

Stromatopelma

Featherlegged baboons

By Søren Rafn

- And so the trip goes to the dark continent of Africa. I was surprised to discover that we did not have even a single article from our archives published about these amazing African arboreal spiders. This is in spite of the fact that by now, at least one species of this family has been kept and bred in captivity for many years. This has happened abroad, but indeed also here in Denmark. Therefore, I figured that it would be appropriate to conjure up a small article on these intractable rabblles.

Stromatopelma calceatum was one of the earliest spiders ever to be described, and it was most likely the first described African tarantula as well. Not many years ago, these spiders were sold under the name *Scodra*, and it was not until 1984 that the genus was officially renamed. There is a little story behind all of this, so why not start at the beginning in 1793, when the taxonomist Fabricius got a rather maltreated spider under his magnifying glass.

The spider came from Guinea in Africa. He immediately identified it as a new species, and named it *Aranea calceata*. At this time, taxonomy was still only in the making, and the classifications were quite different from the ones used today, like for example family, subfamily, genus and species. So, since the new spider actually was a spider, it was placed in the same spider category, which included all other spiders at that time: the *Aranea*. In 1879, the Belgian taxonomist Becker described a newfound African spider, - he even established both a new ge-

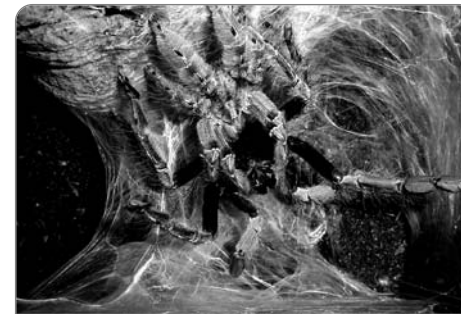


* Adult female *Stromatopelma calceatum*
(Photo: Guy Tansley)

nus and a new species, to *Scodra aussereiri*. In the following years, several spiders from Central Africa were described. We know it, of course... but they did not - that all the spiders mentioned were the same species, namely the *Stromatopelma calceatum*. In 1881, Karsch establishes the genus *Stromatopelma*, and the species *Stromatopelma alicapillatum*. In 1887 and 1892, Simon redescribes the *Scodra calceata*, which places the *Aranea calceata* in the *Scodra*-genus. This name sticks with it for a short period of time, and meanwhile in 1899, Thorell still manages to establish both a new genus and species with the *Hyarachne horrida* and the *Heteroscodra*. Thus things get increasingly complicated, until the Australian taxonomist Raven revises the genera *Heteroscodra* and *Stromatopelma* in 1984. He gives up the original name *Scodra*, because of the unfortunate coincidence that a genus of butterflies had been given the same name in 1859, - twenty years ahead of the spider. Therefore, the second oldest name had to be reinstated, and the *Stromatopelma*-genus

established by Karsch in 1881 gets the glory. So, the spider lying on Fabricius's table in the year of the Lord 1793, turned out to be the spider, which today is known as *Stromatopelma calceatum*.

The genus name is not the only thing, which has been revised a few times. The systematic placement of the genus on the tree of life has also changed on several occasions. In 1892, Simon started out by placing the *Stromatopelma* with the *Poecilotheria*, in the Asian subfamily Selenocosminae. In 1903, however, he changed his mind and hereafter placed the *Heteroscodra* and the *Stromatopelma* in the Latin-American subfamily Avicularinae, along with familiar arboreal spiders such as the *Avicularia*, the *Psalmopoeus* and the *Tapi-nauchenius*. This placement held until 1984, when Raven placed the two genera *Heteroscodra* and *Stromatopelma* in the African subfamily Eumenophorinae, which includes, for example, the familiar *Hysteroocrates* and the *Cithariscius*. This change was based on various taxonomical details. But when the German taxonomist Schmidt went over these character traits in 1993, and compared them to other genera and species from the old continent, it became quite evident that Ravens' criteria did not hold water. Schmidt therefore estab-



