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The Spiders of South Dakota

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THE SPIDERS OF SOUTH DAKOTA

By

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Keys have been taken from publications by Comstock, Worley and Pickwell, Peckham and Chamberlin.

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INTRODUCTION

Characteristics of the Araneida.

Spiders constitute the order Araneida, which is one of the principal divisions of the class Arachnida. The Arachnida also includes scorpions, whipscorpions, pseudoscorpions, harvestmen, mites and ticks. Some of the distinguishing characteristics of the Araneida are as follows: The head and thorax are consolidated into a cephalothorax. The abdomen is unsegmented and joined to the cephalothorax by a short narrow stalk. There are six pairs of appendages on the cephalothorax: chelicerae, pedipalps with their basal masticulatory endites, and four pairs of walking legs.

The eyes are all simple and located toward the front of the cephalothorax. Usually there are eight eyes, but the number may be reduced to six, four, or two. A few cave species have no eyes. The eyes are usually arranged in two or three transverse rows. When the lateral eyes of a row are farther forward than the median eyes the row is said to be procurved. When the median eyes are farther forward than the lateral eyes the row is recurved.

The reproductive organs open on the ventral side of the abdomen near the base. In the female the two ovaries open through a common opening which is usually connected with a more or less complicated chitinous structure called the epigynum. In the male the reproductive opening is simple, but the palpi of the males are remarkably modified into organs for the transference of the seminal fluid to the female at

mating. The palpi of the male and the epigynum of the female are extensively used in classification. It is said that sometime before mating, the male spins a delicate sperm web; he emits the seminal fluid on the web, and takes up the fluid in his palps. In his courtship the male may drum upon the web of the female; he may gently stroke the female into submission; or he may perform an intricate dance to attract the attention of the female. The method of courtship seems to be constant with the species. The position of the male during mating is variable according to the species. The male may be on the back of the female or he may be below, and he may face forward or backward. The palps may be inserted simultaneously, or one at a time and alternately.

The spinnerets are usually six in number and located near the posterior end of the abdomen on the ventral side. On each spinneret is a spinning field on which are located many small spinning tubes. There are several different types of spinning tubes which produce different types of silk--such as draglines, swathing bands, hackled bands, and viscid threads. There are also a number of different kinds of webs: irregular webs, sheet webs, funnel webs, orb webs, and a number of specialized and combination types.

Economic Importance and Arachnidism.

Although spiders undoubtedly consume many insects, they are of little economic importance. However, the spider is often looked upon with fear, and spiders are often blamed for many of the bites and irritations actually produced by mites

and insects.

The first records of spider bites affecting man are in the history of early Europe. A small wolf-spider, Lycosa tarentum, supposedly bit many people. The symptoms were melancholy and death if a cure did not immediately follow. However, music inspired the individuals to dance, and a cure was effected when the spider poison supposedly passed off in the perspiration of the dancer.

Although all spiders are poisonous and have poison enough to weaken, paralyze, or kill their prey, comparatively few spiders have the power to pierce the human skin, and only a few have poison which is potent enough to seriously affect man. The spiders which are dangerous to man occur principally in the genus Latrodectus. Bites of the Black Widow, Latrodectus mactans (Fabr.), have been known to cause death to men, horses, camels, lizards, and many kinds of insects. The Black Widow poison is much more potent drop for drop than the poison from a rattlesnake. Considering the large number of Black Widow spiders, the number of cases of arachnidism is very small. In 1935 there were 615 reported cases of arachnidism with 38 deaths. Sheep and hogs are immune to the bite of the Black Widow, and sheep may be used to pasture infested areas as a control measure.

Human convalescent serum shows practically no neutralizing power against the venom of the Black Widow. However, an immune serum made from the body of the spider shows promise in laboratory experiments. A super-immune serum from sheep (Squibbs' Anti-Black Widow Spider Serum) has been recently

developed. In rats, 1 cubic centimeter of this sheep serum completely neutralizes 25 average lethal doses of venom.

In controlling the Black Widow, kerosene and creosote may be used as contact poisons, and calcium cyanide dust may be used on rock walls and wood piles to reduce their numbers.

Methods of Collecting and Preserving Spiders.

Methods of collecting are very important in obtaining a representative collection of spiders, as very common species may be easily overlooked due to their protective coloration, secretive habits, or obscure habitat. Several methods of collecting have been used in most of the areas where collections have been made. Sweeping with a net through grass, weeds, flowers, shrubs and low branches of trees is very productive. Many spiders have been obtained by watching for webs and picking the spider out of the web or sweeping through the web with a net. If the spider remains hidden in a retreat it can often be dug out or lured out by throwing an insect into the web. Spiders have been found in the following environments: on water, on aquatic plants, and on grasses and shrubs growing near water; on both conifers and deciduous trees growing near water, in ravines, and in dense woodlands; in curled leaves of trees and shrubs; on shrubs, herbs and grasses in the open and in woodlands; in grain fields; on flowers; on sides of cliffs and overhanging rocks; in webs on wire fences; under loose bark of dead trees and stumps; in webs enveloping dead twigs and dead weeds; under logs, stones, matted leaves, dung and debris on the ground; in cracks in the ground and in

gopher holes; in burrows in the ground; in barns, greenhouses and basements.

All specimens have been kept in small glass vials equipped with date and locality labels. Ninety five percent alcohol was used both as a killing agent and as a preserving agent except in a few cases in which the specimens were killed in a cyanide jar and later placed in alcohol. The glass vials have to be refilled with alcohol occasionally to replace the loss from evaporation.

CLASSIFICATION OF THE SPIDERS OF SOUTH DAKOTA

There are two superfamilies of spiders: the Avicularoidea which includes the tarantulas and trap door spiders, and the Argiopoidea which includes the true spiders. Except for the tarantulas which are sometimes imported with bananas, there have been no members of the Avicularoidea found in South Dakota.

KEY TO THE FAMILIES OF THE ARANEIDA

1. With a cribellum and calamistrum in the female ..... DICTYNIDAE

   Without cribellum and calamistrum 2

2. Eyes in 3 transverse rows; eyes of second row very small, and median eyes of first row much larger than other eyes; jumping spiders ..... ATTIDAE

   Eyes in 2 or 3 transverse rows; when in 3 rows the median eyes of first row are not much larger than other eyes, and eyes of second row are not much smaller than other eyes..3

3. Each tarsus with 3 claws; spiders spinning webs 4

   Each tarsus with only 2 claws; never spinning webs; lateral eyes rarely contiguous 11

4. Eyes in 2 transverse rows, more or less curved; tarsi without scopuli; posterior lateral eyes never much larger than eyes of front row 5

   Eyes usually in 3 rows; when in 2 rows the posterior median eyes are much larger than the eyes of the front row, or the tarsi are scopulate 9

5. Legs I and II long, with rows of 2 kinds of spines, one long, the other in between very short and curved ..... MIMETIDAE

   No such spine arrangement on legs 6

6. Upper spinnerets long and two-jointed; only the anterior median eyes are dark colored ..... AGELENIDAE

Upper spinnerets not long and two-jointed; lateral eyes often contiguous 7

7. Comb present on hind tarsus; legs usually without spines; abdomen often globose; maxillae inclined over labium.... THERIDIIDAE

No comb on hind tarsus; maxillae less inclined over labium; legs often spined 8

8. A striate or roughened area is present at base of mandibles on outer side; no accessory claws to tarsi; making irregular webs ..... LINYPHIIDAE

No striate or roughened area at base of mandibles on outer side but usually a condyle is present; accessory claws at tip of tarsi; orb-weaving spiders ..... ARGIOPIDAE

9. Only two eyes in anterior row, or, if four, then median eyes are very small and fully 3 times their diameter from lateral eyes ..... OXYOPIDAE

Four eyes in anterior row, median eyes never very much smaller nor as far from lateral eyes 10

10. Eyes in 3 rows, those of anterior row much smaller than the others; clypeus nearly vertical; no spur at tip of tibia of male palpus ..... LYCOSIDAE

Eyes in 2 curved rows, those of anterior row not so much smaller than the others; clypeus sloping; a spur at tip of tibia of male palpus ..... PISAURIDAE

11. Posterior median eyes black; anterior surface of first and second pairs of legs directed upward; second pair of legs nearly as long as fourth pair; cephalothorax broad and rather flattened ..... THOMISIDAE

Posterior median eyes pale, only the anterior median eyes dark colored; first and second pairs of legs with anterior surface not directed upward: second pair of legs often shorter than fourth pair 12

12. Lower spinnerets distinctly separated, rather long and prominent; maxillae with an obliquely transverse furrow or groove: abdomen often depressed ..... GNAPHOSIDAE

Lower spinnerets contiguous: maxillae usually without furrow, the outer side convex; abdomen more often cylindrical ..... CLUBIONIDAE

DICTYNIDAE

Dictynids

Most of the spiders having a cribellum and calamistrum belong to this family. These spiders construct irregular webs consisting of a framework of plain threads supporting an irregular network of the hackled band. The median furrow of the cephalothorax is longitudinal; the chelicerae are robust and are furnished with a lateral condyle; the anterior median eyes are dark in color, the others pearly white; the lateral eyes of each side are contiguous or nearly so. The tarsi of the legs bear three claws.

Key to genera of Dictynidae:

1. Sternum not prolonged behind between the posterior coxae; cribellum divided into two parts ..... Amaurobius

   Sternum extending between the hind coxae; cribellum undivided ..... Dictyna

AMAUROBIUS

Amaurobius americanus (Emerton) =(Titanoeca americana Em.)

Comstock, Spider Book, page 279

Collections:

Brookings, Sioux River, Sept. 12, 1937 - 2 immature

Elk Point, June 13, 1936 - 1 female nearly mature

Ft. Pierre, 10 miles south, Aug. 3, 1937 - 1 female

Spearfish, June 18, 1936 - 1 female

DICTYNA

The sternum extends between the hind coxae; the clypeus is much wider from before backward, than the diameter of the anterior eyes; the endites are moderately long and convergent.

These spiders are of small to moderate size and are the most familiar of the hackled-web weavers.

Key to species of Dictyna:

1. Females only 2 mm. long 2

   Females over 2.5 mm. long and usually more than 3 mm. long 3

2. Pale in color; mandibles of male with a large tooth on the front at the base: the tooth extends downward and is half as long as the claw of the mandible ..... Dictyna bicornis

   Dark in color; mandibles of male with only a slight tooth at the base ..... Dictyna brevitarsus

3. Tibia of male palpus as wide at distal end as it is long 4

   Tibia of male palpus not as wide at distal end as it is long 5

4. The two-spined process on tibia of male palp is as long as tibia is wide and is located on upper side of tibia; male tarsus and palpal organ large; (epigynum with angular or rounded-angular openings: abdomen of female covered with gray hairs) ..... Dictyna volucripes

   The two-spined process on tibia of male palp short and located on outer side of tibia; male tarsus and palpal organ small; (female abdomen white with gray or black, but without gray hairs) ..... Dictyna bostoniensis

5. Abdomen with central portion the lightest; darker at edges of dorsum 6

   Abdomen with a dark central band; lighter at sides of dorsum 7

6. Abdomen dark brown or reddish at sides; sternum light-colored ..... Dictyna foliacea

   Abdomen brown and darker at sides: sternum same color as abdomen ..... Dictyna frondea

7. Apophysis at base of tibia of male palpus bifid at tip..8

   Apophysis at base of tibia of male palpus not bifid at tip 10

8. Apophysis at base of tibia of male palpus much shorter than diameter of tibia 9

   Apophysis at base of tibia of male palpus nearly as long

as diameter of tibia; (female epigynum with oval openings: abdomen of female with a dorsal basal black mark and marked behind the middle with a pair of widely separated dark spots and then two very thick, dark chevrons) ..... Dictyna vincens

9. Domestic species ..... Dictyna sublata

Field species ..... Dictyna arundinaceoides

10. Apophysis at base of tibia of male palpus moderately long and erect; carapace and sternum pale brown to yellow ... Dictyna bellans

Apophysis at base of tibia of male palpus short; carapace dark reddish-brown and sparsely clothed with white scaly hairs; sternum dark brown ..... Dictyna vigilans

Dictyna bicornis Em.

Emerton, Trans. Conn. Acad. Arts & Sci. 20:141 (1915)

Collections:

Brookings, July 6, 1937 - 1 female

Aug. 16, 1937 - 1 immature

Dictyna brevitarsis Em.

Emerton, Trans. Conn. Acad. Arts & Sci. 20:140 (1915)

Collections:

Brookings, July 12, 1937

Deadwood, June 23, 1937 - 1 male

Martin, June 27, 1937

Dictyna volucripes Keyserling

Emerton, Common Spiders, page 210

Comstock, Spider Book, page 284

Collections:

Emery, Aug. 11, 1936 - 1 female: 8 im. (on sweet clover)

Sioux Falls, June 29, 1937 - 1 female

Wheeler's Bridge, June 14, 1936 - 2 males; 13 females and egg-sacs (on prairie weed)

Dictyna bostoniensis Em.

