

# **Annotated Check List of the Spiders (Araneae) of the Mountain Zebra National Park**

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A preliminary check list of the spider fauna of the Mountain Zebra National Park is given. Sixteen families, comprising 29 genera and 32 species, are recorded. Observations on the distribution, diagnostic morphology and behaviour of 15 species are given.

Key words: Spiders, Araneae, check list, Mountain Zebra National Park.

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## **Introduction**

Little is known of the arachnid (non-acari) fauna inhabiting the national parks of South Africa. Lawrence (1964a, 1964b; 1967) and Newlands (1972) discussed the solifugids, scorpions and pedipalps of the Kruger National Park, while Lamoral (1973) revised a genus of a solifugid of the Kalahari Gemsbok National Park. No inventory of the spiders of the national parks has been published to date, except for reference to locality records in taxonomic revisions (e.g. Dippenaar-Schoeman 1980, 1983, 1986; Jocqué 1984).

In the present paper, which is the first of a series on the spiders of the national parks, results of a preliminary survey of the spider fauna of the Mountain Zebra National Park (MZNP) are given. The species listed probably represent only a small portion of the rich spider fauna of the eastern Cape of which the MZNP forms part.

The paper is divided into two parts: first, a list of all the spider families (based on both adults and juveniles) and second, a section on identified species with remarks on their distribution and diagnostic behaviour. A large number of the spiders collected were immature and consequently could not be identified to species level. Unless stated otherwise, all species discussed are new records for the MZNP.

## **Materials and Methods**

Sporadic collecting was undertaken by different members of the Plant Protection Research Institute in March 1965, March 1976 and March 1986. Spiders were sampled with a sweepnet (grass, low bushes and herb layer), beating tray (bushes and trees) and hand collecting (ground and webs). The material is housed in the National Collection of Arachnida (NCA), Plant Protection Research Institute, Pretoria.

## Check List of the Spider Fauna of the Mountain Zebra National Park

Class Arachnida

Order Araneae

### 1. Family Araneidae (orb-web spiders)

<i>Argiope nigrovittata</i> Thorell, 1859	black-and-yellow garden spider*
<i>Neoscona quincasea</i> Roberts, 1983	orb-web weaver*
<i>Araneus</i> sp.	hairy field spider
<i>Caerostris</i> sp.	bark spider
<i>Cyclosa</i> sp.	garbage line spider
<i>Larinia</i> sp.	grass orb-web spider

### 2. Family Clubionidae (sac spiders)

<i>Clubiona sigillata</i> Lawrence, 1952	leaf curling sac spider*
<i>Chiracanthium</i> sp.	long-legged sac spider

### 3. Family Dictynidae (hackled band-web spiders)

*Mashimo leleupi* Lehtinen, 1967\*

### 4. Family Linyphiidae (Hammock-web spiders)

<i>Microlinyphia sterilis</i> (Pavesi, 1883)	black-and-white sheet-web spider*
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### 5. Family Lycosidae (wolf spiders)

<i>Pardosa</i> sp.	sand wolf spider
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### 6. Family Nephilidae (golden orb-web spiders)

<i>Nephila pilipes fenestrata</i> (Thorell, 1859)	black-legged nephila*
<i>N. senegalensis annulata</i> (Thorell, 1859)	banded-legged nephila*

### 7. Family Oxyopidae (lynx spiders)

<i>Peucetia maculifera</i> Pocock, 1900	green lynx spider*
<i>Oxyopes</i> sp.	golden lynx spider

### 8. Family Philodromidae (small wandering crab-spiders)

*Philodromus* sp.

### 9. Family Pisauridae (nursery-web spiders)

*Voraptus* sp.

### 10. Family Salticidae (jumping spiders)

3 genera, 4 spp.