* The sweet couple caught in the proces of multiplying the species
(Photo: Guy Tansley)

lished an entirely new subfamily for the two genera, named after the oldest *Stromatopelma* genus. Thus, the subfamily received the name Stromatopelminae. To quickly add a small curiosity, it can be mentioned that the sister genera *Stromatopelma* and *Heteroscodra* only differ by virtue of the thickness of their hindmost set of legs. With the *Heteroscodra*, they are swollen, - this is not the case with the *Stromatopelma*. In order to conclude the matter properly, here is how the system looks today:

Family:	Theraphosidae
Subfamily:	Stromatopelminae
Genus:	<i>Stromatopelma</i>
Species:	<i>batesi</i> , <i>calceatum</i> , <i>fumigatum</i> and <i>satanus</i>

The *Stromatopelma* genus is widespread in equatorial Central Africa, in a zone ranging from 10 degrees latitude N to 10 degrees latitude S on both sides of the Equator. It is bounded towards the west by the Atlantic Ocean, and towards the east by the dry hinterland of inner Central Africa. The area is primarily covered with tropical lowland rainforest, and the entire region is characterised by precipitation and many rivers. The spreading area of the genus runs through the following countries: (Guinea), Sierra Leone, (Liberia), the Ivory Coast, Burkina Faso, Ghana, (Togo), (Benin), Niger, Nigeria, Cameroon, Equatorial Guinea, Gabon, (Congo), Zaire and (Angola). The countries in brackets do not have any registered species of the genus, but because of the lack of access to many of these countries, collecting animals has not been possible. The probability of finding *Stromatopelma* in these countries is, however, still great, - especially since the genus in-



habits all of the neighbouring countries.

Stromatopelma calceatum, which we know from our hobby, is the one with the largest spreading area. It can be found in the lowland areas between Sierra Leone in the west and Cameroon in the east. An account of a find of the species, *S. batesi* (in the account described as *S. straeleni*) from Zaire, is a bit more complicated. Roewer described it in 1953. These specimens were not discovered in a lowland rainforest relatively close to the coast unlike almost every other species of the genus. It was found almost 12.000 kilometres into the hinterland of Zaire, parallel to the 10th latitude S, somewhere between 500 and 1500 metres above the ocean, in connection with the river Lufira, which runs through the national park Upemba.

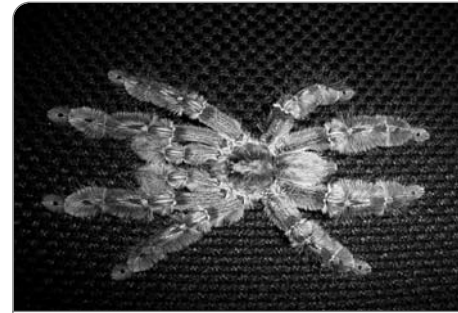
Such a deviation provides food for the thought that the spreading area of the *Stromatopelma* genus may very well be considerably larger than what has already been accounted for. Apart from this, the *Stromatopelma* genus largely shares its spreading area with the sister genus *Heteroscodra*.

The natural way of life of the genus is in the trees. The species are typically found in lowland rainforests, rarely any further than approximately 200 kilometres from the coast, and always in connection with river systems. In connection with a study performed by Marie-Louise Celerier and Patrick Blandin in 1981, in an area between the two rivers Bandama and Nzi on the southern part of the Ivory Coast, some of the *Stromatopelma*-species' natural habits were disclosed for the very first time. All of the collected specimens were the species *Stromatopelma calceatum*, and the animals were found in the crown of palm trees and tree ferns in the lowland forest in the river valley, - but also in clustering palms in the more densely over-grown parts of the nearby

savannah. The animals had typically spun a messy tube web or carpet in between the leaf sheaths of the palm/tree fern crowns, approximately between 10 and 15 metres above the surface of the ground. The climate in these areas follows an annual rhythm with a wet season from May to October followed by a dry season in the remaining months. The average mean temperature lies around 20° C at night and 35° C at midday.