Emerton, Trans. Conn. Acad. Sci., 1888, v.7, page 447

Collections:

Belle Fourche, June 18, 1936

Brookings, Sept. 12, 1937 - 1 female (in garage)

July 12, 1936

Aug. 17, 1937

Aug. 23, 1937

Oct. 11, 1937

Dictyna foliacea (Hentz)

Comstock, Spider Book, page 284

Collections:

Brookings, Sept. 12, 1937

Sept. 16, 1937

Canton, June 12, 1936

State Game Lodge, June 24, 1937

Dictyna frondea Emerton

Emerton, Trans. Conn. Acad. Sci., 1888, v.6, page 276

Collections:

Elk Point, June 13, 1936

Jefferson, June 13, 1936

Kinnikinik, Aug. 4, 1937

Pierre, June 17, 1937

Springfield, June 14, 1936

Dictyna vincens Chamb.

Chamberlin, Annals Ent. Soc. Am. 12:243

Collections:

Deadwood, June 23, 1937 - 1 male

Dictyna sublata (Hentz)

Comstock, Spider Book, page 281

Collections:

Brookings, Oct. 6, 1937

Dictyna arundinaceoides Keys.

Keyserling, Verh. zool.-bot. Ges. Wien, 1883, v.33, p.665

Collections:

Belle Fourche, June 14, 1936

June 18, 1936

Bristol, June 22, 1936

Brookings, Sept. 12, 1937

Martin, June 27, 1937

Roswell, May 23, 1936

Waubay, June 22, 1936

Dictyna bellans Chamberlin

Chamberlin, Annals Ent. Soc. Am. 12:242

Collections:

Brookings, June 24, 1937

Aug. 23, 1937

Dictyna vigilans Gertsch and Ivie

Gertsch and Ivie, Am. Mus. Nov. #858, page 8

Collections:

Brookings, Aug. 17, 1937

Oct. 11, 1937

Deadwood, June 23, 1937

Dictyna new species (not yet described)

Collections:

Newell, June 19, 1936

Dictyna sp.

Collections:

Brookings, Aug. 23, 1937

Sept. 19, 1937

Oct. 1, 1937 - 1 im.

Oct. 24, 1937

Oct. 29, 1937 - 1 im. (under dung)

Nov. 18, 1937 - 1 im. male

ATTIDAE

Jumping Spiders

The jumping spiders are medium or small in size with a short body and stout legs furnished with two tarsal claws. They are easily recognized by their peculiar quick jumping movements and by the characteristic arrangement of the eyes. The eyes of these spiders are in three rows. The first row is composed of the anterior median and anterior lateral eyes of which the anterior median eyes are very large. The second row of eyes is composed of the posterior median eyes which are very small and often difficult to see. The posterior lateral eyes make up the third row. Many species of this family are conspicuously colored and iridescent.

Key to genera of Attidae:

1. Tibia and patella of third leg shorter than tibia and patella of fourth leg 2

   Tibia and patella of third leg as long or longer than tibia and patella of fourth leg ..... Pellenes

2. Small eyes (second row) situated midway between anterior lateral and posterior lateral eyes or nearly so 3

   Small eyes much more remote from posterior eyes than from anterior eyes 9

3. Sternum not greatly narrowed in front, the anterior coxae separated by a distance greater than the width of the labium 4

   Sternum narrowed in front so the anterior coxae are nearly touching: lower margin of cheliceral furrow armed with a compound tooth ..... Maevia

4. Quadrangle of eyes narrower behind than before; chelicerae with one tooth below ..... Stoides

   Quadrangle of eyes as wide or wider behind than before..5

5. Abdomen marked with three longitudinal white stripes ... Phlegra

   Abdomen not marked with longitudinal bands 6

6. Abdomen marked with transverse bands 7

   Abdomen not marked with transverse bands except sometimes a whitish band at base 8

7. Quadrangle of eyes occupying much less than one-half length of cephalothorax; posterior margin of anterior eyes in a straight or slightly procurved line...Salticus

   Quadrangle of eyes occupying one-half length of cephalothorax; posterior margin of anterior eyes in a recurved line ..... Dendryphantes

8. Labium plainly longer than wide; second row of eyes a little nearer the first than the third .....Pseudicius

   Labium not much longer than wide; second row of eyes halfway between first and third rows ..... Icius

9. Quadrangle of eyes much wider behind; cephalothorax very wide, the thoracic part shorter or at least no longer than cephalic part ..... Agassa

   Quadrangle of eyes with sides nearly parallel; thoracic part of cephalothorax longer than cephalic part 10

10. Cephalothorax more or less depressed behind the posterior eyes and furnished with a median furrow situated behind the eyes but before the middle of the thoracic part...11

    Cephalothorax not depressed behind the eyes; median furrow remote from the eyes, very small, obsolete; cephalothorax short and thick; two or three pairs of spines on tibia of first leg ..... Sassacus

11. Cephalothorax high, heavy and convex; first legs heavy and hairy, often fringed; large species, rarely less than 7 mm. long ..... Phidippus

    Cephalothorax not heavy; first legs not especially hairy; small species, rarely over 6 mm. long ....Dendryphantes

PELLENES

Pellenes sp.

Comstock, Spider Book, page 688

Peckham, Trans. Wisc. Acad. Sci. 16:535-570

Collections:

Ft. Pierre, Aug. 3, 1937 - 1 immature male; 1 im. female

MAEVIA

Maevia vittata (Hentz)

Comstock, Spider Book, page 694

Peckham, Trans. Wisc. Acad. Sci. 16:452

Collections:

Kinnikinik, Aug. 4, 1937 - 1 male; 1 immature female
(from trees and shrubs along Missouri River)

STOIDES

Stoides aurata (Hentz)

Comstock, Spider Book, page 674

Peckham, Trans. Wisc. Acad. Sci. 16:527

Collections:

Waubay, June 22, 1936 - 1 female

PHLEGRA

Phlegra leopardus (Hentz)

Comstock, Spider Book, page 688

Peckham, Trans. Wisc. Acad. Sci. 16:512

Collections:

Buffalo, June 20, 1936 - 1 immature male

SALTICUS

Salticus scenicus (Clerck)

Comstock, Spider Book, page 676

Peckham Trans. Wisc. Acad. Sci. 16:477

Collections:

Brookings, December, 1936 - 1 immature
May 27, 1937 - 1 male
July 2, 1936 - 1 female
Aug. 7, 1937 - 1 female (in barn)
Aug. 21, 1937 - 2 immature

Salticus scenicus cont'd

Brookings, Oct. 11, 1937 - 1 immature

DENDRYPHANTES

Dendryphantes capitatus (Hentz)

Comstock, Spider Book, page 686

Peckham, Trans. Wisc. Acad. Sci. 16:469

Collections:

Brookings, Sioux River, Sept. 11, 1937 - 1 male

Sept. 16, 1937 - 1 male

Canton, Newton's Hills, June 12, 1936 - 1 male

Elk Point, June 13, 1936 - 1 female

Martin, June 27, 1937 - 2 males

Springfield, June 14, 1936 - 1 female

State Game Lodge, June 24, 1937 - 1 male; 2 females

Dendryphantes sp.

Collections:

Brookings, Sioux River, Sept. 16, 1937 - 4 immature

Kinnikinik, Aug. 4, 1937 - 25 immature

Newell, June 19, 1936 - 1 immature female

State Game Lodge, Ju e 24, 1937 - 2 immature females

PSEUDICIUS

Pseudicius sp.

Collections:

Kinnikinik, Aug. 4, 1937 - 1 female

This species is probably a species which was originally described from North Dakota. The female has been previously unknown. (From trees and shrubs along Missouri River)

ICIUS

The cephalothorax is not very high and only slightly convex, with the sides usually nearly parallel. The ocular quadrangle occupies less than half the length of the cephalothorax. The abdomen is iridescent or metallic.

Key to species of Icius:

1. Males 2

   Females 3

2. A black spot and a tuft of black hairs at distal end of tibia I; tube of palpus slender ..... Icius elegans

   No black spot or tuft on tibia I; tube of palpus stout... Icius similis

3. Abdomen with a white band around front end; no white on abdomen except basal band; legs with longitudinal stripes ..... Icius elegans

   Abdomen without white band around front end ..... Icius similis

Icius elegans (Hentz) =(Tutelina elegans)

Comstock, Spider Book, page 673

Peckham, Trans. Wisc. Acad. Sci. 16:499

Collections:

Bonesteel, June 28, 1937 - 2 males; 2 females

Canton, Newton's Hills, June 12, 1936 - 3 immature

Elk Point, June 13, 1936 - 1 male

Pierre, Farm Island, June 17, 1937 - 3 immature

Icius similis Banks =(Tutelina similis)

Comstock, Spider Book, page 673

Peckham, Trans. Wisc. Acad. Sci. 16:498

Collections:

State Game Lodge, June 24, 1937 - 2 males

Icius sp. =(Tutelina)

Collections:

Ardmore, June 26, 1937 - 1 immature male

Brookings, Sept. 24, 1937 - 1 immature

Sept. 30, 1937 - 1 immature

Kinnikinik, Aug. 4, 1937 - 1 female

AGASSA

Agassa cyanea (Hentz)

Comstock, Spider Book, page 687

Peckham, Trans. Wisc. Acad. Sci. 16:590

Collections:

Bonesteel, June 28, 1937 - 1 female

Martin, Sand Hills, June 27, 1937 - 1 male

SASSACUS

Sassacus papenhoei Peck.

Comstock, Spider Book, page 686

Peckham, Trans. Wisc. Acad. Sci. 16:592

Collections:

Jefferson, June 13, 1936 - 1 female

Martin, June 27, 1937 - 2 females

Spearfish, June 18, 1936 - 1 immature

PHIDIPPUS

The cephalothorax is high, heavy and convex; the first legs are heavy and very hairy, and are often fringed. Spiders of this genus are above average in size for the family.

Key to species of Phidippus:

1. Abdomen red or marked with red 2

Abdomen not red or marked with red 5

2. Males 3

   Females 4

3. Cephalothorax black and white ..... Phidippus insignarius

   Cephalothorax black, with inconspicuous black, brown or gray hairs; abdomen red with black band...Phidippus clarus

4. Cephalothorax dark with white hairs or bands on sides .... Phidippus insignarius

   Cephalothorax red above; abdomen with two black bands and distinct white basal band ..... Phidippus clarus

5. Abdomen black, marked by a white basal band, a large more or less triangular central white spot behind which are two pairs of white bars; cephalothorax black ..... Phidippus audax

   Abdomen light gray with a broad dark central band which is marked with four pairs of white spots; cephalothorax with uniform covering of gray hairs ...Phidippus purpuratus

Phidippus insignarius (C. Koch)

Peckham, Trans. Wisc. Acad. Sci. 16:412

Emerton, Trans. Conn. Acad. Sci. 14:225

Collections:

Jefferson, June 13, 1936 - 1 female

Phidippus clarus Keys

Comstock, Spider Book, page 683

Peckham, Trans. Wisc. Acad. Sci. 16:398

Collections:

Wonderland Cave, June 17, 1936 - 1 male

Phidippus audax (Hentz)

Comstock, Spider Book, page 681

Peckham, Trans. Wisc. Acad. Sci. 16:389

Collections:

Brookings, June 20, 1937 - 1 female

June 21, 1936 - 1 female

Phidippus audax cont'd

Colman, July 9, 1937 - 1 female

Roswell, May 6, 1936 - 1 female

Phidippus purpuratus Keys

Comstock, Spider Book, page 683

Peckham, Trans. Wisc. Acad. Sci. 16:423

Collections:

Englewood, June 17, 1936 - 1 female; 4 immature females

State Game Lodge, June 24, 1937 - 1 male; 1 im. female

Phidippus sp.

Collections:

Brookings, Aug. --, 1936 - 1 immature male

Sept. 16, 1937 - 1 im. male (curled elm leaf)

Oct. 4, 1937 - 1 immature male

Brookings, Sioux River, Sept. 11, 1937 - 3 immature

Sept. 16, 1937 - 4 immature

Dixon, 10 miles north, Aug. 4, 1937 - 5 immature

Kinnikinik, Aug. 4, 1937 - 1 immature male

Springfield, June 14, 1936 - 1 immature female

MIMETIDAE

The members of this family are easily recognized by the armature of the tibiae and metatarsi of the first two pairs of legs. This armature consists of very long spines regularly spaced, with a series of much shorter spines between each two long spines. The short spines are curved, and spines of each series are successively longer. Only two species have been taken in South Dakota. Both of these species belong to the genus Mimetus.

MIMETUS

Key to species of Mimetus:

Males:

Outer margin of covering of palpal bulb with a chitinous, spiny process proximad of the curved apical one... Mimetus epeiroides

Outer margin of covering of palpal bulb without such a chitinous process ..... Mimetus interfector

Mimetus epeiroides Em.

Emerton, Trans. Conn. Acad. Sci. 6:17 (1882)

Collections:

Brookings, Aug. 24, 1937 - 1 female

Mimetus interfector Hentz

Comstock, Spider Book, page 519

Emerton, Trans. Conn. Acad. Sci. 6:16 (1882)

Collections:

State Game Lodge, June 24, 1937 - 1 female

AGELENIDAE

Funnel-web Spiders

Members of this family are three-clawed, eight-eyed, sedentary spiders. The eyes are in two rows; usually the anterior median eyes are silvery white, the others dark. The hind spinnerets are very long. These spiders spin sheet-like webs which are usually furnished with a tubular retreat.