### 11. Family Scytodidae (spitting spiders)

*Scytodes cedri* Purcell, 1904\*

### 12. Family Tetragnathidae (water orb-web spiders)

<i>Tetragnatha</i> sp.	long-jawed water spider
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### 13. Family Theridiidae (comb-footed spiders)

<i>Latrodectus geometricus</i> C.L. Koch, 1841	brown button spider*
<i>Enoplognatha</i> sp.	

### 14. Family Thomisidae (true crab spiders)

<i>Holopelus albibarbis</i> Simon, 1895*	
<i>Misumenops rubrodecorata</i> Millot, 1941*	
<i>Thomisus stenningi</i> Pocock, 1900	flower crab spider*

*Runcinia flavida* (Simon, 1881)  
*R. aethiops* (Simon, 1901)

long-bodied crab spider\*  
grass crab spider\*

15. Family Uloboridae (lace orb-web spiders)

*Uloborus* sp.

Suborder Mygalomorphae

16. Family Dipluridae (tree funnel-web spiders)

*Hermacha* sp.

\*spiders discussed in text

## Notes on Behaviour and Distribution

### Family Araneidae

Genus *Argiope* Savigny and Audouin, 1827

Garden orb-web spiders

Most *Argiope* species are large, conspicuous spiders that hang head down in the centre of an orb-web that they build between plants. The web usually has crossed zigzag silk bands known as a stabilimentum over the centre of the web. The spider usually sits with its legs in line with the bars of the stabilimentum. Most species are easily recognised by their size and colour patterns.

*Argiope nigrovittata* Thorell, 1859

Black-and-yellow garden spider  
(Fig. 1)

Remarks: This species is characterised by a silver-grey carapace, lobed abdomen with yellow and blueish-black bands across it and banded legs. The body length of the female may exceed 25 mm while the male is only a few millimeters long. It is widely distributed in southern Africa.

Material collected: 1 ♀ (NCA 76/490), in orb-web, 24 March 1976, A.S. Dippenaar; 2 ♀ (NCA 86/50), beating bushes, 6 March 1986, M.K.P. Meyer.

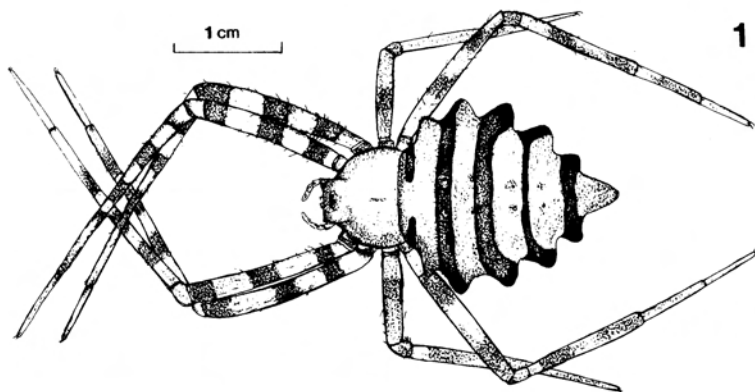


Fig. 1 *Argiope nigrovittata* Thorell, dorsal view of female.

Genus *Neoscona* Simon, 1864

Orb-web weavers

*Neoscona* are medium-sized orb-web spiders. They build their webs in grass or low bushes. They resemble the hairy field spiders (*Araneus*) closely but could be distinguished from them by the presence of a longitudinal fovea on the carapace and the shape of the genitalia.

*Neoscona quincasea* Roberts, 1983

Remarks: This species is characterised by the shape of the genitalia. In the female the scape is short and in ventral view the spermathecal openings are clearly visible on both sides of the scape. Grasshoff (1986) recorded this species from tropical east Africa, the Aldabra Island, and the Transvaal and the Cape Province of South Africa.

Material collected: 1♀ (NCA 86/47), beating (herbs), 6 March 1986, M.K.P. Meyer; 1♀ (NCA 87/53), beating (herbs), 5 March 1986, M.K.P. Meyer.

