae) of Ohio, Vol. XVI, pp. 543-563, No. 950 by Clarence M. Weed

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CLARENCE M. WEED

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SMITHSONIAN INSTITUTION.
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A DESCRIPTIVE CATALOGUE OF THE HARVEST
SPIDERS (PHALANGIIDÆ) OF OHIO.

BY

CLARENCE M. WEED, D. Sc.,
Professor of Zoology in the New Hampshire College.

From the Proceedings of the United States National Museum, Vol. XVI, pages 343-363
(with Plates LVII-LXIX).

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1893.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in the context of public administration and government operations. The text notes that such records are not only required by law but also serve as a critical tool for monitoring performance and ensuring that resources are used efficiently and effectively.

2. The second part of the document outlines the various methods and tools used to collect, store, and analyze data. It highlights the need for robust information systems that can handle large volumes of data and provide real-time insights into organizational performance. The text also discusses the challenges associated with data integration and interoperability, particularly when dealing with legacy systems and multiple data sources. It suggests that adopting modern data management practices, such as cloud-based storage and data analytics, can significantly improve the quality and reliability of the information available to decision-makers.

3. The third part of the document focuses on the role of data in strategic planning and decision-making. It argues that data-driven insights are crucial for identifying trends, opportunities, and risks, and for developing effective strategies to address them. The text notes that organizations that fail to leverage their data effectively are likely to fall behind their competitors and miss out on valuable growth opportunities. It also emphasizes the importance of data security and privacy, particularly in the context of sensitive information and personal data. The text suggests that organizations should implement strong security measures and privacy policies to protect their data and maintain the trust of their stakeholders.

4. The fourth part of the document discusses the importance of data literacy and skills development. It notes that as the volume and complexity of data continue to grow, it is essential for individuals and organizations to have the skills and knowledge to effectively analyze and interpret this information. The text suggests that investing in data literacy training and education can help individuals and organizations stay up-to-date with the latest data management practices and tools, and improve their overall performance and competitiveness. It also emphasizes the need for a data-driven culture, where data is used to inform decision-making and drive continuous improvement.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It reiterates the importance of accurate record-keeping, robust information systems, data-driven decision-making, and data literacy. The text suggests that organizations that embrace these principles and practices will be better positioned to succeed in the digital age and achieve their long-term goals. It also notes that the field of data management is constantly evolving, and organizations should continue to stay up-to-date with the latest trends and technologies to maintain their competitive edge.

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A DESCRIPTIVE CATALOGUE OF THE HARVEST-SPIDERS (PHALANGIIDÆ) OF OHIO.

BY

CLARENCE M. WEED, D. SC.,
Professor of Zoology in the New Hampshire College.

(With Plates LVII-LXIX.)

The present paper is based upon a study of a large collection of harvest-spiders from all parts of Ohio, gotten together during the writer's connection with the Ohio Agricultural Experiment Station from 1888 to 1891. Most of the specimens were taken, by myself or my assistants, in Franklin County, in the central part of the State, but good series were also obtained from Butler, Cuyahoga, Fairfield, Fulton, and Warren counties, so that all the regions of the State are fairly well represented.

The Phalangiid fauna as a whole is quite similar to that of Illinois, which I catalogued in 1887.* It is very much richer in species than either New Hampshire on the north (six species) or Mississippi on the south (three species), both of which I have recently treated of.† The family seems to reach its maximum development in the latitude of central and southern Ohio.

The figures accompanying were drawn by Miss Freda Detmers, under my direction. Most of them have been used in previous papers, but some appear here for the first time. The localities are given by counties.

Family PHALANGIIDÆ.

Subfamily PHALANGIINÆ.

Members of this subfamily are Arachnids having the body composed of a single piece, and long, slender legs. The teguments are not coriaceous, though often quite solid. The segments are only indicated by striae, which are often obsolete. There are five ventral abdominal segments; a single anal piece, and two distinct lateral pores on the upper margin of the cephalothorax. The maxillary lobe of the palpus has two tubercles, and the epistoma is in the form of an elongated triangular plate.

