

= Portia labiata =

Portia labiata is a jumping spider (family Salticidae) found in Sri Lanka , India , Burma (Myanmar) , Malaysia , Singapore , Java , Sumatra and the Philippines . In this medium @-@ sized jumping spider , the front part is orange @-@ brown and the back part is brownish . The conspicuous main eyes provide vision more acute than a cat 's during the day and 10 times more acute than a dragonfly 's , and this is essential in *P. labiata* 's navigation , hunting and mating .

The genus *Portia* has been called " Eight @-@ legged Cats " , as their hunting tactics are as versatile and adaptable as a lion 's . All members of *Portia* have instinctive hunting tactics for their most common prey , but often can improvise by trial and error against unfamiliar prey or in unfamiliar situations , and then remember the new approach . While most jumping spiders prey mainly on insects and by active hunting , females of *Portia* also build webs to catch prey directly and sometimes join their own webs on to those of web @-@ based spiders . Both females and males prefer web spiders as prey , followed by other jumping spiders , and finally insects . In all cases females are more effective predators than males .

Populations from Los Baños and from Sagada , both in the Philippines , have slightly different hunting tactics . In laboratory tests , Los Baños *P. labiata*s rely more on trial and error than Sagada *P. labiata*s in finding ways to vibrate the prey 's web and thus lure or distract the prey . Around Los Baños the web @-@ building *Scytodes pallida* , which preys on jumping spiders , is very abundant , and spits a sticky gum on prey and potential threats . A *P. labiata* from Los Baños instinctively detours round the back of *S. pallida* while with plucking the web in a way that makes the prey believe the threat is in front of it . In areas where *S. pallida* is absent , the local members of *P. labiata* do not use this combination of deception and detouring for a stab in the back . In a test to explore *P. labiata* 's ability to solve a novel problem , a miniature lagoon was set up , and the spiders had to find the best way to cross it . Specimens from Sagada , in the mountains , almost always repeated the first option they tried , even when that was unsuccessful . When specimens from Los Baños , beside a lake , were unsuccessful the first time , about three quarters switched to another option .

Adult *P. labiata*s sometimes uses " propulsive displays " , in which an individual threatens a rival of the same sex , and unreceptive females also threaten males in this way . *P. labiata* females are extremely aggressive to other females , trying to invade and take over each other 's webs , which often results in cannibalism . A test showed that they minimise the risk of confrontations by using silk draglines as territory marks . Another test showed that females can recognise the draglines of the most powerful fighters and prefer to move near the draglines of less powerful ones . Females try to kill and eat their mates during or after copulation , while males use tactics to survive copulation , but sometimes females outwit them . Before being mature enough to mate , juvenile females mimic adult females to attract males as prey . When hunting , *P. labiata* mature females emit olfactory signals that reduce the risk that any other females , males or juveniles of the same species may contend for the same prey .

= = Body structure and appearance = =

As in most species of the genus , the bodies of female *Portia labiata*s are 7 to 10 millimetres long : 433 and their carapaces are 2 @. @ 8 to 3 @. @ 8 millimetres long . : 103 @-@ 105 Males ' bodies are 5 to 7 @. @ 5 millimetres long , : 433 with carapaces 2 @. @ 4 to 3 @. @ 3 millimetres long . : 103 @-@ 105 The carapaces of females are orange @-@ brown , slightly lighter around the eyes , where there are sooty streaks and sometimes a violet to green sheen in certain lights . : 103 @-@ 105 There is a broad white moustache along the bottom of the carapace , and running back from each main eye is ridge that looks like a horn . Females ' chelicerae are dark orange @-@ brown and decorated with sparse white hairs , which form bands near the carapaces . The abdomens of females are mottled brown and black , and bear hairs of gold , white and black , and there are tufts consisting of brown hairs tipped with white . The carapaces of males are orange @-@ brown , slightly lighter around the eyes , and have brown @-@ black hairs lying on the surface but with a

white wedge @-@ shape stripe from the highest point down to the back , and white bands just above the legs . Males ' chelicerae are also orange @-@ brown with brown @-@ black markings . The abdomens of males are brown with lighter markings and with brown @-@ black hairs lying on the surface , and a short band of white hairs . The legs of both sexes are dark brown , with light markings in the femora (the sections of the legs nearest the body) . : 103 @-@ 105 All species of the genus *Portia* have elastic abdomens , so that those of both sexes can become almost spherical when well fed , and females ' can stretch as much when producing eggs . : 495