Most of the 4 species of the genus appear almost identical. Colour wise, the *S. fumigatum* only differs from the *S. calceatum* by being completely black underneath its legs. When taking a closer look at the two existing subspecies of *Stromatopelma calceatum* below, it will become evident why it would not be completely wrong to speculate that this species could be nothing but a darker kind of the *S.c. calceatum*. But as far as it goes, this is nothing but speculation and only a revision can tell us how the species will appear in relation to the other species/subspecies in the genus in the future. The species *S. batesi*, and *S. fumigatum* has been suggested synonymised with, or subordinated the status of *S. calceatum*, and I would not be the slightest bit surprised if this happens within a not too distant future. The only species characteristically differing from the others specifically in colour is the species with the horrifying name *Stromatopelma satanus*. This species from the area around Libreville in Gabon is, according to its description, pitch black with blood red hair surrounding its fangs. This species is unfortunately considered extinct because of the agricultural measures in the area where it was found.

The typical *Stromatopelma* has the following appearance: The superior colour expression is a light beige. Its carapace has a



* An adult male *Stromatopelma calceatum*. No wonder they are called featherlegged baboons (Photo: Guy Tansley)

dark 'mask' surrounding the ocular tubercle. This 'mask' merges into a dark, circular spot, which also covers the inner circular half of the carapace area. This darker spot is refracted by a brighter star-shaped pattern of stripes, which originates at the fovea. The legs are generally plain beige, with light rings distally at each joint, and two thin longitudinal stripes, running along the upper side of its femur and further out on the patella. By the base of tibia, metatarsus and tarsus, there are two very well defined, merging pitch black spots. Besides, there are underlying, diffuse degrees of the primary colour on each joint. The abdomen is plain light beige, darker on the sides and lighter on the top, with a longitudinal, thin black stripe in the middle, which is flanked on both sides of six pairs of black spots. The underside is black. The eyes are large; the carapace is almost circular, but typically a little bit longer than it is wide. The legs are long with well-developed scopula on metatarsus and tarsus of the two front pair of legs. Besides, the spider is typically covered with a lot of longer hair, giving it a 'fluffy' appearance, despite its slim body. The abdomen is flattened. Its size varies from 12 to 16 centimetres leg span, and 5-7 centimetres body length. But certain specimens

become quite a bit larger, just like there can be a variation in colour from light greyish beige to yellowish orange. The males are somewhat smaller than the females, and they have no tibial apophyses. They are very hairy with hair bundles on their legs, which actually do look like feathers, - with a little imagination. Thus the English popular name 'featherleg baboon', where the word 'baboon' is the superior English blanket term for African tarantula.

There is, by the way, an excellent story connected to this term. For many years, there has been quite a lot of doubt about where this term comes from. But Thomas Ezendam came up with a good explanation, which sounds both convincing enough and properly macabre ;-). Since the man even has had many trips to Africa in his years, one must conclude that his information comes from firsthand sources. In South Africa, the term 'Baboon Spider' comes by all accounts from the fact that the spider looks like the hand of a baboon, sticking out of the ground, when it sits in the opening of its hole. The inner image that this explanation provides is so tally with how these 'Baboon Spiders' actually look, as they sit in the entrance of their hideout waiting for food that I chose to believe this explanation of the word's origin.

In the hobby, there are only two subspecies of this same species for sale. This is the most common of the *Stromatopelma* species, namely the *Stromatopelma calceatum*. With this species, there are two subspecies: *Stromatopelma calceatum calceatum* and *Stromatopelma calceatum gri-seipes*. They only differ by virtue of the colour on the underside of their femurs. With the *S. c. calceatum*, the femurs are black, whereas the femurs of the *S. c. gri-seipes* are not. In this matter, I want to briefly mention the spe-



cies *S. fumigatum*, which is black underneath all of its leg joints, but otherwise appears identical to the *S. calceatum*. In reality, one might assume that this species is just yet another subspecies of the *S. calceatum*? Time will tell.