* Bull. Ill. St. Lab. Nat. Hist., III, 97.

† Trans. Am. Ent. Soc., XIX, 261; Psyche, VI, 425.

The three genera found in Ohio may be distinguished as follows:

- I.—First joint of mandibles with a tooth on ventral surface near base,
 A.—Maxillary lobes of second pair of legs with a large base, impressed, straight and elongated, not attenuate, but rather a little enlarged from the base to the apex and very obtuse; claw of palpus denticulate *Liobunum*.
 B.—Maxillary lobes of second pair of legs forming elongated triangles, quite large at the base, then gradually retracted, not impressed, with anterior border straight; claw of palpus not denticulate *Mitopus*.
 II.—First joint of mandibles without tooth *Phalangium*.

Liobunum C. Koch, 1839.

Anterior and lateral borders of the cephalothorax smooth. Eye eminence rather small; smooth, or provided with small, slightly distinct tubercles; widely separated from the cephalic border. Lateral pores small, oval, and marginal. Anal piece large, transverse-oval or semi-circular, much wider than long, and much wider than the reflected borders of the eighth segment. Mandibles short, similar in the two sexes; first joint furnished at the base below with an acute tooth. Palpi simple; femur, patella, and tibia without any process and without projecting angles; maxillary lobe provided at the base with two strong conical teeth. Maxillary lobe of the second pair of legs very long, nearly straight from the base, not attenuated, directed mesad nearly horizontally, and united on the ventro-meson to the lobe from the opposite side without forming a sensible angle; the two together lightly arched on the cephalic border, and forming an even curve. Sternal piece large, slightly contracted between the fourth pair of coxae, gradually enlarging and obtusely truncate cephalad. Legs very long and slender; tibia of the second pair with a few false articulations. Palpal claw denticulate.

The species of *Liobunum* found in Ohio, with the exception of *L. bicolor*, may be distinguished by the following artificial key, which applies especially to the males. I have not seen mature specimens of this sex of *L. bicolor*, and so have not included it:

- | | |
|---|--------------------------|
| 1. Femur of front leg shorter than body | 3 |
| 2. Femur of front leg longer than body | 5 |
| 3. Dorsum grayish-brown, spotted | <i>maculosum</i> |
| 4. Dorsum reddish-brown, not spotted | <i>grande</i> |
| 5. Femur of palpus with a distinct spur on its outer ventro-lateral angle | <i>calcar</i> |
| 6. Femur of palpus without a spur | 7 |
| 7. A distinct black longitudinal central marking on dorsum | 9 |
| 8. No distinct black central marking | 11 |
| 9. Second legs 70-100 ^{mm} in length; southern | <i>vittatum</i> |
| 10. Second legs 45-70 ^{mm} in length; northern | <i>vittatum dorsatum</i> |
| 11. Body and legs cinnamon or yellowish-brown | <i>ventricosum</i> |
| 12. Body brown, legs black | 13 |
| 13. Palpi black | <i>nigropalpi</i> |
| 14. Palpi brown | 15 |
| 15. Second legs with a white ring at distal end of tibia | <i>longipes</i> |
| 16. Second legs black throughout | 17 |
| 17. Eye-eminence with two rows of many tubercles; body small | <i>politum</i> |
| 18. Eye-eminence with few tubercles; body of medium size | <i>nigripes</i> |

Liobunum vittatum (Say) Weed.

(Plate LVII, Figs. 1, 2; Plate LVIII.)

Phalangium vittatum Say, Jour. Phila. Acad., II, 65; Wood, Conn. Essex Inst., VI, 20; Underwood, Can. Ent., XVII, 168.*Liobunum vittatum* Weed, Am. Nat., XXI, 935; XXVI, 999; Bull. Ill. St. Lab. Nat. Hist., III, 85, 101; Psyche, VI, 426.

MALE.—Body 7^{mm} long; 4^{mm} wide. Palpi 7^{mm} long. Legs: first, 44^{mm}; second, 89^{mm}; third, 45^{mm}; fourth, 64^{mm}.