Key to genera of Agelenidae:

1. Hind spinnerets with apical segment at least as long as basal segment; labium longer than wide; posterior coxae contiguous 2

   Hind spinnerets with apical segment much shorter than basal segment; labium nearly always as wide as or wider than long; posterior coxae usually well separated ..... Cicurina

2. Both rows of eyes very strongly procurved so that the anterior median eyes and the posterior lateral eyes form nearly a straight line ..... Agelena

   Both rows of eyes not more than slightly procurved; anterior median eyes no larger than anterior lateral eyes; lower margin of cheliceral furrow usually 4, 5, or 6 toothed ..... Tegenaria

CICURINA

Cicurina sp.

Comstock, Spider Book, page 595

Emerton, Common Spiders, page 102

Collections:

Brookings, Sioux River, Sept. 16, 1937 - 1 immature

AGELENA

Agelena naevia Walck.

Comstock, Spider Book, page 586

Emerton, Common Spiders, page 92

Agelena naevia cont'd

Collections:

Allen, Aug. 19, 1936 - 1 male

Belle Fourche, June 18, 1936 - 1 immature

Brookings, July 12, 1937 - 4 immature

July 26, 1937 - 1 female; 1 im. female

July 30, 1937 - 1 female; 2 males

Aug. 5, 1937 - 3 males

Aug. 7, 1937 - 3 males; 1 female; 3 im.

Aug. 10, 1937 - 5 males; 1 female

Aug. 13, 1937 - 5 males; 5 females

Aug. 18, 1937 - 4 males; 3 females

Aug. 21, 1937 - 1 male; 3 females

Aug. 24, 1937 - 5 males; 8 females

Sept. 1, 1937 - 3 males; 3 females

Sept. 6, 1937 - 3 males

Sept. 12, 1937 - 5 females

Sept. 14, 1937 - 1 male; 3 females

Sept. 24, 1937 - 2 females

Oct. 24, 1937 - 2 females

Brookings, Sioux River, Aug. 23, 1937 - 1 male

Sept. 12, 1937 - 7 females

Dixon, 10 miles north, Aug. 4, 1937 - 1 male; 1 female

Englewood, June 17, 1936 - 1 immature

Fairburn, Aug. 22, 1936 - 1 female

Ft. Pierre, Aug. 3, 1937 - 5 males; 1 female

Murdo, June 16, 1936 - 2 immature

Pickerel Lake, Aug. 8, 1937 - 4 males; 5 im. females

Rapid City, Aug. 22, 1936 - 1 male; 1 female

Agelena sp. =(Agelenopsis)

Collections:

Brookings, Nov. 12, 1937 - 1 immature

TEGENARIA

Tegenaria domestica (Clerck)

Comstock, Spider Book, page 592 (T. derhami)

Emerton, Common Spiders, page 96 (T. derhami)

Collections:

Brookings, April 23, 1937 - 2 immature (basement)
April 29, 1937 - 1 female (greenhouse)
May 27, 1937 - 1 immature
July 20, 1937 - 1 female
July 28, 1937 - 2 females; 1 immature
July 30, 1937 - 1 female
Aug. 11, 1937 - 2 immature (in barns)
Aug. 14, 1937 - 2 females; 1 immature
Aug. 16, 1937 - 2 immature females
Aug. 18, 1937 - 1 female; 2 immature
Aug. 24, 1937 - 1 male; 1 immature female
Sept. 6, 1937 - 1 immature
Sept. 14, 1937 - 1 immature

Brookings, Sioux River, Sept. 12, 1937 - 2 immature
Sept. 16, 1937 - 2 im. females

Newell, June 19, 1936 - 3 males; 5 females; 2 immature (in basement)

THERIDIIDAE

Comb-footed Spiders

The comb-footed spiders are sedentary spiders which spin webs to catch their prey and in which to place their egg-sacs. The webs are irregular with threads extending in all directions. The spider hangs back downward in the web. These are eight-eyed, three-clawed spiders distinguished by a distinct comb composed of a row of strong setae on the tarsus of the fourth pair of legs.

Key to genera of Theridiidae:

1. Lateral eyes of each side contiguous or nearly so 2

   Lateral eyes of each side widely separated ...Latrodectus

2. Anterior median eyes much larger than anterior lateral eyes ..... Steatoda

   Anterior median eyes not much, if any, larger than anterior lateral eyes 3

3. Lateral eyes of each side slightly, but distinctly, separate; clypeus not wider than area occupied by eyes... Lithyphantes

   Lateral eyes of each side contiguous 4

4. Labium long and pointed, more than half as long as maxillae ..... Teutana

   Labium wide and shorter, not more than half as long as maxillae 5

5. Maxillae nearly straight and parallel or slightly convergent; legs usually long ..... Theridion

   Maxillae curved and strongly convergent at tip; legs short, fourth pair longer than first pair ...Robertus

LATRODECTUS

Latrodectus mactans (Fabricius)

Comstock, Spider Book, page 357

Emerton, Common Spiders, page 123

Baerg, The Black Widow, U. of Ark. Ag. Expt. Sta. Bul.325

Collections:

Allen, Aug. 19, 1936 - 2 im. females; 1 im. male

Mitchell, Sept. 12, 1936 - 1 immature male

Pierre, Nov --, 1936 - 1 female

Rapid City, Aug. 22, 1936 - 1 female; 1 male; 2 im.

Stoneville, May 3, 1936 - 1 immature

Vetal, Oct. 14, 1936 - 1 immature male

Wakpala, Summer of 1938 - 1 female

Wall, Feb. 18, 1935 - 1 nearly mature female

White River, June 26, 1939 - 1 female

Wolsey, April 24, 1938 - 1 female

STEATODA

Steatoda borealis (Hentz)

Comstock, Spider Book, page 360

Emerton, Common Spiders, page 119

Collections:

Brookings, May 27, 1937 - 1 male

May 31, 1936 - 2 females

June 4, 1936 - 2 females and egg-sac

June 5, 1937 - 1 female

July 3, 1937 - 1 female

July 20, 1937 - 1 female; 2 immature

July 30, 1937 - 3 immature

Steatoda borealis cont'd

Brookings, July 13, 1937 - 1 immature
Aug. 10, 1937 - 4 females; 8 males; 11 im.
Aug. 13, 1937 - 5 females; 9 males; 19 im.
Aug. 17, 1937 - 6 females; 7 males; 22 im.
Aug. 16, 1937 - 5 females; 7 males; 21 im.
Aug. 21, 1937 - 1 female; 3 males; 8 im.
Aug. 24, 1937 - 14 females; 17 males; 19 im.
Sept. 3, 1937 - 2 immature
Sept. 11, 1937 - 2 females; 2 immature
Sept. 16, 1937 - 1 male; 3 im. (curled leaf)
Oct. 4, 1937 - 1 male; 1 immature
Oct. 9, 1937 - 1 male; 3 females
Oct. 24, 1936 - 1 female
Oct. 24, 1937 - 2 immature
Nov. 12, 1937 - 2 immature

Camp Judson, Aug. 13, 1937 - 1 female; 1 immature

Elk Point, June 13, 1937 - 1 immature

Flandreau, Mar. --, 1937 - 1 female (basement)

Newell, June 19, 1936 - 1 male; 2 immature

State Game Lodge, June 24, 1937 - 2 males; 2 females; 9 immature

LITHYPHANTES

Lithyphantes corollatus (Linn.)

Comstock, Spider Book, page 362

Emerton, Common Spiders, page 121 (Steatoda corollata)

Collections:

Brookings, June 1, 1936 - 1 male

Lithyphantes corollatus cont'd

Brookings, June 20, 1937 - 1 female
July 13, 1937 - 1 immature
Aug. 11, 1937 - 1 male
Aug. 16, 1937 - 1 immature
Aug. 18, 1937 - 1 female
Aug. 21, 1937 - 1 male
Aug. 24, 1937 - 2 males
Sept. 12, 1937 - 2 immature (in garage)
Oct. 4, 1937 - 1 immature female
Oct. 29, 1937 - 1 im. male; 2 im. females (under dung)

Bonesteel, June 28, 1937 - 2 females

Buffalo, June 20, 1936 - 1 female

Mobridge, Aug. 2, 1936 - 1 female (under driftwood)

Whitewood, Sept. 24, 1936 - 1 immature

TEUTANA

Teutana triangulosa (Walckenaer)

Comstock, Spider Book, page 361

Emerton, Common Spiders, page 121 (Steatoda triangulosa)

Collections:

State Game Lodge, June 24, 1937 - 1 female

THERIDION

Theridion tepidariorum Koch

Comstock, Spider Book, page 345

Emerton, Common Spiders, page 111

Collections:

Brookings, April 29, 1937 - 7 immature (greenhouse)

Theridion tepidariorum cont'd

Brookings, May 27, 1937 - 4 immature (greenhouse)

Aug. 7, 1937 - 11 females (barns)

Aug. 10, 1937 - 2 females

Aug. 14, 1937 - 2 immature females

Aug. 21, 1937 - 2 males

Aug. 24, 1937 - 4 females

Brookings, Sioux River, Sept. 11, 1937 - 1 male; 1 female

Flandreau, Mar. --, 1937 - 1 female (basement)

Theridion sp.

Collections:

Kinnikinik, Aug. 4, 1937 - 2 males, 1 female; 2 im.

ROBERTUS

Robertus riparius Keys =(Pedanostethus riparius)

Comstock, Spider Book, page 365 (P. riparius)

Banks, Proc. Wash. Acad. Sci. 2:480 (1900)

Collections:

State Game Lodge, June 24, 1937 - 1 female

LINYPHIIDAE

The Sheet-web Weavers

The sheet-web weavers are three-clawed, eight-eyed sedentary spiders. They resemble the Theridiidae, but lack the comb on the tarsi of the fourth pair of legs. They usually have more or less distinct organs of stridulation on the external side of the basal segment of the chelicerae, and lack the lateral condyle of the chelicerae. Most species are small and rarely attract attention.

Key to genera of Linyphiidae:

1. Female with palpal claw; epigynum with a finger or hook; male palpus without tibial apophysis, although sometimes enlarged, with a tooth at tip; usually two spines or erect bristles above on tibia IV 2

   No claw on tarsus of female palpus; epigynum without finger or hook; male palpus with tibial apophysis; usually only one spine above on tibia IV; a projection below at tip of tibia of male palpus ..... Erigone

2. Posterior median eyes at least twice their diameter apart, or else plainly farther from lateral eyes than from each other; median ocular area plainly wider behind ..... Linyphia

   Posterior median eyes scarcely more than their diameter apart and equidistant from posterior lateral eyes..... Lephthyphantes

ERIGONE

Erigone blaesa C. and B.

Crosby and Bishop, New York State Mus. Bul. 278, p.22

Collections:

Martin, June 27, 1937 - 2 males; 2 females

Erigone sp.

Collections:

Newell, June 19, 1936 - 2 immature

LINYPHIA

Linyphia marginata Koch

Comstock, Spider Book, page 390

Collections:

State Game Lodge, June 24, 1937 - 7 females; 3 males

LEPHTHYPHANTES

Lephthyphantes leprosus (Ohl)

Collections:

Newell, June 19, 1936 - 3 males; 2 females; 2 im.
(in basement)

ARGIOPIDAE

The Orb-weavers

Species of this family can be easily recognized by their orb webs. These spiders are three-clawed, eight-eyed, and sedentary. The eyes are similar in most of the genera. The lateral condyle of the chelicerae is usually present.

Key to genera of Argiopidae:

1. Epigastric plates not marked by transverse furrows; lateral condyle of chelicerae wanting or rudimentary...2

   Epigastric plates marked by transverse furrows; lateral condyle of the chelicerae distinct 3

2. Epigastric furrow between the spiracles procurved ..... Tetragnatha

   Epigastric furrow nearly straight ..... Leucauge

3. Posterior row of eyes strongly procurved; legs relatively longer; metatarsi and tarsi together longer than patellae and tibiae 4

   Posterior row of eyes barely, if at all, procurved; legs relatively shorter; metatarsi and tarsi together rarely longer than patellae and tibiae 5

4. Epigynum of female divided by a septum into two equal concavities; ground color is white or light yellow ..... Metargyope

   Epigynum of female not divided by a septum, but the atriolum is extended into a broad convex process with a single cavity beneath; ground color of abdomen is black marked with bright yellow or orange spots ... Miranda

5. Thorax with a deep, median longitudinal furrow, which usually extends forward to reach the cervical groove....6

   Median furrow of the thorax when a narrow longitudinal one slight, not reaching the cervical groove; often a pit with transverse extensions 7

6. Lateral eyes of each side situated on a prominent tubercle ..... Aranea

   Lateral eyes of each side not situated on a prominent tubercle ..... Neoscona

7. Abdomen as high behind its middle line as at its base and elliptical in outline, or broader behind the middle; small species with short legs ..... Singa

Abdomen highest toward its base and usually broadest near base ..... Aranea

TETRAGNATHA

These are orb-weaving spiders which are abundant on plants and other objects in the vicinity of water, although they may occur on grass in drier places. They are slender in form with long legs and large chelicerae; the chelicerae are especially large in the males. The abdomen is long and slender, bearing the spinnerets at or near its end.