= = Senses = =

Although other spiders can also jump , salticids including *Portia fimbriata* have significantly better vision than other spiders , : 521 and their main eyes are more acute in daylight than a cat 's and 10 times more acute than a dragonfly 's . Jumping spiders have eight eyes , the two large ones in the center @-@ and @-@ front position (the anterior @-@ median eyes , also called " principal eyes " : 51) housed in tubes in the head and providing acute vision . The other six are secondary eyes , positioned along the sides of the carapace and acting mainly as movement detectors . : 16 In most jumping spiders , the middle pair of secondary eyes are very small and have no known function , but those of *Portias* are relatively large , and function as well as those of the other secondary eyes . : 424 : 232 The main eyes focus accurately on an object at distances from approximately 2 centimetres to infinity , : 51 and in practice can see up to about 75 centimetres . : 53 Like all jumping spiders , *P. labiata* can take in only a small visual field at one time , as the most acute part of a main eye can see all of a circle up to 12 millimetres wide at 20 centimetres away , or up to 18 millimetres wide at 30 centimetres away . Jumping spider 's main eyes can see from red to ultraviolet .

Generally the jumping spider subfamily *Spartaeinae* , which includes the genus *Portia* , cannot discriminate objects at such long distances as the members of subfamilies *Salticinae* or *Lyssomaninae* can . However , members of *Portia* have vision about as acute as the best of the jumping spiders , for example : the salticine *Mogrus neglectus* can distinguish prey and conspecifics up to 320 millimetres away (42 times its own body length) , while *P. fimbriata* can distinguish these up to 280 millimetres (47 times its own body length) . The main eyes of a *Portia* can also identify features of the scenery up to 85 times its own body length , which helps the spider to find detours . : 21

However , a *Portia* takes a relatively long time to see objects , possibly because getting a good image out of such tiny eyes is a complex process and needs a lot of scanning . This makes a *Portia* vulnerable to much larger predators such as birds , frogs and mantises , which a *Portia* often cannot identify because of the other predator 's size .

Spiders , like other arthropods , 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 . A *Portia* can sense vibrations from surfaces , and use these for mating and for hunting other spiders in total darkness . It can use air- and surface " smells " to detect prey which it often meets , to identify members of the same species , to recognise familiar members , and to determine the sex of other member of the same species . : 13

= = Hunting tactics = =

= = = Tactics used by most jumping spiders and by most of genus *Portia* = = =

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 .

Members of the genus *Portia* have hunting tactics as versatile and adaptable as a lion 's . All

members of *Portia* have instinctive tactics for their most common prey , but can improvise by trial and error against unfamiliar prey or in unfamiliar situations , and then remember the new approach . They can also make detours to find the best attack angle against dangerous prey , even when the best detour takes a *Portia* out of visual contact with the prey , and sometimes the planned route leads to abseiling down a silk thread and biting the prey from behind . Such detours may take up to an hour , and a *Portia* usually picks the best route even if it needs to walk past an incorrect route . : 422 If a *Portia* makes a mistake while hunting another spider , it may itself be killed .

While most jumping spiders prey mainly on insects and by active hunting , : 340 females of *Portia* also build webs to catch prey directly . These capture webs are funnel @-@ shaped and widest at the top : 513 and are about 4 @,@ 000 cubic centimetres in volume . : 429 ? 431 The web is initially built in about 2 hours , and then gradually made stronger . : 239 A *Portia* often joins her own web on to one of a web @-@ based non @-@ salticid spider . : 432 When not joined to another spiders ' , a *P. labiata* female 's capture web may be suspended from rigid foundations such as boughs and rocks , or from pliant bases such as stems of shrubs . : 432

A web spider 's web is an extension of the web spider 's senses , informing the spider of vibrations that signal the arrival of prey and predators . If the intruder is another web spider , these vibrations vary widely depending on the new web spider 's species , sex and experience . A *Portia* can pluck another spider 's web with a virtually unlimited range of signals , either to lure the prey out into the open or calming the prey by monotonously repeating the same signal while the *Portia* walks slowly close enough to bite it . : 340 ? 341 Such tactics enable *Portias* to take web spiders from 10 % to 200 % of a *Portia* ? s size , and *Portias* hunt in all types of webs . : 491 In contrast , other cursorial spiders generally have difficulty moving on webs , and web @-@ building spiders find it difficult to move in webs unlike those they build : sticky webs adhere to cursorial spiders and to web @-@ builders of non @-@ sticky webs ; builders of cribellate webs have difficulty with non @-@ cribellate webs , and vice versa . : 424 Where the web is sparse , a *Portia* will use " rotary probing " , in which it moves a free leg around until it meets a thread . : 433 ? 434 When hunting in another spider 's web , a *Portia* ? s slow , choppy movement and the flaps on its legs make it resemble leaf detritus caught in the web and blown in a breeze . : 514 *P. labiata* and some other *Portias* use breezes and other disturbances as " smokescreens " in which these predators can approach web spiders more quickly , and revert to a more cautious approach when the disturbance disappears . : 313 A few web spiders run far away when they sense the un @-@ rhythmical gait of a *Portia* entering the web ? a reaction Wilcox and Jackson call " *Portia* panic " . : 418