Dorsum reddish-brown, with a dark central marking, commencing at eye eminence and extending backward to the ultimate or penultimate abdominal segment. Contracting slightly near the anterior margin of abdomen, then gradually expanding until about the beginning of the posterior third of the abdomen, where it again slightly contracts. Ventrums slightly paler than dorsum, both finely granulate. Eye eminence a little wider than high, black above, canaliculate, with small black tubercles over the eyes. Mandibles light yellowish-brown, tips of claws black; second joint with short sparse hairs. Palpi long, reddish-brown; tarsal joints paler. Femur and patella arched; with two rows of rather-blunt, dark tubercles on the outer ventro-lateral surface; femur also having a few small subobsolete ones on its dorsal surface. Tibia with a similar row on its outer ventro-lateral surface, a short row on the distal portion of its inner ventro-lateral surface, and a short row on the proximal portion of its ventral surface. Tarsus pubescent, with a row of short, blunt, black tubercles on its inner ventro-lateral surface, extending from the base to near the apex. Legs black; coxæ reddish-brown, minutely tuberculate; trochanters with minute scattered tubercles; femora and patellæ with rows of small spines; tibiæ with very short hairs. Shaft of genital organ slender, subcylindrical, not broadened distally, but bent at an obtuse angle and terminating in a very acute point.

FEMALE.—Body 8-9^{mm} long; 5-6^{mm} wide. Palpi 5^{mm} long. Legs: first, 42^{mm}; second, 90^{mm}; third, 43^{mm}; fourth, 61^{mm}.

Besides its rounder body and much more robust appearance, it differs from the male as follows: Dorsum of a much darker shade of brown with less of the reddish tint, and the ventrum paler. Second joint of mandibles with fewer hairs. Palpi shorter, more slender, with the rows of tubercles on the tibia subobsolete, and that on the tarsus entirely wanting. Legs generally light-brown with black annulations at the articulations. Ovipositor whitish, with no dark color in apical rings.

Ohio: Lawrence, August, 1888; July, September, 1889; Warren, summer of 1889.

This abundant species is commonly found in the extreme southern counties of the State. It runs into the form described by Say as *Phalangium dorsatum*, now known as *Liobunum vittatum dorsatum*, and

* Amer. Naturalist, XXVI, 1004, in an article discussing at some length the geographical variations of this species.

it is difficult to draw the line between them. I have suggested* that it would be well to refer to *dorsatum* the forms from those localities in which the average length of the second pair of legs of the males is less than 70 or possibly 75^{mm}. According to this division most of the forms from the central and northern portions of the State would belong to *dorsatum*.

***Liobunum vittatum dorsatum* (Say) Weed.**

(Plate LVII, Fig. 3.)

Phalangium dorsatum Say, Jour. Phil. Acad., II, p. 86, Compl. writ., II, p. 13.

Wood, Conn. Essex Inst., VI, p. 18.

Liobunum dorsatum (Say). Weed, Amer. Nat., XXI, p. 935. Bull. Ill. State Lab. Nat. Hist., III, p. 43.

Liobunum vittatum dorsatum (Say). Weed, Amer. Nat., XXVI, p. 786.

This form differs from *L. vittatum* only in its smaller body and shorter legs. The average length of legs of seventeen specimens, taken at Columbus, was as follows: First, 35^{mm}; second, 69.8^{mm}; third, 35^{mm}; fourth, 50.2^{mm}. A very short-legged specimen of this form, from Dakota, is shown in Fig. 3, Plate LVI.

This is perhaps the most abundant representative of the family in the central and northern part of the State. "This species evidently passes the winter in the egg state, as it has never been taken during the winter or early spring months. The eggs of the northern form apparently do not hatch very early, probably not until May, and the young grow slowly. Occasionally I have found a fully developed one during the latter part of June, but generally they do not become mature until July. My collections show two half-grown specimens taken at Columbus, Ohio, July 30, 1888, and another collected in the same locality July 16, 1888, which is not fully developed.