Today, the *Stromatopelma*'s have been bred to such an extent that the supply has increased considerably, and vice versa, the prices have dropped proportionally. This means that today, most people can afford this hobby, contrary to earlier when this spider was considerably more expensive. Fully grown animals, captured in the wild can still be quite expensive, but that probably has something to do with both size and the fact that the catching of these hot-tempered beasts is not the easiest thing in the world, - especially not when it has to be done a little less than 20 metres above the ground, and face to face with some of the fastest and most hot-headed tarantulas in the world. Luckily, young and adolescent spiders are not so pricey, and they are not filled with parasites as animals caught in the wild often are. In other words, they are free of 'children's diseases' and ready to enter into vivarium life. Economically speaking, it is definitely profitable to look for animals, which have a leg span of little less than 4 centimetres or more, and the extra expenses are manageable once you consider the fact that they are not nearly as fragile as newly hatched spiders can be. Another advantage is that with a little luck, it is possible to determine the gender of spiders at this size. On the underside of the spider, between the first pair of book-lungs closest to the body (the book-lungs are the four light spots on the underside of the abdomen), there is a little plate covering the spiders' sexual organs. If the spider is to become a male, there will be a darker, sickle-shaped spot of little close-set



hairbrushes (fusillae) on this plate. This spot does not exist with the females. One needs to go through a few spiders in order to learn how to tell the difference, but it is possible and once you are capable of spotting the difference, you have a 100 % accurate tool for determining the gender of any tarantula species. This becomes crystal clear once you learn that this spot is actually the secondary spinnerets, which the male uses for producing the finest web in his sperm web

Since all of the *Stromatopelma* species are arboreal spiders, a tall vivarium is a must when keeping these animals. The measurements should at least be as follows: W: 25 cm x D: 30 cm x H: 40 cm, and preferably larger. As a starting point, it is a good rule of thumb to keep one of the floor sides at least the size of the spiders leg span, the other side should be at least 1,5 times the leg span, and the height for arboreal spiders should be at least twice the animals' leg span. So, as a minimum: $W = (1 \times \text{leg span})$ x $D = (1,5 \times \text{leg span})$ x $H = ((2 \times \text{leg span}) + \text{depth of substrate})$. The back wall should be covered with cork or bark, and a root or a piece of U-bark leaned up against the back wall will make an excellent hideout for the spider. The floor covering should not necessarily be very deep - some five centimetres will be more than adequate. Typically, the spider will spin a substantial tubeweb between root/u-bark and back wall, which goes vertically into the ground. The entrance will be situated at the top of the vivarium, and this is where the spider will come out for food or after the fall of darkness. Since the species come from tropical areas in the rainforests, a rainforest vivarium can be organised successfully with everything that it involves. But this is no absolute necessity, since; at least, the *S. calceatum* is pretty tough and endures drying out to a great extent.

I do not believe that one should search for the spiders' threshold of tolerance, but on the other hand provide it with the most optimal conditions possible, and a rainforest vivarium certainly is an inviting option. The temperature should be 28-30° C in the daytime and drop to 20-22° C in the nighttime. The air humidity should optimally be rather high, between 75 and 90 %, and should be combined with a good airflow. Generally this is general for all tree-tarantula species, that if one cannot uphold a sufficient airflow, one should rather keep the spider drier. Constantly stagnant humidity will invite fungus, rot and all kinds of illness, and that is something that neither the spider nor we are interested in.

Mating is unproblematic with this species, and this can be quite surprising when one considers the hot temper of this genus. The female willingly lies down on her back, so the male can do what male spiders were meant to do, and this usually happens quite painless in spite of the fact that the male typically is somewhat smaller than the



* A juvenile *Stromatopelma calceatum*
(Photo: Bob van Keulen)

female. It is a good idea to let the two lovebirds stay together for a week or more - this will increase the chance for a successful mating turning into egg laying. The process involves the female spinning the disc-shaped egg-sack onto the side of her retreat - a small trick that many African tarantula genera utilises, and which very conveniently gives the female space to defend her eggs and hide-away with savage determination along with a maximum freedom of movement. This way, she also gets an opportunity to munch on food while being in the 'family way'. Like with most arboreal spiders, not many young ones are hatched from each egg-sack. On the other hand, they are typically rather big. Most often, there are less than 100 young ones in an egg-sack. It is important to keep the air humidity relatively high and constant in the period where the female guards her egg-sack - that is if one does not chose to hatch the nymphs in an incubator. If this is the case, one should not try to remove the egg-sack until at least three weeks have passed. The removal of the eggs itself can easily turn out to become your worst nightmare ever. This leads me to the temper of this species and, I presume this genus in general.