#### Family Clubionidae

Genus *Clubiona* Latrielle, 1804

Leaf curling sac spiders

Spiders of the genus *Clubiona* move about on the stems and foliage of plants at night. During the day they hide themselves in a silken sac made in the fold of grass leaves or other suitable foliage. Members of this genus are medium-sized to small, pale or tawny in colour, and the abdomen is covered with white or pale yellow hairs giving it a silky appearance. The mouthparts are usually brownish.

*Clubiona sigillata* Lawrence, 1952

Remarks: This species can be distinguished by the shape of the male genitalia. In the male the abdominal scute occupies the whole of the dorsal surface of the abdomen except for a small part near its posterior end. Previously recorded in South Africa only from Natal by Lawrence (1952).

Material collected: 1♂ (NCA 76/594), found in sac retreat under the bark of a tree, 23 March 1976, A.S. Dippenaar; juveniles (NCA 76/602), sweeping grass, 23 March 1976, A.S. Dippenaar.

#### Family Dictynidae

*Mashimo* Lehtinen, 1976

Hackled band-web spiders

*Mashimo* belongs to a family of small (usually < 5 mm) cribellate spiders. They are usually found on vegetation where they build a small hackled band-web on the tips of branches. Very little is known about this family in South Africa.

*Mashimo leleupi* Lehtinen, 1967

Remarks: This species has radiating shallow depressions on the thoracic area and the median area of the carapace is dark brown with the margins pale yellow. The abdomen is large and oval, dorsally with a wide folium and dark brown markings. Previously known only from the type locality in Zambia.

Material collected: 1♀ (NCA 87/2), on green shrubs (sweepnet), 23 March 1976, A.S. Dippenaar.

Family Linyphiidae

Genus *Microlinyphia* Gerhardt, 1928

Sheet-web spiders

These small spiders usually build their sheet- or hammock-webs close to the ground between grass. In the early morning their webs are easily seen when they are covered with dew. The web is slightly domed and lacks any form of retreat. The spider hangs upside down on the underside of the web.

*Microlinyphia sterilis* (Pavesi, 1883)

Black-and-white sheet-web spider

Remarks: This species is uniformly dark brown to black with a shiny appearance. The abdomen has white spots on the dorsal and dorsolateral side. It is a very common species throughout southern Africa and is easily collected with a sweepnet. Recorded for the first time from the MZNP by Jocqué (1984).

Material collected: 3♀ (NCA 76/567), grass (sweepnet), 23 March 1976, A.S. Dippenaar; 1♂ (NCA 76/578), grass (sweepnet), 24 March 1976, A.S. Dippenaar; 1♀ (NCA 76/591), green herbs (sweepnet), 23 March 1976, A.S. Dippenaar; 1 immature ♀ (NCA 76/614), herbs (sweepnet), 23 March 1976, A.S. Dippenaar.

Family Nephilidae

Genus *Nephila* Leach, 1815

Golden orb-web spiders

The females of the golden orb-web spiders are easily recognised by their large size. They have a body length of about 35 mm, elongated cylindrical abdomens and bright colours, while the males are much smaller with dull colours. They build large orb-webs of very strong golden silk capable of catching small birds. They hang upside down on their webs which they construct between large trees. The males are usually found on the web of the female.

*Nephila pilipes fenestrata* (Thorell, 1859)

Black-legged nephila  
(Fig. 2)

Remarks: The female is large with a body length of 25 to 30 millimetres. The carapace is grey and has a silky texture and the abdomen a distinct colour pattern. The legs are dark brown to black with conspicuous tufts of hair on the femora and tibiae of legs I, II and IV. It is widely recorded from South Africa. Material collected: 1♀, 1♂ (NCA 76/538), in orb-web, 23 March 1976, A.S. Dippenaar.