"When very young these harvest-men seem to prefer the shelter of the grasses, low herbage, and rubbish piles, but as they grow larger they are to be found in a great variety of situations. In the prairie regions of central Illinois, where nearly all of the country is occupied by corn fields and osage orange hedges, the young are very common on the corn plants, where, as I have elsewhere surmised, they probably live upon the numerous small insects drowned in the moisture contained in the bases of the unfolding leaves, as well as on the corn plant lice (*Aphis maidis*). The full-grown individuals are to be found nearly everywhere, on bushes and trees in the woods, in meadows and pastures, along fences, and in sheds and outhouses. They occur abundantly from July to October.

"The only opportunity I have had of studying the long-legged southern form in the field was in southern Illinois during the autumn of 1886. Along the rocky ledges running across the State and through Union County, these harvest-spiders were exceedingly abundant, occurring everywhere on the rocks and ground. They were so numerous that as one walked in the open groves on the farm of Mr. Parker Earle they would run along in droves.

"This species, like others of its family, has the power of exuding from about the coxæ a liquid with a peculiarly disagreeable odor. This doubtless serves as a protection from birds and other enemies."*

Liobunum nigropalpi (Wood) Weed.

(Plate LIX.)

Phalangium nigropalpi Wood, Conn. Essex Institute, VI, 22-23, 39.

Phalangium nigropalpi Wood, Underwood, Can. Ent., XVII, 168.

Liobunum nigropalpi (Wood). Weed, Amer. Nat., XXIV, 918; Trans. Am. Ent. Soc., XIX, 187.

MALE.—Body 6-7^{mm} long, 4^{mm} wide; palpi 5^{mm} long. Legs: first, 40-51^{mm}; second, 75-92^{mm}; third, 39-48^{mm}; fourth, 60-70^{mm}.

Body elongate, narrowed posteriorly. Dorsum reddish brown, of a nearly uniform tint, with a faint central marking, and scattered yellowish spots; minutely tuberculate. Eye eminence black, slightly canalliculate, with a row of rather small, black, distant tubercles on each carina. Mandibles light yellowish brown, tips of claws black; second joint with sparse hairs. Palpi well developed; black, except tarsus, which is brownish; a row of tubercles on outer ventro-lateral surface of femur; femur, patella, and tibia each somewhat arched; a few tubercles on lateral surface of proximal portion of patella, and a row of flattened black tubercles on the inner ventro-lateral surface of tarsus; ventral surface of tibia clothed with stiff black hairs. Ventral surface, including coxæ, of nearly the same color as the dorsum, but a little lighter; coxæ tipped with white. Legs very long and slender; trochanters dark brown, more or less blackish; rest of legs blackish. Genital organ flattened, bent with a double bow-like curve, contracted at its distal extremity, and ending in a short acute point.

FEMALE.—Body 7.5^{mm} long, 4.5^{mm} wide; palpi 5^{mm} long. Legs: first, 37^{mm}; second, 70^{mm}; third, 38^{mm}; fourth, 51^{mm}.

Differs from male as follows: Body larger, rounder; central marking more distinct; inner distal lateral angle of patella more conical; row of tubercles on tarsus of patella obsolete; legs brown rather than black.

Fairfield County, September 20, 1890. This is a rare species for Ohio. The only time I have taken it in the State was at Sugar Grove on top of a wooded hill, where I saw several specimens running about on the fallen leaves.

Liobunum nigripes Weed.

(Plate LX.)

Liobunum verrucosum (Wood). Weed, Amer. Nat., XXI, 935; Bull. Ill. State Lab. Nat. Hist., III, 88-89, 102; Amer. Nat., XXIV, 918.

Liobunum nigripes Weed, Trans. Am. Ent. Soc., XIX, 190.

MALE.—Body 6.5^{mm} long; 4^{mm} wide; palpi 4.5^{mm} long. Legs: first, 27^{mm}; second, 50^{mm}; third, 28^{mm}; fourth, 30^{mm}.

* Weed, Amer. Naturalist, XXVI, 1004.