The *Stromatopelma*-genus has a raging temper. Of this, there can be absolutely no doubt. Since the genus equally has a relatively strong poison, these are two things that combined with the speed and agility, which is often found with arboreal spiders, should invoke the necessary respect when dealing with these animals. When the spider has been established in its vivarium, it seldom causes any problems. Typically, the spider will run headfirst into its hide-away at even the slightest disturbance, and only by continuing provocations, it will rush out of its hole like a jack-in-a-box - and this is where



it gets tricky. The *Stromatopelma* species runs fast, and if they get scared and stressed, they will bite with no warning. There should be no need to say this, not even to write it - but try the best you can to provide the spiders with as much peace and quiet as they need in order to keep from getting stressed, and thereby becoming aggressive. As a starting point, a *Stromatopelma calceatum* is not aggressive. It is a very shy and nervous spider with a raging temper, but it will never start out by going for your throat. However, if you corner it, or prevent it from escaping, the spider will go from nervous to completely fearless and will jump for the disturbance without the slightest hesitation. Therefore, it is a good idea to keep your fingers a good distance away from the little creature and not open the vivarium, or disturb the spider, other than when it is absolutely necessary; in connection with a feeding, a move or general keeping. Moving it is a different matter altogether - in such cases, one will inevitably have a hot-tempered and absolutely aggressive and unpredictable little critter on one's hands. This is when the infamous temper can be seen in full flame. With chills of excitement, I remember one occasion when my large *S. calceatum* female jumped headfirst out of the vivarium and sprinted up the kitchen wall, heading straight and with no hesitation towards the ventilation shaft. If I had not whacked her off the wall with my dishwashing brush, she probably would have lived in that ventilation shaft today. She fell into my big pile of dishes, very confused, and several acrobatic stunts and accompanying swearwords later, I finally managed to get her into a box, so that I could get her back in the vivarium. The same jack-in-a-box behaviour is already incorporated into the smallest of the young. If one does not give them boxes more spacious and with some good hide-

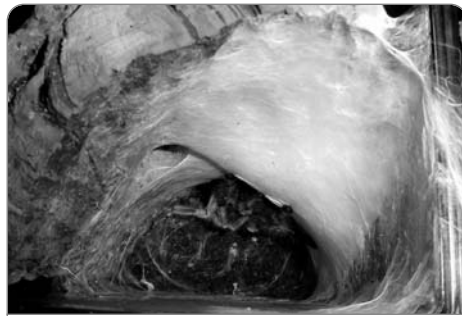


outs, then one might just as well get used to be running after the small beasts swearing and cursing, every single time you need to feed them and get the lid off. ... JUMP! - And Whoosh - they are airborne, and they curl up as a ball while falling towards the floor, and typically they succeed in escaping underneath the sofa, up the curtains or onto the back of the person who opened the box. This can be a little enervating in the long run, so the good advise is to use a larger container, and give the spider some different places to hide - for your own sake! The same thing goes for adult animals, by the way - and the species from the sister genus *Heteroscodra*.

This was a little lecture on the temper, next is a little on the effect of its poison.

Stromatopelma and *Heteroscodra* are both notoriously known as some of the most poisonous African tarantulas. This is not without reason.