If a large insect is struggling in a web , *Portia* does not usually take the insect , but waits for up to a day until the insect stops struggling , even if the prey is thoroughly stuck . : 448 When an insect stuck in a web owned by *P. labiata* , *P. schultzi* or any regional variant of *P. fimbriata* , and next to a web spider 's web , the web spider sometimes enters the *Portia* ? s web , and the *Portia* pursues and catches the web spider . : 440 ? 441 , 444

When catching an insect outside a web , a *Portia* sometimes lunges and sometimes uses a " pick up " , : 441 in which it moves its fangs slowly into contact with the prey . In some pick ups , *Portia* first slowly uses its forelegs to manipulate the prey before biting . : 441 *P. labiata* and *P. schultzi* also occasionally jump on an insect . : 448 However , *Portias* are not very good at catching moving insects : 516 and often ignore them , while some other salticid genera , especially the quick , agile *Brettus* and *Cyrrba* , perform well against small insects . : 516

When a *Portia* stalks another jumping spider , the prey generally faces the *Portia* and then either runs away or displays as it does to another member of its own species . : 444

The webs of spiders on which *Portias* prey sometimes contain dead insects and other arthropods which are uneaten or partly eaten . *P. labiata* and some other *Portias* such as *P. fimbriata* (in Queensland) and *P. schultzi* sometimes scavenge these corpses if the corpses are not obviously decayed . : 448

A *Portia* typically takes 3 to 5 minutes to pursue prey , but some pursuits can take much longer , and in extreme cases close to 10 hours when pursuing a web @-@ based spider . : 439

All *Portias* eat eggs of other spiders , including eggs of their own species and of other cursorial spiders , and can extract eggs from cases ranging from the flimsy ones of *Pholcus* to the tough

papery ones of *Philoponella* . While only *P. fimbriata* (in Queensland) captures cursorial spiders in their nests , all *Portias* steal eggs from empty nests of cursorial spiders . : 448

Portias ' venom is unusually powerful against spiders . : 491 When a *Portia* stabs a small to medium spider (up to the *Portia* ? s weight : 428) , including another *Portia* , the prey usually runs away for about 100 to 200 millimetres , enters convulsions , becomes paralysed after 10 to 30 seconds , and continues convulsing for 10 seconds to 4 minutes . *Portia* slowly approaches the prey and takes it . : 441 ? 443 *Portia* usually needs to inflict up to 15 stabbings to completely immobilise a larger spider (1 @. @ 5 to 2 times to the *Portia* ? s weight : 428) , and then *Portia* may wait about 20 to 200 millimetres away for 15 to 30 minutes from seizing the prey . : 441 ? 443 Insects are usually not immobilised so quickly but continue to struggle , sometimes for several minutes . If *Portia* cannot make further contact , all types of prey usually recover , making sluggish movements several minutes after the stabbing but often starting normal movement only after an hour . : 441 ? 443

Spiders have a narrow gut that can only cope with liquid food , and have two sets of filters to keep solids out . Some spiders pump digestive enzymes from the midgut into the prey and then suck the liquified tissues of the prey into the gut , eventually leaving behind the empty husk of the prey . Others grind the prey to pulp using the fangs and the bases of the pedipalps , while flooding it with enzymes ; in these species the fangs and the bases of the pedipalps form a preoral cavity that holds the food they are processing . : 576