Key to species of Tetragnatha:

1. Lateral eyes of each side not so widely separated as the anterior median and posterior median eyes; chelicerae of male longer than cephalothorax, those of female about one-tenth shorter than the cephalothorax ..... Tetragnatha elongata

Lateral eyes of each side as far apart as are the anterior median and posterior median eyes 2

2. Lateral eyes of each side about the same distance apart as are the anterior median and posterior median eyes ... Tetragnatha laboriosa

Lateral eyes of each side farther apart than are the anterior median and posterior median eyes; male chelicerae shorter than the cephalothorax .... Tetragnatha vermiformis

Tetragnatha elongata Walckenaer

Comstock, Spider Book, page 411

Collections:

Hanna, June 17, 1936 - 2 females

State Game Lodge, June 24, 1937 - 6 females; 13 males; 60 immature

Tetragnatha laboriosa Hentz

Comstock, Spider Book, page 412

Tetragnatha laboriosa cont'd

Collections:

Ardmore, June 26, 1937 - 3 immature females

Bonesteel, June 28, 1937 - 1 male

Bristol, June 22, 1936 - 6 females; 1 male; 4 im.

Brookings, July 14, 1937 - 6 females; 1 male; 6 im.
Sept. 14, 1937 - 1 female; 2 males

Brookings, Sioux River, July 12, 1937 - 7 females; 4 males
Aug. 23, 1937 - 6 females
Sept. 16, 1937 - 1 male; 1 im.

Camp Judson, Aug. 13, 1937 - 2 females

Canton, Newton's Hills, June 12, 1936 - 2 females;
3 males; 1 immature

Elk Point, June 13, 1937 - 2 females; 1 male

Englewood, June 17, 1936 - 2 males; 4 immature

Ft. Pierre, Aug. 3, 1937 - 12 females; 4 males; 2 im.

Ft. Pierre, 10 miles south, Aug. 3, 1937 - 18 females;
10 males; 6 immature

Hanna, June 17, 1936 - 3 females; 1 male; 1im.

Jefferson, June 13, 1937 - 2 females; 1 male; 5 im.

Kennebec, Aug. 3, 1937 - 2 males; 1 immature

Kinnikinik, Aug. 4, 1937 - 16 females; 8 males; 2 im.

Martin, June 27, 1937 - 22 females; 9 males; 4 im.

Menno, June 28, 1937 - 1 female

Newell, June 19, 1936 - 1 female

Pickerel Lake, Aug. 8, 1937 - 3 females; 1 male; 2 im.

Pierre, Farm Island, June 17, 1937 - 1 immature

Sioux Falls, June 29, 1937 - 1 immature

Tetragnatha laboriosa cont'd

Springfield, June 14, 1936 - 3 females; 1 male; 1 im.

State Game Lodge, June 24, 1937 - 4 males; 4 females; 6 immature

Waubay, June 22, 1936 - 12 females; 11 males; 5 im. (tall reeds and marsh grass)

Tetragnatha vermiformis Emerton

Comstock, Spider Book, page 414

Collections:

Brookings, Sioux River, Sept. 16, 1937 - 1 female (from marsh grass)

LEUCAUGE

Leucauge venusta (Walckenaer)

Comstock, Spider Book, page 422

Collections:

Canton, Newton's Hills, June 12, 1936 - 1 male

METARGIOPE

Metargiope trifasciata (Forskal) Banded Garden Spider

Comstock, Spider Book, page 438

Collections:

Brookings, Sept. 8, 1937 - 1 female

Dixon, 10 miles north, Aug. 4, 1937 - 10 males; 4 females; 14 immature (prairie grass)

Hayti, Sept. 8, 1936 - 1 female

Oldham, Aug. 23, 1937 - 1 female

Plankinton, Sept. 11, 1936 - 1 female (grain field)

Wakpala, Summer of 1938 - 1 female

Woonsocket, Fall of 1937 - 1 female

MIRANDA

Miranda aurantia (Lucas) The Orange Garden Spider

Comstock, Spider Book, page 434

This is a large, conspicuous, brightly colored species which has not recently been collected in South Dakota. However, previous collectors have found it within the state.

NEOSCONA

The thorax has a deep median longitudinal furrow, usually extending forward to reach the cervical groove. The characteristic epigynum is composed of a circular or elongate atriolum with a more or less elongate, spoon-shaped scape.

Key to species of Neoscona:

1. Males 2

   Females 3

2. Tibia of second leg straight or nearly so ..... Neoscona benjamina

   Tibia of second leg strongly curved, concave on inner side ..... Neoscona arabesca

3. Abdomen triangularly oval, broad anteriorly; epigynum elongate ..... Neoscona benjamina

   Abdomen uniformly oval; dorsal surface of abdomen with a yellow band in the middle or a series of yellow spots.... Neoscona arabesca

Neoscona benjamina (Walck.)

Comstock, Spider Book, page 498

Collections:

Kinnikinik, Aug. 4, 1937 - 2 females; 1 male

(in shrubs and trees along Missouri River. A large orb-web with spider in curled leaf at one side of web.)

Two females are in the collection which are from Goodland, Kans. They were taken during August, 1937.

Neoscona arabesca Walck.

Comstock, Spider Book, page 497

Collections:

Brookings, Sioux River, July 12, 1937 - 1 female

SINGA

Singa variabilis Em.

Comstock, Spider Book, page 461

Collections:

Bristol, June 22, 1936 - 1 female

Hanna, June 17, 1936 - 1 female

Waubay, June 22, 1936 - 2 females

ARANEA

The cephalothorax is moderately arched, without horny outgrowths. The median furrow of the thorax is transverse, straight or recurved in the female; in the male the median furrow of the thorax is a pit with prolongations extending forward, backward, and to each side. The patella of the pedipalp of the male is armed with two spines at its apex. The median ocular area is not much longer than wide. The lateral eyes of each side are contiguous or nearly so and widely removed from the median eyes. The clypeus is narrower than the median ocular area.

Key to species of Aranea:

1. Large species with the abdomen bearing a pair of prominent humps near its base; scape of epigynum triangular, as wide at the base as long ..... Aranea gemmoides

   Moderate sized, round shouldered species; scape of epigynum flat and rounded at tip .... Aranea patagiata

Aranea gemmoides Chamberlin and Ivie

Chamberlin and Ivie, Bull. Univ. Utah, v.26, no.4

Comstock, Spider Book, page 472 (A. gemma)

Collections:

Brookings, July 7, 1936 - 1 female
July 18, 1937 - 1 female
July 31, 1937 - 1 female
Aug. 6, 1937 - 9 males; 22 females
Aug. 6, 1938 - 1 female
Aug. 7, 1937 - 20 males; 19 females
Aug. 8, 1937 - 11 females
Aug. 9, 1937 - 5 males; 8 females
Aug. 11, 1937 - 2 males; 47 females
Aug. 13, 1937 - 1 male; 1 female
Aug. 16, 1937 - 1 male; 1 female
Aug. 18, 1937 - 2 females
Aug. 20, 1937 - 9 females
Aug. 23, 1937 - 19 females
Aug. 24, 1937 - 9 females
Aug. 25, 1937 - 3 females
Aug. 31, 1937 - 1 female
Sept. 1936 - 1 female
Sept. 3, 1937 - 1 male
Sept. 7, 1936 - 1 female
Sept. 10, 1937 - 1 male
Sept. 20, 1937 - 3 females

Hayti, Sept. 8, 1936 - 1 female

Harding, Sept. 22, 1937 - 1 female

Wakpala, Summer of 1938 - 1 female

Aranea patagiata Cl.

Comstock, Spider Book, page 489 (A. ocellata)

Emerton, Common Spiders, page 160 (Epeira patagiata)

Collections:

Brookings, Oct. 1, 1937 - 4 males; 1 female

State Game Lodge, June 24, 1937 - 1 female

OXYOPIDAE

Lynx-spiders

These are diurnal hunting spiders which make no use of webs for capturing their prey. The legs are long, with three tarsal claws but without scopulae. The eight eyes are dark in color and unequal in size, the anterior median eyes being very small. The anterior row of eyes is strongly recurved, the posterior row procurved. The abdomen tapers to a point behind. This family is represented by only one genus in South Dakota:

OXYOPES

Key to species of Oxyopes:

1. Femora with a black line on the underside ..... Oxyopes salticus

   Femora without a black line on the underside; abdomen light with black side and median stripes ..... Oxyopes scalaris

Oxyopes salticus Hentz

Banks, Trans. Conn. Acad. Sci. 11:274 (1902)

Emerton, Common Spiders, page 88

Comstock, Spider Book, page 660

Collections:

Dixon, Aug. 4, 1937 - 1 female

Springfield, June 14, 1936 - 2 females

Oxyopes scalaris Hentz

Banks, Proc. Acad. Phil., 1904, page 121

Emerton, Trans. Conn. Acad. Sci. 6:502 (1885)

Comstock, Spider Book, page 660

Oxyopes scalaris cont'd

Collections:

Springfield, June 14, 1936 - 1 immature

State Game Lodge, June 24, 1937 - 1 female; 2 im. males;
2 immature

Oxyopes sp.

Collections:

Springfield, June 14, 1936 - 2 immature

LYCOSIDAE

Wolf-spiders

The lycosids are hunting spiders which chase their prey. There is a semicircular bordered notch in the apical margin of the lower side of the trochanters of the legs. The tibia of the pedipalp of the male is unarmed. The eyes are in three rows, the first row consisting of four small eyes and the two posterior rows each of two large eyes. The wolf spiders are most frequently found running through grass or lurking under stones or logs. Many species dig tunnels in the ground. Some of these burrowing species build a turret about the mouth of their tunnel.

Key to the genera of Lycosidae:

1. Distal pair of ventral spines of the anterior tibiae never apical in position; cephalothorax with a median band, enclosing in its anterior portion a black V-shaped mark .... Pirata

   Distal pair of ventral spines of anterior tibiae apical in position; median pale band of cephalothorax when present not enclosing anteriorly a dark V-shaped mark 2

2. Labium wider than long, with basal excavations short ... Pardosa

   Labium longer than wide, with basal excavations long ...3

3. Female with lateral extensions of the guide of the epigynum divided so as to be double. Male with embolus distinctly elbowed, and with the terminal apophysis of the bulb of the palpus conspicuously elevated and usually more or less produced into a hornlike process extending beyond the front margin of the alveolus .... Schizocosa

   Female with lateral extensions of the guide of the epigynum undivided. Male with the embolus curved evenly, not elbowed, and terminal apophysis of the bulb of the palpus not conspicuously elevated or produced above into a hornlike process extending beyond the front margin of the alveolus 4

4. Lower margin of cheliceral furrow armed with only two teeth ..... Tarentula

   Lower margin of cheliceral furrow armed with three teeth 5

5. No spine at all above on tibiae of third and fourth legs ..... Geolycosa

   Spine at middle or both at middle and at proximal end on the tibiae of the third and fourth legs 6

6. No true stout spine at base above on tibiae of third and fourth legs, replaced by a basally stout, apically slender and pointed, elongate bristle ..... Arctosa

   A true robust spine at base above on tibiae of third and fourth legs ..... Lycosa

PIRATA

The cephalothorax is brown or blackish, with a pale median band enclosing in its anterior portion a black mark which is more or less V-shaped. The abdomen may or may not have a basal lanceolate stripe.

Key to species of Pirata:

1. Cephalothorax with a black marginal stripe below each pale lateral submarginal stripe ..... Pirata piratica

   Cephalothorax without a black marginal stripe below each pale lateral stripe ..... Pirata sedentarius

Pirata piratica (Olivier)

Comstock, Spider Book, page 645

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 313

Collections:

Victor, Oct. 30, 1937 - 1 female

Pirata sedentarius Montg. =(P. febriculosus Becker)

Comstock, Spider Book, page 645 (P. febriculosus)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 311

Collections:

Camp Judson, Aug. 13, 1937 - 5 females and 2 egg-sacs

PARDOSA

The labium is at least as broad as long with the basal excavations short, only rarely more than one-fourth the length of the labium. The face is subquadrate. The anterior row of eyes is shorter than the second and is procurved. The anterior tibiae are armed with three pairs of spines of which the basal and median pairs are much longer than the diameter of the segment. They are very active spiders of small or medium size.