Let it be said right away that there are no registered deaths in connection with bites from the species mentioned above. However that does not mean that a bite cannot be a nasty affair. A fully-grown female of the species *Stromatopelma calceatum griseipes* bit a certain lieutenant Thorsten Fink. He suffered convulsion-like pains and strong swellings around the biting area. The pain and the swellings lasted



* As can be seen the mating was succesfull. A big eggsac is webbed to the side of the burrow (Photo: Guy Tansley)

for three painful days. The title as Africa's, and even the world's most poisonous tarantula, probably goes to *Harpactirella lightfooti*. In 1939, Dr. M.H. Finlayson tested the effects of its poison on mice and proved that *Latrodectus* (black widow) antidote worked against the symptoms, and that untreated bites were fatal. Besides, he had witnessed two cases where people had been bitten by this spider, and the symptoms were as follows: A constant, burning pain around the bite itself. After a period of approximately two hours, the patient began vomiting constantly, and slipped into a clear state of shock; he became pale, collapsed and was incapable of walking around erect. No discolouring or swelling around the bite. But then again, it is a fact that *Harpactirella* is closely related to an entirely different family of mygalomorphs, namely the Barychelidae family, and perhaps the genera *Harpactirella* and *Brachionopus* are transitional forms between Harpactirinae and Barychelidae. But such speculations are endless, and looking at it from this perspective, there really are no health issues to worry about considering bites from *Stromatopelma* and *Heteroscodra* - except from the fact that it hurts like hell, or if you are allergic to their poison.

I will not hesitate to recommend *Stromatopelma* to experienced tarantula keepers, or any other hobbyists who have experience with 'hot', virile and unpredictable animals. Let me say at the same time that *Stromatopelma* and *Heteroscodra* are absolutely NOT for beginners!

But they are lovely ;-)



* The superb camouflagepattern of a young *Stromatopelma calceatum* (Photo Søren Rafn)

Sources:

- 'The tarantula identification guide' by Andrew Smith
- 'Baboon Spiders' by Andrew Smith
- 'Vogelspinnen' by Günther Schmidt
- 'Afrika's Vogelspinnen' by H.J. Peters
- 'Gyldendals Store Verdensatlas'
- 'The World Spider Catalog, Version 3.5' by Norman I. Platnick

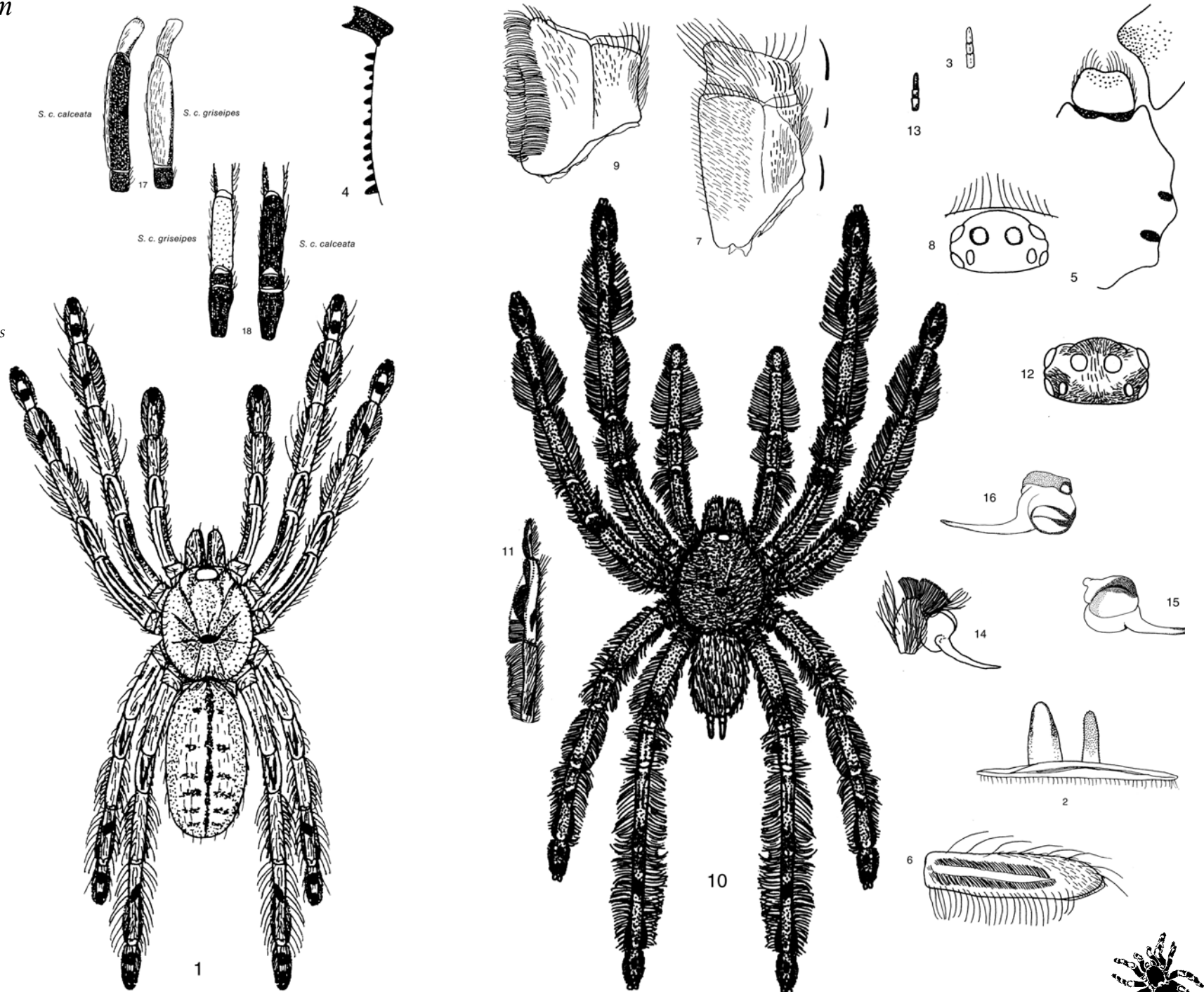
Translated from danish by Pia Bach Jakobsen