Occasionally a *Portia* is killed or injured while pursuing prey up to twice *Portia* ? s size . *P. labiata* is killed in 2 @. @ 1 % of pursuits and injured but not killed in 3 @. @ 9 % , *P. schultzi* is killed in 1 @. @ 7 % and injured but not killed in 5 @. @ 3 % , and *P. fimbriata* in Queensland is killed in 0 @. @ 06 % of its pursuits and injured but not killed in another 0 @. @ 06 % . A *Portia* ? s especially tough skin often prevents injury , even when its body is caught in the other spider 's fangs . When injured , *Portia* bleeds and may lose one or more legs . Spiders ' palps and legs break off easily when attacked , *Portia* ? s palps and legs break off exceptionally easily , which may be a defence mechanism , and *Portias* are often seen with missing legs or palps , while other salticids in the same habitat are not seen with missing legs or palps . : 440 ? 450

= = = Tactics used by *Portia labiata* = = =

All performance statistics summarise result of tests in a laboratory , using captive specimens . : 429 ? 430 The following table shows the hunting performance of adult females . In addition to *P. labiata* , the table shows for comparison the hunting performances of *P. africana* , *P. schultzi* and three regional variants of *P. fimbriata* . : 424 , 432 , 434

A female *P. labiata* often hangs a capture web from pliant stems and leaves of shrubs and lower branches of trees , rather than from rocks and tree trunks . : 432 Males of *Portia* do not build capture webs . : 429

A female *P. labiata* more often pursues small jumping spiders and web spiders than larger prey . While it more often catches small jumping spiders than larger ones , it is about equally effective with all sizes of web spiders up to twice *P. labiata* ? s size . : 437 ? 439 A female *P. labiata* is effective against insects up to twice *P. labiata* ? s size when the insect is stuck in a non @-@ salticid 's web , and against insects not in webs and up to *P. labiata* ? s size , while *P. labiata* seldom pursues or catches a larger insect in the open . A female *P. labiata* very seldom pursues or catches a larger insect in her own web , and is slightly less effective against smaller insects in *P. labiata* ? s web than in other situations . : 439 Males are less efficient in all cases . : 436

A test in 1997 showed that *P. labiata* from the Philippines and from Sri Lanka have similar preferences for different types of prey , and that the order of preference is : web spiders ; jumping spiders ; and insects . : 337 ? 339 These preferences apply to both live prey and motionless lures , and to *P. labiata* specimens without prey for 7 days (" well @-@ fed " : 335) and without prey for 14 days (" starved " : 335) . *P. labiata* specimens without prey for 21 days (" extra @-@ starved ") showed no preference for different types of prey . : 339 The test included as prey several species of web spiders and jumping spiders , and the selection of the prey species showed no evidence of affecting the results . : 337 ? 339 Insects were represented by the house fly *Musca domestica* . :

Unlike the Queensland variant of *P. frimbriata*, *P. labiata* has no special tactics when hunting other jumping spiders . : 343

P. labiata does not prey on ants , : 45 ? 46 but is preyed on by the ants *Oecophylla smaragdina* and *Odontomachus* sp . (species uncertain) . : 47

P. labiata sometimes approaches a translucent nest contain a spider . Usually *P. labiata* waits faces the prey for up to several hours . Occasionally *P. labiata* leaps at the prey in the nest , but this is ineffective . : 447

Populations from Los Baños and from Sagada , both in the Philippines , have slightly different hunting tactics , and Los Baños has some very dangerous prey spiders . In laboratory tests , Los Baños *P. labiata*s rely more on trial and error than Sagada *P. labiata*s in finding ways to vibrate the prey 's web and thus lure or distract the prey . : 283 ? 284 Around Los Baños the web @-@ building *Scytodes pallida* , which preys on jumping spiders , is very abundant . All members of the genus *Scytodes* spit a sticky gum on prey and potential threats , and this can immobilise a *Portia* long enough for the *Scytodes* to wrap the *Portia* in silk and then bite it . Around Los Baños , *P. labiata* instinctively detours round the back of *S. pallida* that is not carrying eggs while with plucking the web in a way that makes *S. pallida* believe the threat is in front of it . *P. labiata* prefers to stalk a female *S. pallida* carrying eggs , as then *S. pallida* is reluctant to drop the eggs in order to spit , and in this case *P. labiata* sometimes uses a direct attack . In areas where *S. pallida* is absent , the local members of *P. labiata* do not use this combination of plucking other spiders ' webs to deceive the prey and detouring for a stab in the back .

A test in 2001 showed that four jumping species take nectar , either by sucking it from the surface of flowers or biting the flowers with their fangs . The spiders fed in cycles of two to four minutes , then groomed , especially their chelicerae , before another cycle . A more formal part of the test showed that 90 juvenile jumping spiders , including *P. labiata* , generally prefer to suck from blotting soaked with a 30 % solution of sugar in water rather than paper soaked with pure water . The authors suggest that , in the wild , nectar may be a frequent , convenient way to get some nutrients , as it would avoid the work , risks and costs (such as making venom) . Jumping spiders can benefit from amino acids , lipids , vitamins and minerals normally found in nectar .