Key to species of Pardosa:

1. Males 2

   Females 8

2. Median apophysis of the bulb of the palpus short and stout, not at all or but slightly longer than broad ...3

   Median apophysis of bulb several times longer than broad 5

3. Anterior depressed lobe of bulb separated into two furrows by an elevated narrow fold extending from above obliquely downward and outward; externally from its lower end two hooked tenacula, and at corner opposite its upper end a lamellate, inflexed chitinous angle ...Pardosa mercurialis

   Not so 4

4. Embolus extending across bulb almost to outer side of alveolus ..... Pardosa fuscula

   Apex of embolus scarcely extending beyond median apophysis of bulb of palpus ..... Pardosa groenlandica

5. Median apophysis of bulb of palpus extending obliquely forward and outward quite to, or to some distance beyond, margin of alveolus. Embolus strongly bent into an S-shape ..... Pardosa sternalis

   Not so 6

6. Median apophysis of bulb of palpus above bent outward and then strongly backward, becoming nearly parallel with basal part ..... Pardosa distincta

   Not so 7

7. Median apophysis of the bulb of the palpus dentate at apex; the spur nearly straight, subconical ..... Pardosa mackenziana

Median apophysis not dentate at apex; spur short and stout, abruptly turned posteriorly at apex into an acute hook ..... Pardosa milvina

8. Epigynal plate or area widest at anterior end, distinctly narrowed posteriorly: guide wider anteriorly than toward apex ..... Pardosa xerampelina

Not as above 9

9. Epigynum presenting on each side of the guide posteriorly a sharply delimited, relatively small fovea as long as wide; the anterior region of epigynum scarcely depressed... Pardosa sternalis

Not as above 10

10. Lateral furrows with the shallow anterior fossae short and narrow, behind these deepening and abruptly widely expanding, becoming widest near middle of epigynum; septum of guide elevated, its more depressed transverse arms extending into excavations in the inner face of the lateral ridges 11

Lateral furrows with anterior fossae not short and narrow, and epigynum of other form 12

11. Transverse arms of guide bending backwards; septum of guide widest at posterior end, becoming gradually narrower toward the anterior end, its sides sub-straight or but little curving ..... Pardosa groenlandica

Transverse arms of guide bending forward; septum widest behind the middle of its length, typically expanding into a broad plate-like form over the origins of transverse arms which it usually partly covers ... Pardosa fuscula

12. Epigynal area wider than long; distinct lateral ridges enclosing posterior portion of guide both at sides and also behind except for short median space between ends of ridges ..... Pardosa distincta

Epigynal area not wider than long 13

13. Over anterior and median portion of epigynum a narrow, very shallow fossa passing behind into a large transversely elliptical depression which is completely occupied by the expanded guide, the lateral ends of which lie in excavations in the side ridges ..... Pardosa mackenziana

Not so 14

14. Transverse arms of guide narrowest mesally, widening toward their outer ends ..... Pardosa mercurialis

Not so; transverse arms rapidly narrowing toward their outer ends ..... Pardosa milvina

Pardosa mercurialis Montgomery =(P. lapidicina Em.)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 195

Comstock, Spider Book, page 655 (P. lapidicina)

Collections:

Bonesteel, June 14, 1936 - 2 males

June 28, 1937 - 1 male, 4 females

Ft. Pierre, Aug. 3, 1937 - 1 female with egg-sac

Mobridge, Aug. 3, 1936 - 1 female

Murdo, June 16, 1936 - 1 male

Pardosa fuscula (Thorell) =(P. modica (Blackwall))

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 202

Comstock, Spider Book, page 656 (P. modica)

Collections:

Brookings, June 7, 1937 - 1 female

Martin, June 27, 1937 - 1 female with egg-sac

Pardosa groenlandica (Thorell)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 200

Comstock, Spider Book, page 656

Collections:

Brookings, June 7, 1937 - 2 females

July 6, 1937 - 1 female and egg-sac

Aug. 7, 1937 - 1 male; 2 females

Aug. 25, 1937 - 1 female and egg-sac

Sept. 12, 1937 - 2 females and egg-sac

Sept. 16, 1937 - 1 female

Pardosa groenlandica cont'd

Huron, June 18, 1937 - 1 female and egg-sac

Mobridge, Aug. 2, 1936 - 2 females and egg-sac

Newell, June 19, 1936 - 1 female

Waubay, June 15, 1937 - 1 female

June 22, 1936 - 1 female and egg-sac

Pardosa sternalis (Thorell) =(P. coloradensis Bks.)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 185

Comstock, Spider Book, page 655

Collections:

Deadwood, June 23, 1937 - 1 female with egg-sac

Newell, June 19, 1936 - 1 female

Pardosa distincta (Blackwall)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 192

Collections:

Camp Judson, Aug. 13, 1937 - 2 females

Newell, June 19, 1936 - 1 male

Pardosa mackenziana (Keyserling)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 207

Collections:

Camp Judson, Aug. 13, 1937 - 3 females

Hanna, June 17, 1936 - 1 female

State Game Lodge, June 24, 1937 - 1 female

Pardosa milvina (Hentz)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 177

Comstock, Spider Book, page 654

Collections:

Springfield, June 14, 1936 - 1 male

Pardosa xerampelina (Keyserling)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 198

Comstock, Spider Book, page 656

Collections:

Bonesteel, June 14, 1936 - 2 females

Brookings, July 12, 1937 - 1 female and egg-sac

Camp Judson, Aug. 13, 1937 - 4 females

Deadwood, June 23, 1937 - 1 male; 1 female with egg-sac

Hanna, June 17, 1936 - 2 females

State Game Lodge, June 24, 1937 - 1 male; 10 females

SCHIZOCOSA

This genus includes spiders of medium or small size which are separated from the genus Lycosa by the structure of the external reproductive organs. In the female the lateral extensions of the guide of the epigynum are divided so as to be double. In the male the embolus is distinctly elbowed and the terminal apophysis of the bulb of the palpus is conspicuously elevated and usually more or less produced into a horn-like process extending beyond the front margin of the alveolus.

Key to species of Schizocosa:

1. Males 2

   Females 3

2. First tibia clothed with dense black hair standing out in brushlike form; legs annulate with dark ..... Schizocosa crassipes

   First tibia not so clothed; tarsus of the palpus and palpal organ swollen and broader than the tibia ..... Schizocosa saltatrix

3. Septal piece of guide very broad immediately in front of transverse arms, narrowing anteriorly where it is not sinuous or bent; the median piece between anterior and posterior dividions of arms very narrow, much narrower

than the septum in front of arms; sternum usually black except marginally ..... Schizocosa crassipes

Septal piece of guide sinuous or bent near anterior end; median piece between anterior and posterior divisions of arms wide, wider than septum in front of transverse arms; sternum usually reddish-brown ..... Schizocosa saltatrix

Schizocosa crassipes (Walckenaer) =(S. ocreata)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 212

Collections:

Canton, Newton's Hills, June 12, 1936 - 2 females; 5 males (in woods, running over dead leaves)

Schizocosa saltatrix (Hentz)

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 215

Comstock, Spider Book, page 648

Collections:

Jefferson, June 13, 1936 - 1 female and egg-sac (under log)

TARENTULA

Tarentula aculeata (Cl.)

Collections:

Camp Judson, Aug. 13, 1937 - 2 females

GEOLYCOSA

Geolycosa sp.

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 239

Collections:

Avon, Sept. 1, 1935 - 1 female

Bonesteel, June 28, 1937 - 1 female with young (taken from burrow in sandy ravine)

ARCTOSA

Arctosa sp.

Arctosa sp.

Collections:

Brookings, May 25, 1937 - 1 male

Lake Oakwood, April, 12, 1939 - 2 immature females

LYCOSA

The labium is longer than wide and the basal excavations in it are long, usually one-third or more the length of the labium. The face is much wider below than above with the sides strongly convex. The anterior tibiae are armed below with three pairs of spines which are little if any longer than the diameter of the segment. This genus includes medium to large species, many of which build retreats in the form of shallow excavations under logs or stones, or vertical burrows in the earth.

Key to species of Lycosa:

1. Cephalothorax with a light median longitudinal stripe, which is very narrow or line-like anteriorly, and which extends forward to or between eyes of second row 2

   Cephalothorax either without a median band or with a band which is as wide or nearly as wide as the third eye row 7

2. Males 3

   Females 5

3. Cephalothorax about 1 cm. long; fourth leg not more than 3.25 times as long as cephalothorax .....Lycosa permunda

   Cephalothorax less than 8 mm. long; fourth leg 3.7 or more times as long as cephalothorax 4

4. Tibia and patella of the first leg together longer than tibia and patella of the fourth leg together .....
   Lycosa grandis

   Tibia and patella of the first leg together shorter than the tibia and patella of the fourth leg together .....
   Lycosa helluo

5. Fourth leg less than three times the length of cephalothorax ..... Lycosa permunda

Fourth leg more than three times the length of cephalothorax 6

6. Abdomen beneath and the sternum immaculate pale yellow, clothed with yellow hair ..... Lycosa grandis

Sternum mostly black or nearly so and clothed largely with black hair; abdomen beneath mostly with dark dots and sometimes nearly black ..... Lycosa helluo

7. Males 8

Females 11

8. Anterior row of eyes shorter than the second; dorsum of abdomen with a median light band extending to the spinnerets 9

Anterior row of eyes as long or longer than second row..10

9. Eyes of first row subequal in size ...Lycosa minnesotensis

Lateral eyes of first row somewhat smaller than median ... Lycosa avida

10. Venter with a wide irregularly edged black band extending from the epigastric furrow to the spinnerets and sometimes embracing entire width of abdomen ..... Lycosa frondicola

Venter without such a broad black band...Lycosa pratensis

11. Septum of guide of epigynum strongly widening from base of transverse arms to anterior end, where it extends entirely or nearly across the median depressions ..... Lycosa pratensis

Not as above 12

12. Transverse piece of guide extending across or almost entirely across the epigynum; behind some longer than median piece, scarcely confined by side ridges at ends ..... Lycosa frondicola

Transverse piece of guide not so long 13

13. Epigynum as a whole roughly triangular, being much narrowed anteriorly; transverse arms excavated at ends above; lateral eyes of first row smaller than median ..... Lycosa avida

Epigynum of approximately the same width throughout except for the anterior fourth which is rounded; transverse arms of epigynum very wide and not excavated at ends; eyes of first row subequal in size .... Lycosa minnesotensis

Lycosa permunda Chamb.

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 233

Collections:

Enning, Aug. 25, 1936 - 1 male

Oglala, Aug. 21, 1936 - 1 male (may be L. grandis)

Presho, Aug. 1936 - 1 male; 1 female

Rapid City, July 23, 1937 - 1 female with egg-sac

Scenic, July 31, 1936 - 1 female

Wakpala, Summer of 1938 - 2 males; 3 females

Lycosa grandis Banks

Banks, Journ. N.Y. Ent. Soc., 1894, vol.2, page 49

Collections:

Pierre, Aug. 29, 1938 - 1 female

Lycosa helluo Walck.

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 226

Comstock, Spider Book, page 633

Collections:

Elk Point, June 13, 1936 - 1 female with egg-sac

Lycosa avida Walck.

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 251 (L. erratica)

Emerton, Common Spiders, page 75 (L. communis)

Collections:

Arlington, June 18, 1937 - 1 male

Brookings, July 4, 1937 - 1 female

Aug. 18, 1937 - 2 females

Camp Judson, Aug. 13, 1937 - 1 female

Elk Point, June 13, 1936 - 1 male

L. avida cont'd

Murdo, June 16, 1936 - 2 im. males; 4 im. females

Oglala, June 26, 1937 - 1 male

Ree Heights, June 18, 1937 - 1 female; 2 immature

Reliance, June 21, 1937 - 2 females; 1 immature male

Spearfish, June 18, 1936 - 1 immature female

Springfield, June 14, 1936 - 2 males

Wewela, June 15, 1936 - 1 female with egg-sac

Lycosa frondicola Emerton

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 258

Comstock, Spider Book, page 638

Collections:

Brookings, Sept. 16, 1937 - 1 male

Oct. 24, 1937 - 1 male

Camp Judson, Aug. 13, 1937 - 3 females

State Game Lodge, June 24, 1937 - 1 female with egg-sac

Lycosa pratensis Emerton

Chamberlin, Proc. Acad. Nat. Sci. Phil., 1908, page 261

Comstock, Spider Book, page 638

Collections:

Brookings, Aug. 23, 1937 - 1 male

Sept. 16, 1937 - 1 female

Lycosa minnesotensis Gertsch =(Schizocosa minnesotensis (G.))

Gertsch, Am. Mus. Novitates #726 (1934), page 4-5

Collections:

Murdo, June 16, 1936 - 1 female

PISAURIDAE

Nursery-web Weavers

Members of the Pisauridae, like the members of the Lycosidae, have a semicircular bordered notch in the apical margin of the lower side of the trochanters of the legs. The pisaurids differ from the lycosids in having the tibia of the pedipalp of the male furnished with an external apophysis and in having the cuticle almost always furnished with appressed plumose hairs. The female pisaurids make an egg-sac composed of a single piece and carry it under the body, holding it by the chelicerae; female lycosids, on the other hand, make a two-valved egg-sac and drag it after them attached to the spinnerets. Only one genus is so far represented in South Dakota.

