= Maevia inclemens =

Maevia inclemens is a relatively common and colorful jumping spider of North America . In the males there are two forms , a very rare phenomenon in zoology . These use different courting displays , : 3 @-@ 4 and differ in appearance : the " tufted " morph has a black body and pedipalps (" palps ") , three black tufts across its " head " , and pale legs ; and the " gray " morph has black and white stripes all over its body and legs , orange palps , and no tufts . However , each form accounts for 50 % of the adult males , and they are equally successful in mating . A female of Maevia inclemens is 6 @.@ 5 to 8 @.@ 0 millimetres (0 @.@ 26 to 0 @.@ 31 in) long , while males are 4 @.@ 75 to 6 @.@ 50 millimetres (0 @.@ 187 to 0 @.@ 256 in) long . : 3 @-@ 4

Like all jumping spiders , M. inclemens has excellent vision . The main eyes , in the front @-@ and @-@ center position , are large , and are more acute than those of a cat and about 10 times as acute as a dragonfly 's . The remaining three pairs of eyes are along the sides of the head , and work as motion detectors . The eyes are used for hunting , for avoiding threats and for finding and wooing mates . Almost all jumping spiders are predators , mostly preying on insects , on other spiders , and on other arthropods .

M. inclemens is one of the 11 species in genus Maevia . The species was first called Attus inclemens , and other names have been used . The two male forms look and behave so differently that they were originally considered two distinct species . In 1955 Robert Barnes chose M. inclemens , : 1 and this has become the standard name .

The species is found in west southern Canada , and in the United States its distribution forms a crescent from the north mid @-@ west through New England and south to Florida . M. inclemens has been able to establish itself in man @-@ made structures such as outbuildings or fences .

= = Taxonomy = =

Maevia inclemens is the type species for the genus Maevia (C.L. Koch , 1850) , : 2 @-@ 3 which includes another 10 species in May 2011 . The species name is derived from Latin adjective incl?mens " cruel , harsh " or " rough " . The species was first called Attus inclemens , and other names including Attus vittatus , Maevia pencillata , and Maevia vittata . : 2 @-@ 3 Also the two male forms look and behave so differently that they were originally considered two distinct species . In 1955 Robert Barnes chose M. inclemens , : 1 and this has become the standard name .

= = Description = =

Spiders are chelicerates , which differ from other arthropods in that the usual body segments are fused into only two tagmata , the cephalothorax and abdomen . Spiders ' abdomens bear appendages that have been modified into spinnerets that extrude silk from up to six types of silk glands within their abdomen . The cephalothorax and abdomen are joined by a small , cylindrical pedicel , which allows the abdomen to move while spinning silk . : 571 @-@ 574 While most jumping spiders do not build webs to catch prey , they use silk for other purposes , including molting and laying eggs . : 495

Jumping spiders have large forelegs and short , powerful back legs . Unlike most arthropods , spiders have no extensor muscles in their limbs and instead extend them by increasing their blood pressure . Jumping spiders can leap several times their own length by powerfully extending the third or fourth pairs of legs , : 578 reaching up to 200 millimetres (7 @.@ 9 in) with the forelimbs extended to grasp the prey . Spiders maintain balance when walking , so that legs 1 and 3 on one side and 2 and 4 on the other side are moving , while the other four legs are on the surface . To run faster , spiders increase their stride frequency . : 328

In spiders and other chelicerates , there is only one pair of appendages before the mouth , and in spiders these are modified into fangs that inject poison into the prey . Behind the mouth is a pair of pedipalps (" palps " for short) , and those of male spiders are quite large and are used for displaying and mating .

Spiders groom themselves regularly , and more often if wet or dirty . They moisten their fangs , draw the legs one at a time through the fangs , and " comb " the legs with the fangs and palps . The first and fourth pairs of legs are then used to groom other parts of the body , and the only place they appear not to reach is the dorsal surface of the carapace . : 53

The body of M. inclemens is only sparsely covered with hairs and scales . : 2 A female of Maevia inclemens is 6 @.@ 5 to 8 @.@ 0 millimetres (0 @.@ 26 to 0 @.@ 31 in) long , : 3 @-@ 4 her carapace is light brown , her legs are pale and unmarked . The top of her abdomen is chalky : 3 @-@ 4 or rusty colored , and along each side is a black band , often thinly covered with orange scales . Sometimes there is series of chevrons (V @-@ shaped markings) along the middle of her abdomen . : 3 @-@ 4 She has a prominent white stripe below the foremost eyes . There are spines on the first and second pair of her legs , but her body never has tufts of hair . : 3 @-@ 4 Males are 4 @.@ 75 to 6 @.@ 50 millimetres (0 @.@ 187 to 0 @.@ 256 in) long , and their carapaces are light to dark brown , with a black line around the edge . There usually is a pair of large lighter areas between the last pair of eyes halfway down the back of the carapace . The eyes are surrounded by black . : 3 @-@ 4 Males occur in two forms , a very rare phenomenon in zoology . The " tufted " morph has a totally black body , black pedipalps , white legs and three tufts of bristles on the front part of the cephalothorax . The " gray " male morph has a black and white striped body , a prominent white stripe on the foremost eyes , striped legs and bright orange pedipalps , and no tufts . : 161 @-@ 162