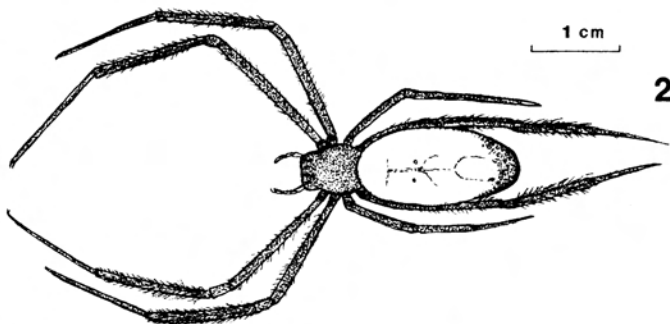


Fig. 2 *Nephila pilipes fenestrata* (Thorell), dorsal view of female.

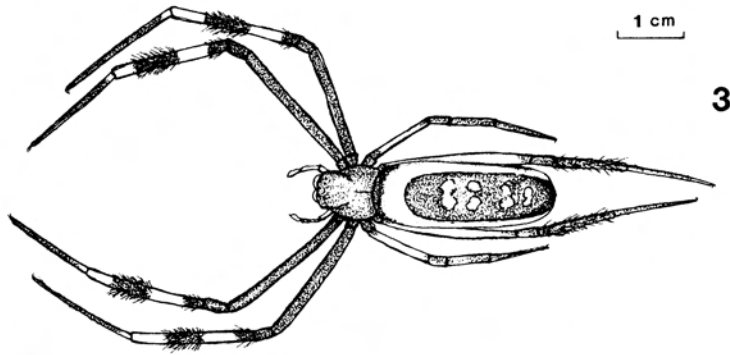


Fig. 3 *Nephila senegalensis annulata* (Thorell), dorsal view of female.

*Nephila senegalensis annulata* (Thorell, 1859)

Banded-legged nephila  
(Fig. 3)

Remarks: This species is slightly larger than the species mentioned above. The abdomen has a distinct pattern. The legs have yellow bands, and the femora and tibiae of legs I, II and IV also provided with tufts of hair. It is widely distributed in South Africa.

Material collected: 1♀ (NCA 76/537), in orb-web, 24 March 1976, A.S. Dippenaar.

#### Family Oxyopidae

*Peucetia* Thorell, 1869

Green lynx spiders

The members of this genus are commonly found on plants. They are medium-sized to large vivid green spiders, sometimes with conspicuous yellow or red streaks and spots on the carapace. Their legs are slender and covered with long, conspicuous, irregularly arranged setae. The eight eyes are arranged in the shape of a hexagon.

*Peucetia maculifera* Pocock, 1900

Remarks: This species is separated from other species by the shape of the genitalia. In the Cape Province previously recorded (Pocock 1900) only from King William's Town.

Material collected: 1♂ (NCA 76/536), grass and herb layer (sweepnet) 23 March 1976, A.S. Dippenaar; 1 immature ♀ (NCA 76/604), grass (sweepnet), 23 March 1976, A.S. Dippenaar.

#### Family Scytodidae

Genus *Scytodes* Latreille, 1804

Spitting spiders

Small to medium-sized spiders with long thin legs, easily recognised by their large, strongly convex carapace. They are nocturnal wandering spiders often found in and around dwellings. The poison glands consist of two parts, an anterior part that produces venom and a posterior part that produces a sticky substance. *Scytodes* catches its prey by quickly spitting this poisonous glue on it, thereby fixing it to the ground before it is poisoned.

*Scytodes cedri* Purcell, 1904

Remarks: The carapace of this species is well-developed with a median black stripe reaching the highest part of the dorsal surface. The abdomen is pale yellow, seldom spotted. Horny plates and a pair of longitudinal ridges are present on the underside of the abdomen. Previously recorded in South Africa only from the Cedarberg Range, Clanwilliam, Cape Province (Purcell 1904). Material collected: 1♂ (NCA 76/533), under debris, 23 March 1976, N.J. Dippenaar.