DOLOMEDES

Key to species of Dolomedes:

1. Males 2

   Females 3

2. A spinose hump on femur of fourth leg beneath; tibial apophysis very long, extending almost one-half the length of the bulb ..... Dolomedes triton sexpunctatus

   No spinose hump on fourth leg beneath; abdomen above crossed by several transverse W-shaped white lines .... Dolomedes scriptus

3. Abdomen above with several pairs of small white dots in two rows; cephalothorax above with submarginal band of bright white hairs; sternum with six small, black spots, three on each side near the coxae ..... Dolomedes triton sexpunctatus

   Abdomen dark brown above without small white spots arranged in two rows; posterior half crossed by several transverse W-shaped, white lines ..... Dolomedes scriptus

Dolomedes triton sexpunctatus Hentz

Comstock, Spider Book, page 614 (D. sexpunctatus)

Bishop, New York State Mus. Bul. 252, page 52

Collections:

Brookings, June 10, 1936 - 1 male; 1 female (from creek)

June 30, 1937 - 1 immature

Dolomedes scriptus Hentz

Comstock, Spider Book, page 608 (D. fontanus)

Bishop, New York State Mus. Bul. 252, page 44

Collections:

Camp Judson, Aug. 13, 1937 - 1 immature

Hot Springs, Aug. 10, 1938 - 1 female

Dolomedes sp. (probably D. triton sexpunctatus Hentz)

Collections:

Brookings, Oct. 24, 1937 - 3 immature

Sept. 14, 1937 - 2 immature

Sept. 16, 1937 - 22 immature

Kinnikinnik, Aug. 4, 1937 - 5 immature

THOMISIDAE

Crab-spiders

Members of this family are called crab-spiders on account of the short broad form of the body and the crab-like structure and position of the legs in most of the species; most species walk sidewise or backward more readily than forward. The first and second pairs of legs are usually much longer and stouter than the third and fourth pairs. The tarsi have two claws. The eyes are small, dark in color and arranged in two rows which are usually recurved. The crab-spiders spin no webs; they either swiftly pursue their prey or depend on their obliterative coloration and lie in wait for prey.

Key to genera of Thomisidae:

1. Tarsi of first and second pairs of legs not scopulate beneath; third and fourth pairs of legs usually much shorter than first and second pairs; hairs of body filiform or rod-shaped and erect; upper margin of cheliceral furrow without teeth (Misumeninae) 2

   Tarsi of first and second pairs of legs scopulate beneath; third and fourth pairs of legs as long or nearly as long as first and second pairs; hairs of body pubescent or plumose and prone; upper margin of cheliceral furrow with 1 or 2 teeth (Philodrominae) 6

2. First and second pairs of legs devoid of spines except beneath the tibiae and metatarsi, or with 1 or 2 minute ones elsewhere on these legs ..... Misumena

   First and second pairs of legs with distinct spines in addition to those on tibiae and metatarsi 3

3. Cephalothorax very flat .... Coriarachne

   Cephalothorax moderately high 4

4. Abdomen, cephalothorax and legs pale whitish or yellowish, but little marked except for bands on legs of male... Misumenops

   Abdomen or cephalothorax and legs dark or heavily marked with dark 5

5. Tarsal claws of first two pairs of legs with only 5 or 6 teeth ..... Xysticus

   Tarsal claws of first two pairs of legs with more than 6 teeth ..... Synema

6. Second pair of legs very much longer than the first pair... Titanebo

   Second pair of legs but little longer than the first pair 7

7. Posterior eyes in a slightly recurved line; posterior median eyes much farther from each other than from the lateral eyes; anterior lateral eyes nearer to the anterior median eyes than to the posterior median eyes .... Philodromus

   Posterior eyes in a strongly recurved line; posterior median eyes farther from the lateral eyes than from each other 8

8. Cephalothorax not at all or hardly longer than wide .... Thanatus

   Cephalothorax much longer than wide ..... Tibellus

MISUMENA

Misumena vatia Clerck.

Comstock, Spider Book, page 526

Emerton, Common Spiders, page 27

Collections:

Hanna, June 17, 1936 - 1 male

Camp Judson, Aug. 13, 1937 - 1 female

Deadwood, June 23, 1937 - 1 male

State Game Lodge, June 24, 1937 - 1 female

CORIARACHNE

Coriarachne versicolor Keys.

Comstock, Spider Book, page 531

Emerton, Common Spiders, page 34 (Xysticus versicolor)

Collections:

Brookings, Oct. 1, 1937 - 2 females

Brookings, Sioux River, Sept. 12, 1937 - 1 immature

Camp Judson, Aug. 13, 1937 - 1 female

MISUMENOPS

This genus differs from Misumena in having large prominent spines on the femora and upper face of the tibiae of the first and second pairs of legs. The cephalothorax and abdomen are more spiny than in Misumena. The tubercles of the lateral eyes are joined by a rounded ridge, and the posterior lateral eyes are not larger than the posterior median.

Key to species of Misumenops:

1. Males 2

   Females 3

2. Embolus of palpus sharply bent toward the outside .... Misumenops asperatus

   Embolus of palpus not bent ..... Misumenops celer

3. Anterior eyes equidistant ..... Misumenops asperatus

   Anterior median eyes somewhat farther from each other than from lateral eyes ..... Misumenops celer

Misumenops asperatus Hentz

Comstock, Spider Book, page 530

Emerton, Common Spiders, page 28

Collections:

Bonesteel, June 28, 1937 - 2 females

Canton, Newton's Hills, June 12, 1936 - 1 male; 6 im.

Misumenops asperatus cont'd

Martin, June 27, 1937 - 1 male

Newell, June 19, 1936 - 1 male

Springfield, June 14, 1936 - 1 female

State Game Lodge, June 24, 1937 - 2 males; 1 female

Wheeler's Bridge, June 14, 1936 - 2 males

Misumenops celer Hentz

Banks, Bull. U.S. Nat. Mus., 1910, page 50

Collections:

Ardmore, June 26, 1937 - 1 female; 2 immature

Bonesteel, June 28, 1937 - 1 female

Bristol, June 22, 1936 - 1 female

Brookings, Sept. 28, 1937 - 1 female

July 12, 1936 - 1 female

Brookings, Sioux River, Sept. 12, 1937 - 1 female

Canton, Aug. 14, 1936 - 2 females (on sweet clover)

Dixon, 10 miles north, Aug. 4, 1937 - 2 males;
2 females; 1 immature

Doland, Aug. 5, 1936 - 1 female

Elk Point, June 13, 1936 - 2 females; 1 male; 4 im.

Ft. Pierre, Aug. 3, 1937 - 2 immature

Ft. Pierre, 10 miles south, Aug. 3, 1937 - 2 females

Jefferson, June 12, 1936 - 1 female

Kennebec, Aug. 3, 1937 - 5 females; 1 male; 12 im.

Kennebec, Aug. 14, 1937 - 1 female

Martin, June 27, 1937 - 1 male; 1 immature

Oacoma, June 21, 1937 - 1 female

Oglala, June 26, 1937 - 2 females; 3 immature

Misumenops celer cont'd

Smithwick, June 26, 1937 - 1 female

Vetal, June 27, 1937 - 1 immature

Wheeler's Bridge, June 14, 1936 - 1 female; 3 males

Misumenops sp.

Collections:

Brookings, July 17, 1936 - 1 immature

Deadwood, June 23, 1937 - 1 immature

XYSTICUS

The posterior eyes are nearly equidistant, with the median a little smaller than the lateral; the anterior median eyes are usually a little farther from each other than from the anterior lateral eyes and much smaller than the anterior lateral eyes. The median ocular area is as wide or wider than long and as wide or wider in front than behind. The tibiae and metatarsi of the anterior legs are usually furnished with more than 3 pairs of inferior spines. The tarsal claws have 5 or 6 isolated teeth. These spiders are brownish in color and live under stones and leaves or under loose bark.

Key to species of Xysticus:

1. Males 2

   Females 7

2. Cephalothorax decidedly shorter than femur I ..... Xysticus auctificus

   Cephalothorax as long or longer than femur I 3

3. First pair of legs only dark colored ..... Xysticus triguttatus

   All the legs dark colored 4

4. Posterior part of palpal bulb with one process ..... Xysticus punctatus

Posterior part of palpal bulb with two processes 5

5. Both processes similar, being equal in thickness and approximately equal in length ..... Xysticus gulosus

Processes unlike 6

6. The fore process quite thin; the hind process thick and stout ..... Xysticus ferox

The hind process only a little thicker than the fore process and only two-thirds as long...Xysticus bicuspis

7. Posterior median eyes the same distance from each other as the anterior 8

Anterior median eyes not so far from each other as the posterior 11

8. Four median eyes equal in size; epigynum just as wide as long ..... Xysticus punctatus

Four median eyes unequal in size 9

9. Posterior border of epigynum cut deeply in the middle ... Xysticus ferox

Posterior border of epigynum not cut 10

10. Epigynum with a prominent longitudinal septum which is about the same width throughout....Xysticus auctificus

Epigynum consisting of a simple transverse elliptical cavity without indentations; abdomen marked around sides and back with nearly concentric lines ..... Xysticus bicuspis

11. Epigynum consisting of a deep groove as wide as long ... Xysticus triguttatus

Epigynum consisting of a slight depression lying between two small oval bodies ..... Xysticus gulosus

Xysticus auctificus Keys.

Keyserling, Spinnen Amerikas, Laterigradae, 1880, page 25

Collections:

Jefferson, June 12, 1936 - 1 female

Newell, June 19, 1936 - 1 female

Westport, June 16, 1937 - 1 female

Xysticus triguttatus Keys.

Comstock, Spider Book, page 538

Emerton, Common Spiders, page 33

Collections:

Belle Fourche, June 18, 1936 - 1 female; 2 immature

Bonesteel, June 28, 1937 - 1 male

Brookings, Aug. 22, 1937 - 4 males

Canton, Newton's Hills, June 12, 1936 - 1 male; 1 im.

Elk Point, June 13, 1936 - 5 males; 5 females; 1 im.

Jefferson, June 12, 1936 - 1 female

Martin, Sand Hills, June 27, 1937 - 1 female

Spearfish, June 18, 1936 - 1 male

Springfield, June 14, 1936 - 1 male

Xysticus punctatus Keys. =(X. formosus Banks)

Comstock, Spider Book, page 534 (X. formosus)

Banks, Proc. Acad. Nat. Sci. Phil., 1892, page 56

Collections:

Camp Judson, Aug. 13, 1937 - 1 female

Xysticus gulosus Keys.

Comstock, Spider Book, page 534

Emerton, Common Spiders, page 31

Collections:

Brookings, Sept. 10, 1937 - 1 male

Oct. 29, 1937 - 2 females (under dung)

Flandreau, Oct. 6, 1936 - 1 male

Xysticus ferox Hentz

Comstock, Spider Book, page 534

Emerton, Common Spiders, page 30 (X. stomachosus)

Xysticus ferox cont'd

Collections:

Brookings, Sept. 3, 1937 - 1 immature female

Jefferson, June 13, 1936 - 1 male

Springfield, June 14, 1936 - 1 male

Xysticus bicuspis Keys.

Banks, Proc. Acad. Nat. Sci. Phil., 1901, page 583
plate 33, fig. 15

Collections:

Springfield, June 14, 1936 - 1 female

Xysticus sp.

Collections:

Brookings, Oct. 11, 1937 - 1 immature
Oct. 29, 1937 - 6 immature

Henry, June 14, 1937 - 1 immature

SYNEMA

Synema obscura Keys.

Comstock, Spider Book, page 541

Collections:

Camp Judson, Aug. 13, 1937 - 1 female

TITANEBO

Titanebo sp.

Gertsch, Am. Mus. Novitates (1933) #636, page 10-13

Collections:

Whitewood, Sept. 24, 1936 - 1 female

PHILODROMUS

The body is flat and the abdomen pointed behind. The posterior median eyes are much farther from each other than from the lateral eyes; the anterior lateral eyes are nearer

to the anterior median eyes than to the posterior median eyes. The second pair of legs are only slightly longer than the first pair; the third and fourth pairs are but little shorter than the first and second pairs.

Key to species of Philodromus:

1. Males 2

   Females 5

2. Cephalothorax as long or longer than metatarsus III ...3

   Cephalothorax shorter than metatarsus III ..... Philodromus pernix

3. A single short and pointed spine on distal part of tibia.. Philodromus virescens

   Tibia of palpus with a prominent apophysis 4

4. Palpal bulb elongate and not particularly swollen on inner side; tibial apophysis of palpus simple ..... Philodromus aureolus

   Palpal bulb strongly swollen on inner side; legs quite light in color while hairs of legs are conspicuously dark ..... Philodromus rufus

5. Cephalothorax wider than long ..... Philodromus pernix

   Cephalothorax as wide as long, but no wider 6

6. Cephalothorax the length of femur III 7

   Cephalothorax shorter than femur III ..... Philodromus rufus

7. Epigynum consisting of two swellings bent toward each other ..... Philodromus aureolus

   Epigynum consisting of two oblong apertures between which runs a wide separating wall; abdomen covered with very small white spots ..... Philodromus virescens

Philodromus pernix Bl.

Comstock, Spider Book, page 544

Emerton, Common Spiders, page 35 (P. vulgaris)

Collections:

Brookings, May 19, 1937 - 2 immature

Philodromus pernix cont'd

Brookings, Sept. 16, 1937 - 10 im. (curled elm leaves)
Oct. 24, 1937 - 19 immature (under bark)
Dec. 20, 1937 - 1 immature

Brookings, Sioux River, Sept. 16, 1937 - 7 immature

Philodromus rufus Wlk.