Stromatopelma calceatum (Fabricius, 1793)

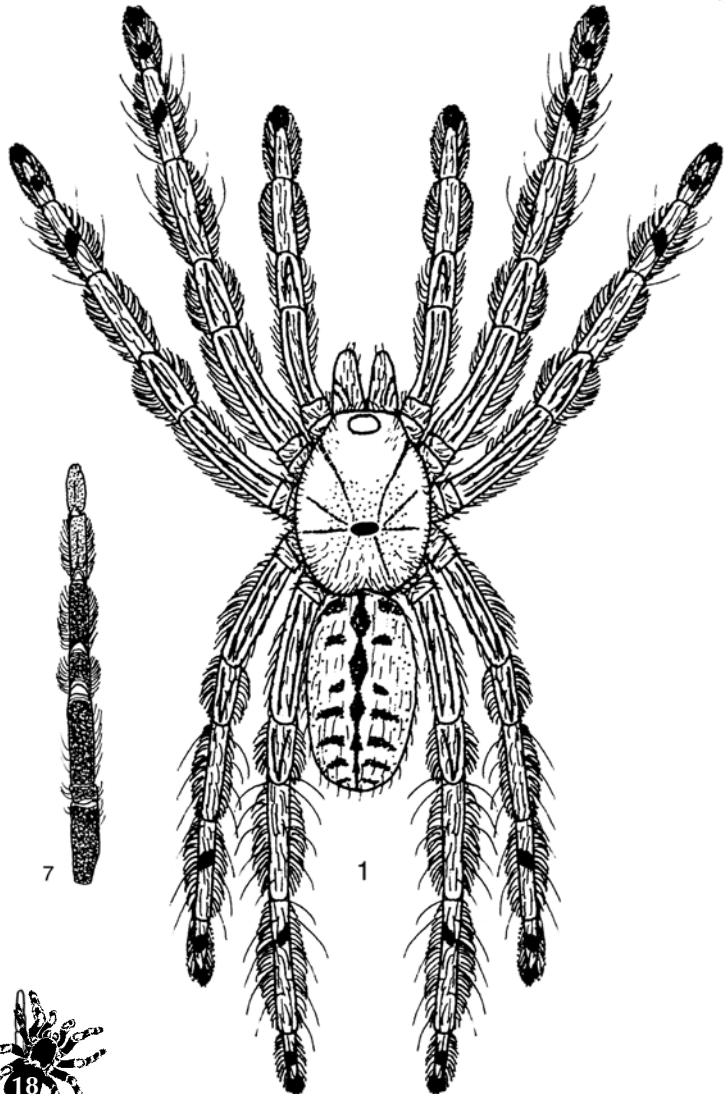
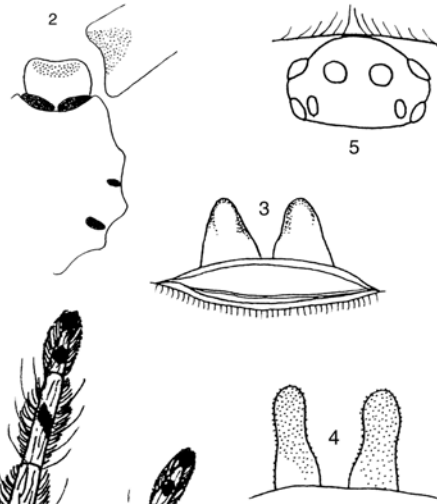
Female (Fig. 1-9) og male (Fig. 10-18)