#### Family Theridiidae

Genus *Latrodectus* Walckenaer, 1805

Button spiders

The well-known button spiders belong to this genus. They are the largest theridiid spiders and three species are found in South Africa. The venom of these spiders is neurotoxic and causes systemic symptoms and localised pain.

*Latrodectus geometricus* C.L. Koch, 1841

Brown button spider

Remarks: The adult female, with a body length of about 12 mm, has a colour pattern which may vary considerably. Dorsally, the spider may be uniformly dark brown or creamy white. There is always a red or orange hourglass marking on the ventral surface of the abdomen. On the dorsal surface of the paler specimens intricate patterns of yellow, brown or red are present. The male is inconspicuous and about 4 mm long. The female spins an irregular web, often under window sills, stones and rubble. The white to cream egg cocoon is about 10 mm in diameter with a spiky appearance. The brown button spider is found throughout South Africa. It is commonly found in built-up areas and making its web under window sills in and around outbuildings.

Material collected: 1♂ (NCA 76/588), herbs (sweepnet), 23 March 1976, A.S. Dippenaar; 1 immature ♀ (NCA 76/563), grass, 23 March 1976, A.S. Dippenaar.

#### Family Thomisidae

• This family is distinguished by the crab-like appearance of its species. The legs are frequently directed sideways with the first two pairs usually much longer and stronger than the posterior pairs. Four genera were recorded from the MZNP.

Genus *Holopelus* Simon, 1886

The members of the genus *Holopelus* are small spiders with short, stout legs and globular bodies. They occur mainly on grass and low shrubs where their small straw-coloured bodies camouflage them very well.

*Holopelus albibarbis* Simon, 1895

(Fig. 4)

Remarks: This species is distinguished by size and colour from the only other species in the genus, *H. almiae* Dippenaar-Schoeman, 1986. It is known only from the Cape Province and recorded from the MZNP by Dippenaar-Schoeman (1986).

Material collected: 1♀ (NCA 76/607), small bushes (sweepnet), 23 March 1976, A.S. Dippenaar.

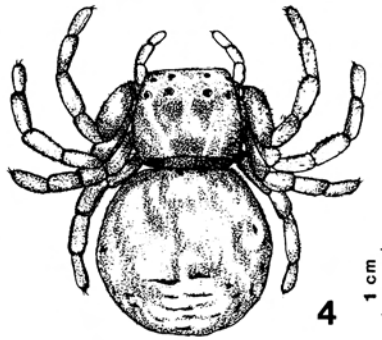


Fig. 4 *Holopelus albibarbis* Simon, dorsal view of female.

Genus *Misumenops* Pickard-Cambridge, 1900

Spiders of the genus *Misumenops* are small and have green to yellow bodies; the abdomen and legs I and II are sometimes decorated with red markings. The body is covered with numerous erect setae. Their general appearance and movement are crab-like and they ambush their prey in the blossoms of herbs, shrubs and trees. In South Africa the genus is represented by only one species.

*Misumenops rubrodecorata* Millot, 1941

Remarks: This species is easily distinguished from the other African species on account of the genitalia. Recorded from the MZNP by Dippenaar-Schoeman (1983).

Material collected: 1 immature ♀, juveniles (NCA 76/623), grass (sweepnet), 23 March 1976, A.S. Dippenaar.

Genus *Thomisus* Walckenaer, 1805

Flower crab spiders

*Thomisus* is a large genus which contains about 82 species, 15 having been recorded from southern Africa to date. These spiders have strong bodies and robust front legs which enable them to attack insects larger than themselves. Their eyes are situated on distinct tubercles. With their cryptic colouration most species await their prey (primarily insect pollinators e.g. bees) in the heads of flowers and some species are able to change from white to yellow and vice versa or pink which is a more permanent colour.