Banks, Proc. Acad. Phil., 1892, page 64

Emerton, Common Spiders, page 37 (P. pictus)

Collections:

Brookings, July 16, 1937 - 1 female

State Game Lodge, June 24, 1937 - 7 females; 1 im.

Philodromus aureolus (Clerck)

Blackwall, Spiders Gr. Britain and Ir., 1861, page 95
(P. cespiticolis)

Clerck, Svensk. Spindl., 1757, page 133 (Araneus aureolus)

Collections:

Bristol, June 22, 1936 - 2 males

Brookings, May 25, 1937 - 3 immature
July 4, 1937 - 1 female
July 12, 1937 - 2 females
Aug. 17, 1937 - 1 female
Sept. 7, 1937 - 1 female (in barn)
Nov. 12, 1937 - 1 female
Feb. 12, 1937 - 1 immature

Deadwood, June 23, 1937 - 1 immature

Englewood, June 17, 1936 - 1 male

Jefferson, June 13, 1936 - 1 female

Martin, June 27, 1937 - 3 males; 5 females

Philodromus aureolus cont'd

Pickerel Lake, Aug. 8, 1937 - 1 female

Pierre, June 17, 1937 - 1 male

Springfield, June 14, 1936 - 2 males

Philodromus virescens Thorell

Banks, Bull. U.S. Nat. Mus., 1910, page 52

Collections:

Madison, Aug. 28, 1936 - 2 immature

Philodromus sp.

Collections:

Brookings, April 29, 1937 - 1 immature

Sept. 14, 1937 - 2 immature

Sept. 16, 1937 - 3 immature

Brookings, Sioux River, Aug. 23, 1937 - 27 immature

Pine Ridge, Aug. 21, 1936 - 1 immature

Springfield, June 14, 1936 - 3 immature

THANATUS

Thanatus formicinus Cl.

F. Cambridge, Biol. Centr. Amer., 1900, v.II, page 130

Collections:

Buffalo, June 20, 1936 - 1 female

State Game Lodge, June 24, 1937 - 1 female

Thanatus sp.

Collections:

Mitchell, Sept. 12, 1936 - 2 immature

TIBELLUS

Tibellus oblongus (Walckenaer)

Comstock, Spider Book, page 550

Emerton, Common Spiders, page 39 (T. duttoni)

Tibellus oblongus cont'd

Collections:

Deadwood, June 23, 1937 - 1 female

Martin, June 27, 1937 - 1 female

Springfield, June 14, 1936 - 2 females

State Game Lodge, June 24, 1937 - 3 females

GNAPHOSIDAE

(Drassidae)

The gnaphosids are two-clawed, eight-eyed spiders, the eyes being arranged in two rows. The fore spinnerets are widely separated. Most species occur under stones or bark or in moss.

Key to genera of Gnaphosidae:

1. Lower margin of cheliceral furrow keeled or lobed 2

   Lower margin of cheliceral furrow unarmed or with one to three ordinary teeth 3

2. Posterior row of eyes much longer than the anterior, strongly recurved, with median eyes usually obviously nearer each other than laterals; lobe of lower margin of chelicerae concave and with several teeth or serrations; cephalothorax usually showing a dark line or stripe on the border between the cephalic and thoracic parts ..... Gnaphosa

   Posterior eye-row but little longer than anterior, the eyes either equidistant or the median eyes farther from each other than from the laterals; keel on lower margin of cheliceral furrow convex and very smooth and sharp; cephalothorax approximately uniform in color throughout.. ... Callilepis

3. Tibia IV with two, three, or five median dorsal spines; tibia III with one or two 4

   Tibia IV with no median dorsal spines or with only one...5

4. Eye-rows close together, the laterals on each side separated by distance decidedly less than their diameter, usually only equalling or less than their radius; posterior median eyes well separated, being only a bit farther from laterals than from each other; lower margin of cheliceral furrow with three teeth, upper with five... Sosticus

   Eye-rows widely separated, the laterals on each side separated by a distance about equalling or else exceeding their diameter; posterior median eyes much nearer each other than to laterals; (tibia of male palpus longer than tarsus; bulb with a single small apophysis outside of base of embolus) ..... Drassodes

5. Upper margin of cheliceral furrow unarmed or with keel, or with three serrations or teeth, the lower margin unarmed or with a single tooth or nodule; bulb of male palpus with no apophyses; at most with one or several small teeth near base of embolus 6

Upper margin of cheliceral furrow with three to six distinct teeth, the lower margin with two or three teeth or rarely only one; bulb of male palpus with one or more apophyses 8

6. Posterior eye-row more or less recurved; tibia III with median dorsal spine; carapace without distinct median furrow ..... Sergiolus

Posterior eye-row more or less procurved or sometimes straight 7

7. Eyes of posterior row typically nearly equidistant, the medians always well separated from each other and smaller than or at most as large as the laterals .... Herpyllus

Posterior median eyes close together and obviously larger than the laterals ..... Litopyllus

8. Upper margin of cheliceral furrow with three teeth, the lower margin with two, all well developed; posterior median eyes large and oblique ..... Haplodrassus

Upper margin of cheliceral furrow with four to six teeth, the lower margin with two or three small teeth or nodules (rarely upper margin with only three weak teeth and lower margin with but one) 9

9. Posterior eye-row straight or but little procurved with eyes typically equidistant, the median eyes small or at most but little larger than lateral eyes; bulb of male palpus with no median ventral and no ectal apophysis, but with one or two distinct chitinous ridges or apophyses ..... Zelotes

Posterior eye-row procurved, median eyes close together or contiguous, larger than lateral eyes, usually much so, oblique; bulb of male palpus with a conspicuous median ventral apophysis and with an ectal apophysis as well as a distal one ..... Drassyllus

GNAPHOSA

Gnaphosa gigantea Keyserling

Comstock, Spider Book, page 320

Collections:

Camp Judson, Aug. 13, 1937 - 1 male; 1 female

Gnaphosa sp.

Collections:

Vetal, Oct. 14, 1936 - 1 immature

CALILLEPIS

Calillepis imbecillus Keys.

Comstock, Spider Book, page 322

Emerton, Common Spiders, page 3 (Pythonissa imbecilla)

Collections:

Bonesteel, June 14, 1936 - 1 female

June 28, 1937 - 1 female

Pierre, July 26, 1936 - 1 immature

SOSTICUS

Sosticus sp.

Collections:

Brookings, June 30, 1937 - 1 male

DRASSODES

Drassodes neglectus Keys.

Comstock, Spider Book, page 312 (Drassus neglectus)

Collections:

State Game Lodge, June 24, 1937 - 1 male

SERGIOLUS

Sergiolus sp.

Collections:

Waubay, June 22, 1936 - 1 male

HERPYLLUS

Herpyllus vasifer (Walckenaer)

Comstock, Spider Book, page 318

Emerton, Common Spiders, page 5 (Prosthesima ecclesiastica)

Collections:

Herpyllus vasifer cont'd

Brookings, Mar. 30, 1937 - 1 immature male

April 1, 1937 - 1 immature

April 12, 1938 - 1 female

July 24, 1937 - 1 immature

July 28, 1937 - 1 immature

Aug. 11, 1937 - 1 female

Aug. 18, 1937 - 1 male

Aug. 22, 1937 - 2 males

Aug. 24, 1937 - 1 male; 1 female

Sept. 12, 1937 - 1 female (in garage)

Oct. 6, 1937 - 1 female

Brookings, Sioux River, Sept. 11, 1937 - 2 immature

State Game Lodge, June 24, 1937 - 1 female

LITOPYLLUS

Litopyllus sp.

Collections:

Spearfish, June 18, 1936 - 1 female

HAPLODRASSUS

Haplodrassus signifer (C. Koch) =(Drassus signifer Koch)
=(Drassodes robustus)

Comstock, Spider Book, page 313 (D. robustus)

Emerton, Trans. Conn. Acad. Sci., 1889, v.8, page 179

Collections:

Hanna, June 17, 1936 - 1 female

State Game Lodge, June 24, 1937 - 1 female

Haplodrassus sp.

Collections:

Brookings, Oct. 24, 1937 - 1 immature

ZELOTES

Zelotes subterraneus Koch

Comstock, Spider Book, page 316 (Z. ater)

Chamberlin, Proc. Biol. Soc. of Wash. D.C. 35:163

Collections:

Brookings, July 2, 1936 - 1 male

July 30, 1937 - 1 immature male

Oct. 29, 1937 - 1 female

Brookings, Sioux River, Sept. 12, 1937 - 2 females

Camp Judson, Aug. 13, 1937 - 1 male; 1 immature female

DRASSYLLUS

Drassyllus sp.

Collections:

Elk Point, Oct. 9, 1936 - 1 immature

CLUBIONIDAE

Clubionids

These spiders are two-clawed and eight-eyed with the eyes arranged in two rows. The fore spinnerets are contiguous. Most species live in flat tubular nests on plants, in rolled leaves, or on the ground under stones, rubbish or in moss.

Key to genera of Clubionidae:

1. A transverse furrow on ventral side of abdomen remote from spinnerets representing the openings of the posterior spiracles 2

   No such furrow remote from the spinnerets 3

2. The furrow placed at or before the middle of the venter; anterior median eyes equal to anterior lateral eyes.... Aysha

   The furrow behind the middle of the venter; anterior median eyes smaller than anterior lateral eyes .... Anyphaenella

3. Maxillae impressed with an oblique furrow; no dorsal groove ..... Micaria

   Maxillae without a furrow, convex; dorsal groove usually present 4

4. Anterior median eyes several times their diameter from the clypeal margin; often a horny spot near base of abdomen; legs usually partly dark ..... Castaneira

   Anterior median eyes scarcely their diameter from the clypeal margin; no horny spot on abdomen; legs never dark ..... Clubiona

AYSHA

Aysha gracilis Hentz

Banks, Proc. Acad. Phil., 1904, p.121 (Anyphaena gracilis)

Collections:

Bonesteel, June 28, 1937 - 1 female

ANYPHAENELLA

Anyphaenella saltabunda Hentz

Emerton, Common Spiders, page 14

Emerton, Trans. Conn. Acad. Sci., 1889, v.8, page 187

Collections:

Springfield, June 14, 1936 - 1 female

MICARIA

Micaria sp.

Collections:

Brookings, Aug. 30, 1937 - 1 immature

Buffalo, June 20, 1936 - 1 female

Pickerel Lake, Aug. 8, 1937 - female (possibly M. aurata, but may be a distinct species)

CASTANEIRA

Castaneira amoena Koch

Banks, Journ. N. Y. Ent. Soc., 1893, v.1, page 127 (Thargalia amoena)

Collections:

Brookings, July 2, 1937 - 1 female

Mobridge, Aug. 2, 1936 - 1 im. (under driftwood)

CLUBIONA

Medium or small in size; pale or tawny in color. The median furrow of the thorax is present. The posterior eyes are equidistant or the median eyes are farther from each other than from the lateral eyes. The lower margin of the furrow of the chelicerae is usually armed with two teeth, but sometimes with three, four, or five. These spiders live in silken tubes which they spin under bark or stones or in rolled leaves.

Key to species of Clubiona:

1. Males and females 3 to 4 mm. long ..... Clubiona abbotti

   Larger species; 6 mm. or more in length 2

2. Male palpi with the tibia shorter than the patella; a flat wide process on outer side extending forward over the tarsus ..... Clubiona emertoni

   Male palpi with the tibia as long as the patella, the process on the outer side being long and slender with the end curved inward over the tarsus ... Clubiona obesa

Clubiona abbotti Koch

Comstock, Spider Book, page 566

Emerton, Common Spiders, page 18, (C. rubra)

Collections:

Brookings, Oct. 6, 1937 - 1 male

Clubiona emertoni Petr.

Emerton, Trans. Conn. Acad. Sci., 1889, v.8, page 181

(C. pusilla)

Collections:

State Game Lodge, June 24, 1937 - 4 females; 2 im.

Clubiona obesa Hentz

Comstock, Spider Book, page 567

Emerton, Common Spiders, page 16

Collections:

Brookings, June 9, 1937 - 1 female

Clubiona sp.

Collections:

Brookings, Sept. 3, 1937 - 1 immature

SUMMARY

1. Spider collections have been made over various parts of South Dakota including seventy-two different localities occurring in thirty-six counties.

2. Thirteen families and sixty-six genera including one-hundred-and-thirteen species of spiders have been found in the state.

3. The four most common spiders were found to be: Agelena naevia Walck., Tetragnatha laboriosa Hentz, Steatoda borealis (Hentz), and Aranea gemmoides Chamberlin & Ivie. These four species included one-third of the total two-thousand-five-hundred spiders which were collected in the state.

4. The families which are richest in the number of species are: the Lycosidae with twenty-two species, the Thomisidae with eighteen species, the Attidae with fifteen species, the Dictynidae with thirteen species, the Argiopidae with eleven species, and the Gnaphosidae with ten species.

5. Some micro-Linyphiidae were collected but could not be identified; a large number of specimens in many of the families were immature and could not even be placed to the genus.

LIST OF FAMILIES, GENERA AND SPECIES RECORDED FROM SOUTH DAKOTA

DICTYNIDAE

Amaurobius americanus (Em.)