- Fig. 1: Female (F) habitus 1:1
- Fig. 2: Spermathecae
- Fig. 3: F spinneret
- Fig. 4: Cheliceral dentation
- Fig. 5: Labium, sternum and maxilla
- Fig. 6: Femur I
- Fig. 7: coxa and trochanter I
- Fig. 8: F ocular arrangement and clypeus
- Fig. 9: Maxilla
- Fig. 10: Male (M) habitus 1:1
- Fig. 11: M tibia I, metatarsus I and tarsus I
- Fig. 12: M ocular arrangement and clypeus
- Fig. 13: M spinneret
- Fig. 14: Bulbus and embolus
- Fig. 15: Bulbus lateral view
- Fig. 16: Bulbus ventral view
- Fig. 17: Inner surfaces of femora in *Stromatopelma calceatum* ssp.
- Fig. 18: Ventral surfaces of femora in *Stromatopelma calceatum* ssp.



Stromatopelma fumigatum
(Pocock, 1899)

- Fig. 1: Female habitus 1:1
- Fig. 2: Labium, sternum and maxilla
- Fig. 3: Spermathecae
- Fig. 4: Seminal receptacles
- Fig. 5: Ocular arrangement and clypeus
- Fig. 6: Spinneret
- Fig. 7: Ventral coloration of leg I



The wanderers

A brief introduction to breeding and biology of the arboreal spiders of the genus *Cupiennius*

By Francesco Tomasinelli

Introduction

True spiders of genus *Cupiennius* belong to the family Ctenidae of the suborder Labidognatha, the group including the more evolved "true spiders" opposed to Ortognatha, the primitive Mygalomorphae spiders. Usually called wandering spider, they are typical hunting forms very similar to wolf spiders (Lycosidae) and fishing/nursery web spiders (Pisauridae). It's easy to make a correct family ID looking at the eye arrangement. Wolf spiders have 2 big central eyes and four smaller above (+ 2 in the upper carapace). More difficult is to tell the difference from Pisauridae with similar eye arrangement but different habits.

The nine species of *Cupiennius* reach big size (for a true spider). Females body can measure 4-5 cm with 10-12 cm legspan. Males are evidently smaller. They have 2,5-3 cm body but very long, thin legs. The body pattern give them a pretty good camouflage in their natural habitats, enhanced by the typical postures of the animals with



* Close-up of the female *C. getazi*
(Photo: Francesco Tomasinelli)

legs tightly adhering to the substrate. *C. getazi*, in particular, seems to have a keen disposition to assume cryptic postures while others, like *C. coccineus* prefer more relaxed positions.



* *Cupiennius getazi*, a view from the top
(Photo: Francesco Tomasinelli)

Legs are thin with strong femurs and some big tactile hairs. Many of them presents amazing warning colours on the underside. Resting spider perfectly covers them but an alarmed specimen can raise front leg to expose them. Males do not have warning colours most of the time, but are faster and more agile.

The genus is common throughout all the Central and South