Jumping spiders have a distinctive rectangular carapace , : 51 and that of female Maevia inclemens average 2 @.@ 30 millimetres (0 @.@ 091 in) wide , while the carapaces of males average 2 @.@ 10 millimetres (0 @.@ 083 in) . : 1989 The carapace of M. inclemens is fairly high , between 60 % and 70 % of the width . : 1

= = Senses = =

Jumping spiders have eight eyes , the two large ones in the center @-@ and @-@ front position (the anterior @-@ median eyes , also referred to as " principal eyes " : 51) providing acute vision and housed in tubes in the head . The other six are secondary eyes , positioned along the sides of the carapace and acting mainly as movement detectors . : 16 While other spiders can jump , salticids including M. inclemens are the only spiders with good vision , : 521 and their main eyes are more acute in daylight than a cat 's and 10 times more acute than a dragonfly 's . The main eyes focus accurately on an object at distances from approximately 2 centimetres (0 @.@ 79 in) to infinity , : 51 and in practise can see up to about 75 centimetres (30 in) . : 53 In M. inclemens , the front row of secondary eyes is only slightly wider than the third , whose width is 75 % of the width of the carapace at that point . : 2

Like other arthropods , spiders have sensors , often modified setae (bristles) , for smell , taste , touch and vibration , protruding through their cuticle (" skin ") . : 532 @-@ 533 Unlike insects , spiders and other chelicerates do not have antennae .

= = Feeding = =

Almost all jumping spiders are predators , mostly preying on insects , on other spiders , and on other arthropods . The most common procedure is sighting the prey , stalking , fastening a silk safety line to the surface , using the two pairs of back legs to jump on the victim , and finally biting the prey . Most jumping spiders walk throughout the day , so that they maximize their chances of a catch .

= = Reproduction and lifecycle = =

Each morph accounts for 50 % of the adult males , and they make the same number of attempts to court females , but using a different courting display . Before looking for a mate , a male spider spins a small , flat web on a surface and ejaculates into it . He then loads the semen into syringe @-@ like

receptacles in both palps , and then searches for a female . : 581

After sighting a female , the tufted morph pushes himself as high as possible with the last three pair of legs , and claps with the foremost pair , while at the same time waving the palps up and down , and swinging the abdomen from side to side , : 95 usually about 9 centimetres (3 @.@ 5 in) from the female . : 161 @-@ 162 In contrast , the gray morph crouches down and points the foremost two pairs of legs directly forward , crosses the tips of the legs creating a triangle @-@ like configuration , holds his orange @-@ colored palps beneath his forward eyes , and glides back and forth in stationary or receding semi @-@ circles in front of the female , : 95 at 3 centimetres (1 @.@ 2 in) away . : 161 @-@ 162 The movements of the two morphs are identical later in the sequence . : 95 , 98

When receptive , females respond similarly to both male types : approach and settle ; extend the foremost pair of legs or tap with them . : 99 Both male morphs typically end their initial display and start leg @-@ clapping and zig @-@ zag dancing . : 103 , 106

When tufted males clap , females look towards them and display a greater number of tap displays to them than to the gray morph . Females also respond to tufted morphs ' clapping more often by settling than for gray males . : 102 However , after the females look towards the males , gray males approach the female more often than the tufted male . : 102 Females often tip their abdomens from side to side . : 102

Finally the male mounts and copulates with the female . Afterward , the male generally dismounts and the two pair usually run away from each other . However , the male sometimes chases the female and tries to copulate again . : 103 , 106

In an experiment , 12 tufted (52 %) and 14 gray males (54 %) copulated with females after courtship . At the end of copulation , females tried to capture and eat the males , but in the same experiment only one tufted and one gray male were killed . A count of offspring showed no differences in numbers of spiderlings from the two morphs . However , gray males got females ' attention more quickly within 8 centimetres (3 @.@ 1 in) while tufted males were quicker between 8 and 30 centimetres (3 @.@ 1 and 11 @.@ 8 in) from the females . The continuation of two male morphs may be an example of a mixed Evolutionarily Stable Strategy , in which both morphs are genetically determined by their fathers ' morphs , and both are equally successful in their different ways .

= = Distribution and habitat = =

Maevia inclemens is found throughout the eastern and mid @-@ west United States and south @-@ west Canada , including : Massachusetts , Connecticut , New York state , New Jersey , Pennsylvania , Maryland , West Virginia , Virginia , North Carolina , Florida , Alabama , Louisiana , Texas , Kansas , Kentucky , Indiana , Illinois , Michigan , Wisconsin , : 4 Quebec and Manitoba .

A study reported in 1981 on one mature and three recently clear @-@ cut sites in the southern Appalachian Mountains near Highlands , North Carolina . All specimens of spiders that hunt were collected on plants or webs above ground . Clear @-@ cutting caused a marked decrease in the abundance of nine species and a marked increase in four species , while M. inclemens and six others showed no change . : 288 , 291 @-@ 292

A few jumping spider species , including M. inclemens , have been able to establish themselves in man @-@ made structures . Most often these spiders are found on outbuildings or structures such as fences , rather than in permanently inhabited houses .