Dictyna bicornis Em.

brevitarsus Em.

volucripes Keys.

bostoniensis Em.

foliacea (Hentz)

frondea Em.

vincens Chamb.

sublata (Hentz)

arundinaceoides Keys

bellans Chamb.

vigilans Gertsch and Ivie

new species (not yet described)

ATTIDAE

Pellenes sp.

Maevia vittata (Hentz)

Stoides aurata (Hentz)

Phlegra leopardus (Hentz)

Salticus scenicus (Clerck)

Dendryphantes capitatus (Hentz)

Pseudicius sp.

Icius elegans (Hentz)

similis Banks

Agassa cyanea (Hentz)

Sassacus papenhoei Peck.

Attidae cont'd

Phidippus insignarius (C. Koch)

clarus Keys.

audax (Hentz)

purpuratus Keys.

MIMETIDAE

Mimetus epeiroides Em.

interfector Hentz

AGELENIDAE

Cicurina sp.

Agelena naevia Walck.

Tegenaria domestica (Clerck)

THERIDIIDAE

Latrodectus mactans (Fabricius)

Steatoda borealis (Hentz)

Lithyphantes corollatus (Linn.)

Teutana triangulosa (Walck.)

Theridion tepidariorum Koch

Robertus riparius Keys.

LINYPHIIDAE

Erigone blaesa C. and B.

Linyphia marginata Koch

Lephthyphantes leprosus (Ohl)

ARGIOPIDAE

Tetragnatha elongata Walckenaer

laboriosa Hentz

vermiformis Emerton

Leucauge venusta (Walckenaer)

Metargiope trifasciata (Forskal)

Argiopidae cont'd

Neoscona benjamina (Walck.)

arabesca Walck.

Singa variabilis Em.

Aranea gemmoides Chamberlin and Ivie

patagiata Cl.

OXYOPIDAE

Oxyopes salticus Hentz

scalaris Hentz

LYCOSIDAE

Pirata piratica (Olivier)

sedentarius Montg.

Pardosa mercurialis Montgomery

fuscula (Thorell)

groenlandica (Thorell)

sternalis (Thorell)

distincta (Blackwall)

mackenziana (Keyserling)

milvina (Hentz)

xerampelina (Keyserling)

Schizocosa crassipes (Walckenaer)

saltatrix (Hentz)

Tarentula aculeata (Cl.)

Geolycosa sp.

Arctosa sp.

Lycosa permunda Chamb.

grandis Banks

helluo Walck.

avida Walck.

Lycosa cont'd

frondicola Emerton

pratensis Emerton

minnesotensis Gertsch

PISAURIDAE

Dolomedes triton sexpunctatus Hentz

scriptus Hentz

THOMISIDAE

Misumena vatia Clerck

Coriarachne versicolor Keys.

Misumenops asperatus Hentz

celer Hentz

Xysticus auctificus Keys.

triguttatus Keys.

punctatus Keys.

gulosus Keys.

ferox Hentz

bicuspis Keys.

Synema obscura Keys.

Titanebo sp.

Philodromus pernix Bl.

rufus Wlk.

aureolus (Clerck)

virescens Thorell

Thanatus formicinus Cl.

Tibellus oblongus (Walckenaer)

GNAPHOSIDAE

Gnaphosa gigantea Keyserling

Calillepis imbecillus Keys.

Gnaphosidae cont'd

Sosticus sp.

Drassodes neglectus Keys.

Sergiolus sp.

Herpyllus vasifer (Walckenaer)

Litopyllus sp.

Haplodrassus signifer (C. Koch)

Zelotes subterraneus Koch

Drassyllus sp.

CLUBIONIDAE

Aysha gracilis Hentz

Anyphaenella saltabunda Hentz

Micaria sp.

Castaneira amoena Koch.

Clubiona abbotti Koch

emertoni Petr.

obesa Hentz

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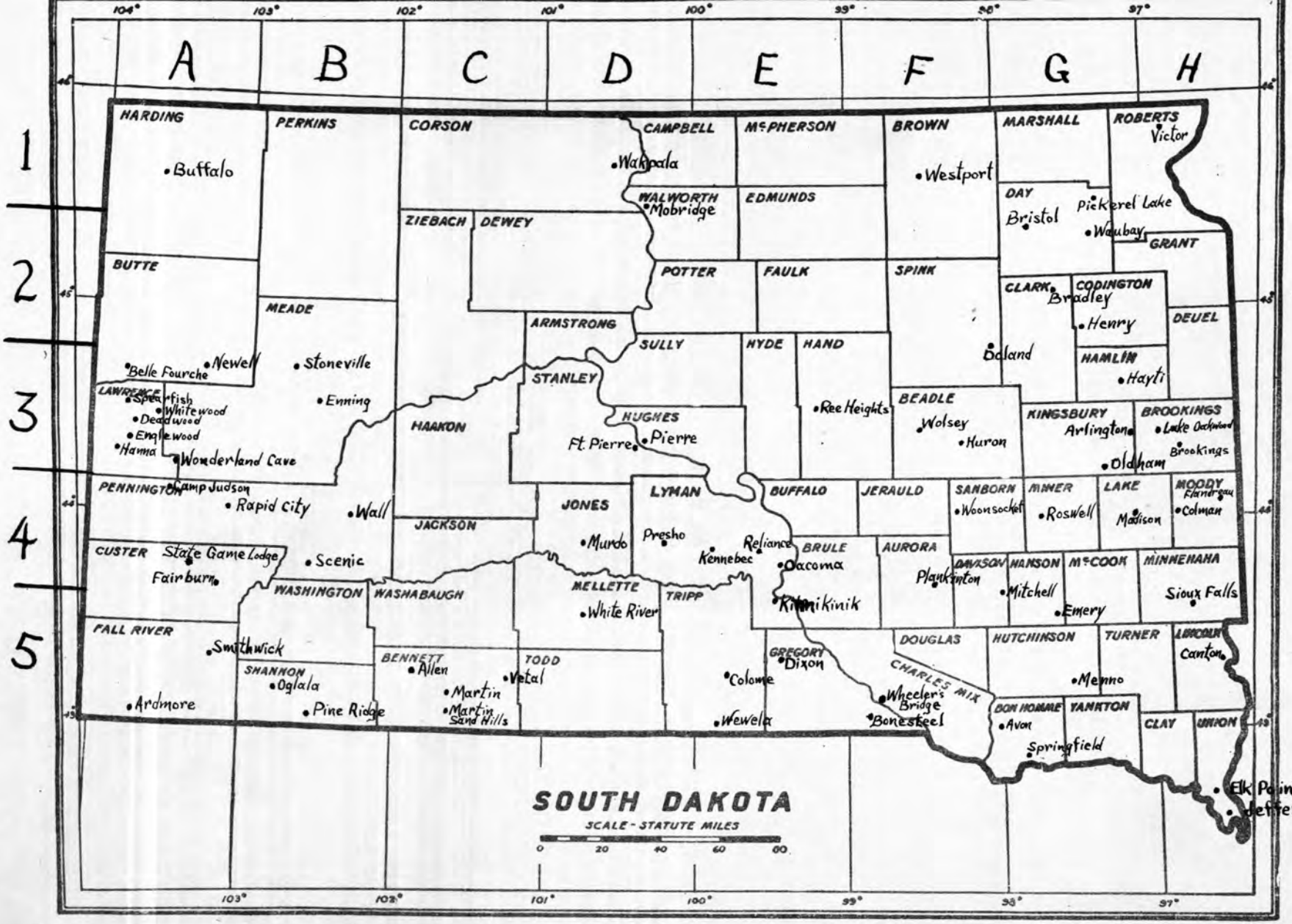
APPENDIX

LIST OF LOCALITIES IN SOUTH DAKOTA WHERE COLLECTIONS HAVE BEEN MADE WITH KEY FOR MAP LOCATION

Allen-C5
Ardmore-A5
Arlington-G3
Avon-F5
Belle Fourche-A3
Bonesteel-F5
Bradley-G2
Brookings-H3
Buffalo-A1
Camp Judson-A4
Canton-H5
Colman-H4
Colome-E5
Deadwood-A3
Dixon-E5
Doland-F3
Elk Point-H5
Emery-G4
Englewood-A3
Enning-B3
Fairburn-A4
Flandreau-H4
Ft. Pierre-D3
Hanna-A3
Hayti-G3
Henry-G2
Huron-F3
Jefferson-H5
Kennebec-E4
Kinnikinik-E4
Lake Oakwood-H3
Madison-G4
Martin-C5
Martin Sand Hills-C5
Menno-G5
Mitchell-F4
Mobridge-D1
Murdo-D4
Newell-A3
Oacoma-E4
Oglala-B5
Oldham-G3
Pickerel Lake-G1
Pierre-D3
Pine Ridge-B5
Plankinton-F4
Presho-D4
Rapid City-A4
Ree Heights-E3
Reliance-E4
Roswell-G4
Scenic-B4
Sioux Falls-H4
Smithwick-A5
Spearfish-A3
Springfield-G5
State Game Lodge-A4
Stoneville-B3
Vetal-C5
Victor-H1
Wakpala-D1
Wall-B4
Waubay-G2
Westport-F1
Wewela-E5
Wheeler's Bridge-F5
White River-D4
Whitewood-A3
Wolsey-F3
Wonderland Cave-A3
Woonsocket-F4



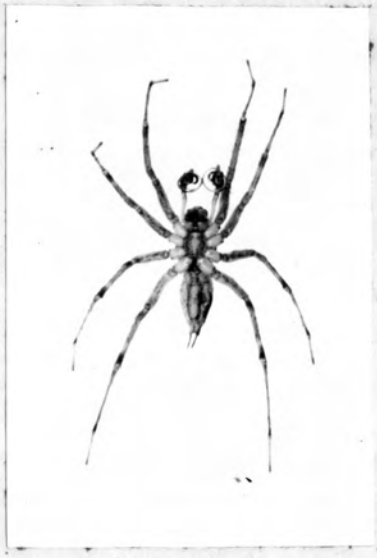
MAP OF LOCALITIES WHERE COLLECTIONS HAVE BEEN MADE

Phidippus audax
♀

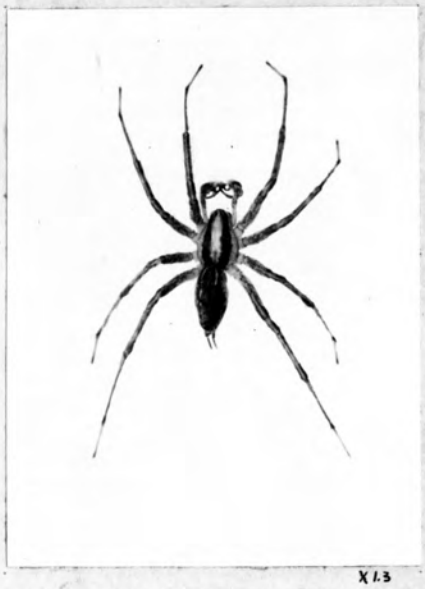
X 1.5

Phidippus audax
♀

Funnel webs of
Agelena naevia



Agelena naevia (ventral)
♂



X 1.3

Agelena naevia (dorsal)
♂

X 2.5

Latrodectus mactans
(immature)

X 1.5

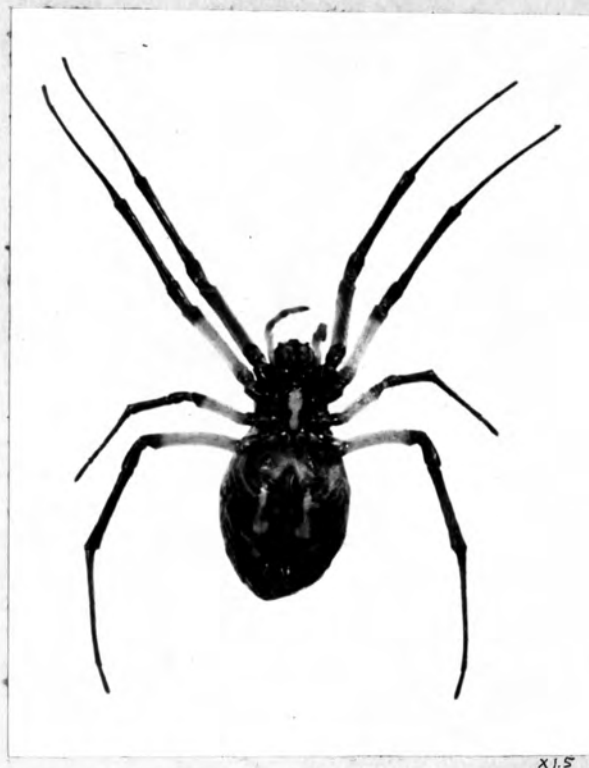
Aranea gemmoides ♀

X1.3

Latrodectus mactans
♀

x 1.5

Metargiope trifasciata (ventral) ♀



x1.5

Miranda aurentia (ventral) ♀

x1.5

Dolomedes scriptus (im.)

x1

Miranda aurentia ♀

x1

Coriarachne versicolor ♀

Xysticus triguttatus ♀ ♂

x1.3

Clubiona sp.

X 1.3

Herpyllus vasifer

x1

Lycosa permunda ♀

X 1.3

Lycosa sp. ♂