*Thomisus stenningi* Pocock, 1900

(Fig. 5)

Remarks: The female's body length is about 5,3 mm which is longer than that of the male (2,8 mm). The female is usually white or yellow but can change colour so that occasional specimens with pink patches over the entire body are found. This species can be distinguished by the shape of the genitalia. It is widely distributed throughout southern Africa and recorded from the MZNP by Dippenaar-Schoeman (1983).

Material collected: 1♂ (NCA 76/558), grass (sweepnet), 23 March 1976, N.J. Dippenaar; 1♂ (NCA 76/600), grass (sweepnet), 23 March 1976, A.S. Dippenaar; 2♂ (NCA 86/42), small bushes (beating), 5 March 1986, M.K.P. Meyer; 1♂ (NCA 86/45), mixed grass (sweepnet), 5 March 1986, E. Ueckermann.



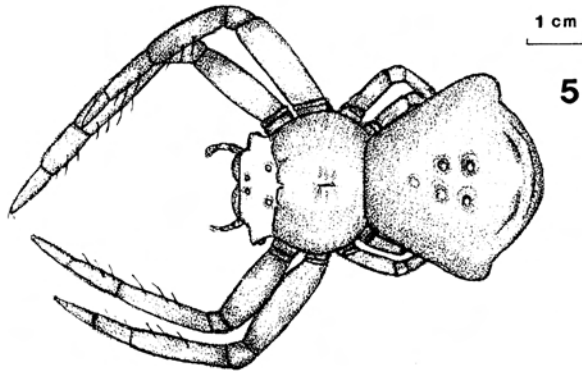


Fig. 5 *Thomisus stenningi* Pocock, dorsal view of female.

Genus *Runcinia* Simon, 1875

Grass crab spiders

This genus includes a group of spiders characterised by their slightly flattened bodies, which vary in shape from triangular or oval to long and narrow, and their eyes which are situated on a carina. *Runcinia* species display an interesting range of adaptations to their habitat. They have been collected primarily on grass. Their colouration and dark longitudinal body lines resemble the veins of grass blades. Spiders of this genus typically sit with their bodies pressed close to the grass, the first two pairs of legs pointing directly forwards. Nine species are known from southern Africa, two of which were recorded from the MZNP.

*Runcinia flavida* (Simon, 1881)

Long-bodied crab spider  
(Fig. 6)

Remarks: This species is characterised by its long narrow fawn body, which is truncated anteriorly and posteriorly. The abdomen is decorated with two dark brown longitudinal lines. *Runcinia flavida* is the most common species of *Runcinia* found in southern Africa. Previously recorded from the MZNP by Dippenaar-Schoeman (1980).

Material collected: 1♀, juveniles (NCA 86/57), mixed grass (sweepnet), 5 March 1986, M.K.P. Meyer; 1 immature ♀ (NCA 76/559), grass (sweepnet), 23 March 1976, A.S. Dippenaar; 1 immature ♀ (NCA 76/571), grass (sweepnet), 24 March 1976; 1♀ (NCA 86/57), grass (sweepnet), 5 March 1986, E. Ueckermann.

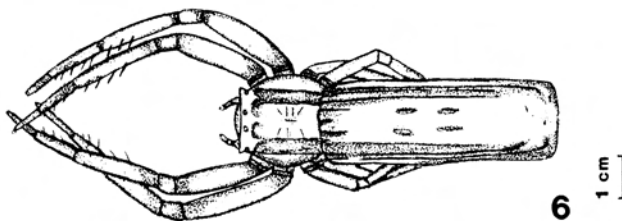


Fig. 6 *Runcinia flavida* (Simon), dorsal view of female.

*Runcinia aethiops* (Simon, 1901)

Grass crab spider

Remarks: It is characterised by a triangular-shaped abdomen with distinct markings. The epigynum and palp are large in comparison to those of the other African species. This species is widely distributed throughout southern Africa and has been recorded from the MZNP by Dippenaar-Schoeman (1980).

Material collected: 1♀ (NCA 76/608), green herbs (sweepnet), 23 March 1976, A.S. Dippenaar.

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