A test in a deliberately artificial environment explored *P. labiata* 's ability to solve a novel problem by trial and error . A little island was set up in the middle of a miniature atoll , and the space between with them was filled with water . The gap was too wide for the spiders to jump all the way , and the spiders ' options were to leap and then swim or to swim only . The testers encouraged some specimens by using a small scoop to make waves toward the atoll when the spiders chose the option the testers preferred (leap and then swim for some spiders , and swim only for others) , and discouraged some specimens by making waves back toward the island when the spiders chose the option the testers did not want ? in other words , the testers " rewarded " one group for " successful " behaviour and " penalised " the other group for " unwanted " behaviour . : 284 ? 286 Specimens from Sagada almost always repeated the first option they tried , even when that was unsuccessful . When specimens from Los Baños were unsuccessful the first time , about three quarters switched to the other option , irrespective of whether the first attempt was by leaping and then swimming or by swimming only . : 287 ? 288

= = Reproduction and lifecycle = =

Before courtship , a male *Portia* spins a small web between boughs or twigs , and he hangs under that and ejaculates on to it . : 467 He then soaks the semen into reservoirs on his pedipalps , : 581 ? 583 which are larger than those of females . : 572 ? 573

Females of many spider species , including *P. labiata* , : 33 : 517 emit volatile pheromones into the air , and these generally attract males from a distance . : 36 The silk draglines of female jumping spiders also contain pheromones , which stimulate males to court females and may give information about each female 's status , for example whether the female is juvenile , subadult or mature . : 43 Pheromones may help to find jumping spiders ' nests , which are usually hidden under rocks or in

rolled leaves , making them difficult to be seen . : 36

Portias sometimes use " propulsive displays " , with which a member threatens a rival of the same species and sex , and unreceptive females also threaten males in this way . : 343 A propulsive display is a series of sudden , quick movements including striking , charging , ramming and leaps . : 455

A laboratory test showed how males of *P. labiata* minimise the risk of meeting each other , by recognising fresh pieces with blotting paper , some containing their own silk draglines and some containing another male 's . Males also were attracted by fresh blotting paper containing females ' draglines , while females do not response to fresh blotting paper containing males ' draglines . This suggested that the males usually search for females , rather than vice versa . Neither sex responded to one week @-@ old blotting paper , irrespective of whether it contained males ' or females ' draglines . A similar series of tests showed that *P. fimbriata* from Queensland showed the same patterns of responses between the sexes .

Among *P. labiata* and some other Portias , when adults of the same species but opposite sexes recognise each other , they display at 10 to 30 centimetres . Males usually wait for 2 to 15 minutes before starting a display , but sometimes a female starts a display first . : 461

A female *P. labiata* that sees a male may approach slowly or wait . The male then walks with erect and displaying by waving his legs and palps . If the female does not run away , she gives a propulsive display first . If the male stands his ground and she does not ran away or repeat the propulsive display , he approaches and , if she is mature , they copulate . : 461 ? 464 If the female is sub @-@ adult (one moult from maturity) , a male may cohabit in the female 's capture web . : 467 Portias usually mate on a web or on a dragline made by the female . : 518 *P. labiata* typically copulates for about 100 seconds , : 465 while other genera can take several minutes or even several hours . : 518 : 465

Females of *P. labiata* and *P. schultzi* try to kill and eat their mates during or after copulation , by twisting and lunging . The males wait until the females have hunched their legs , making this attack less likely . Males also try to abseil from a silk thread to approach from above , but females may manoeuvre to get the higher position . If the female moves at all , the male leaps and runs away . : 343

Before being mature enough to mate , females of *P. labiata* and also *P. schultzi* mimic adult females to attract males as prey .

P. labiata females are extremely aggressive to other females , trying to invade and take over each other 's webs , which often results in cannibalism . A laboratory test showed how they minimise the risk of meeting each other , by recognising pieces with blotting paper containing their own silk draglines and pieces contain other *P. labiata* females ' draglines . If obstacles make it impossible to see whether the other is physically present , she avoids blotting paper containing the other 's draglines , but moves with no constraint if she can see that the other female is not around . Draglines seem to act as territory marks , much as many mammals identify conspecifics by scent marking . *P. labiata* females also avoid rival females of higher fighting ability and spend more time around less powerful fighters . A laboratory test collected samples of the draglines of equal @-@ sized females and then pitted some of them in contests . Other females avoided the draglines of the victors , and spent the majority of their time on draglines of the losers . Similar tests showed that females of *P. fimbriata* from Australia and *P. schultzi* from Kenya do not avoid draglines of a powerful fighter . : 753

In *P. labiata* and in some other species , contests between males usually last only 5 to 10 seconds , and only their legs make contact . : 466 Contests between Portia females are violent : 518 and embraces in *P. labiata* typically take 20 to 60 seconds . These occasionally include grappling that sometimes breaks a leg , but more usually one female lunges at the other . Sometimes one knocks the other on her back and the other may be killed and eaten if she does not right herself quickly and run way . If the loser has a nest , the winner takes over and eats any eggs there . : 466 ? 467

When hunting , mature females of *P. labiata* , *P. africana* , *P. fimbriata* and *P. schultzi* emit olfactory signals that reduce the risk that any other females , males or juveniles of the same species may contend for the same prey . The effect inhibits aggressive mimicry against a prey spider even if the

prey spider is visible , and also if the prey is inhabiting any part of a web . If a female of one of these Portias smells a male of the same species , the female stimulates the males to court . These Portia species do not show this behaviour when they receive olfactory signals from members of other Portia species .

P. labiata usually lays eggs on dead , brown leaves about 20 millimetres long , suspended near the top of its capture web , and then cover the eggs with a sheet of silk . If there is no dead leaf available , the female will make a small horizontal silk platform in the capture web , lay the eggs on it , and then cover the eggs . : 434 ? 435

Portia females have never been seen eating their own eggs , but in nature females with eggs of their own have been seen eating eggs of other females of the same species . In a test , *P. labiata* females did not eat their eggs if the testers put them in other female 's nests , showing that the test females could identify their own eggs , possibly by chemical means . When the test females and their eggs were restored to their own nests and other females ' eggs were also placed in the same nest , the test females ate neither their own eggs nor the " foreign " ones . In nature a female is unlikely to find foreign eggs in her nest , and it might be safest for females to avoid any eggs in their own nests .

For moulting , all Portias spin a horizontal web whose diameter is about twice the spider 's body length and is suspended only 1 to 4 millimetres below a leaf . The spider lies head down , and often slides down 20 to 30 millimetres during moulting . : 496 Portias spin a similar temporary web for resting . : 513

= = Ecology = =

P. labiata is found in Sri Lanka , India , Burma (Myanmar) , Malaysia , Singapore , Java , Sumatra and the Philippines . : 425 : 103 @-@ 105

The populations of *P. labiata* in Los Baños and in Sagada , both in the Philippines , have different environments : Los Baños is a low @-@ lying tropical rainforest where there are many species of spiders , some of which are especially dangerous to *P. labiata* ; and Sagada is at higher altitude , with pine @-@ forest and fewer species of spiders , none of which are as dangerous to *P. labiata* . The Los Baños variant has a slightly wider repertoire of tactics . : 283 ? 284

In the Philippines , *P. labiata* does not prey on ants , : 45 ? 46 but is preyed on by the ants *Oecophylla smaragdina* and *Odontomachus* sp . (species uncertain) , : 47 and a solitary *Odontomachus* has been seen attacking a *P. labiata* . : 50 In a test the ant *Diacamma vagans* usually killed single @-@ handed a *P. labiata* . : 52

= = Taxonomy = =

P. labiata is one of 17 species in the genus Portia as of May 2011 . This species has been named *Sinis fimbriatus* (Hasselt , 1882 ; misidentification) , *Linus labiatus* (Thorell , 1887) , *Linus dentipalpis* (Thorell , 1890) , *Erasinus dentipalpis* (Thorell , 1892) , *Erasinus labiatus* (Simon , 1903) and *Portia labiata* (Wanless , 1978) , and the last name has been used since then .

Portia is in the subfamily Spartaeinae , which is thought to be primitive . : 491 Molecular phylogeny , a technique that compares the DNA of organisms to reconstruct the tree of life , indicates that Portia is a member of the clade Spartaeinae , that Spartaeinae is basal (quite similar to the ancestors of all jumping spiders) , that Portia ? s closest relative is the genus *Spartaeus* , and that the next closest are *Phaeacius* and *Holcolaetis* . : 53