ELIZABETH FRANKLIN & STEFFEN WOAS

Some Oribatid Mites of the family Oppiidae (Acari, Oribatei) from Amazonia

Abstract
In the present paper a description of 9 new species of the Oppiidae from the Amazon region and a redescription of *Oppia paraguayensis* (BALOGH & MAHUNKA, 1981) is given. Two of the 10 species described below belong to the genus complex *Granuloppia/Pulchroppia* while 4 further species have to be incorporated into the genera *Baloghoppia*, *Trapezoppia*, *Globoppia* and *Brachyoppia*. The other 4 species belong to the genus complex *Oppia* including the subgenus *Arcoppia*. The description of the species belonging to the genus complex *Granuloppia/Pulchroppia* and to the genera *Baloghoppia*, *Trapezoppia*, *Globoppia* and *Brachyoppia* make it possible to complete the definitions of the Oppioidea, the Oppiidae and the Oppiniæ, given by WOAS (1986) and to exclude the genera *Teratoppia* and *Rhynchoribates* from the Oppioidea. In addition, an analysis is given concerning the heterogeneity of the Oppioidea sensu AYYILDIZ & LUXTON (1989), the Oppiidae sensu SUBIAS & P. BALOGH (1989) and of the Oppiidae sensu J. BALOGH & P. BALOGH (1989).

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Kurzfassung
Einige Arten der Familie Oppiidae (Acari, Oribatei) aus Amazonien.

Resumo
Alguns Ácaros Oribatídeos da Família Oppiidae (Acari, Oribatei) da Amazônia

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1. Introduction

Working on the subject of Oribatid mites in the ecosystem "rain-forest" leads to a confrontation with a huge number of unknown new species, though most of the new taxa have been described in the recent years are from the tropical regions. This fact is to be seen in the present paper, where 9 of the 10 described oppiid species are new to science and not mentioned in the "Oribatid Mites of the Neotropical Region II" (J. BALOGH & P. BALOGH 1990). In fact we are far away from having a complete survey of Oribatid mites from the neotropical region, an aim which certainly cannot be reached even in the distant future. Otherwise, ecological investigations within the ecosystem "rain-forest" are badly needed, a challenge for taxonomists to try to create natural, monophyletic taxa, if the output of ecological data should be comparable. The reason is, that only in monophyletic taxa the different species will show similar demands to their environment, based on the similarity of their genotypes.

Most of the higher taxa however, erected in the last twenty years, are "artificial identification groups, based on simple, easily recognizable, so-called artificial characters" (BALOGH 1972: 11). Using these taxa for ecological analysis will lead to errant conclusions or make special ecological attributes invisible. Another severe problem is the stability of the diagnostic characters by which the new described taxa are defined. According to SUBIAS & P. BALOGH (1989) more than 100 new genera and subgenera and 9 new subfamilies have been described and incorporated into the family of the Oppiidae since 1980. From this set two new subfamilies and more than 40 new genera and subgenera have been created since 1984 and it seems to be very sure, that most of these new subgenera will be transferred to new genera in the near future. For practical work in the rain-forests this will lead to an explosion of higher taxa as many of the new species to be expected will deviate by their characters from those taxa, which have already been described. Otherwise this practice will force the ecologists, to determine all species down to the species level; a task, which will be nearly impossible, because the diagnoses given are very short and mostly incomplete.

In fact we have no measure of intraspecific variability of oribatid mites, especially in the Amazon region. Here, long and changing river systems might have supported the dispersion of the different species by their transportation-capabilities. Therefore the number of local populations in this region, belonging to the same species, but differing slightly in their phenotype, may be very high. Another severe problem is, that in phylogenetically old taxa many of the characters of the younger taxa are foreshadowed. Whereas the older Archaeopteryx foreshadows the characters of the younger birds, in the Oribatei the foreshadowing of characters is a common phenomenon among the older taxa, of which distribution is mostly restricted to the tropics. In addition to the forshadowing effect, the high amount of parallel distributed characters in near-related species, especially in offspring-groups, will cause severe problems in designating new genera. Therefore possible combinations of so-called diagnostic characters and the amount of monotypic genera to be created may be nearly indefinitely high, especially in these more basic taxa. Using these characters for definitions of genera will devaluate the generic concept of the binominal system undoubtedly and will make the genera nearly unidentifiable. Therefore it is not only the aim of the present paper to describe the new taxa which have been found in the Amazon region, but to make a further attempt to give a definition to the superfamily of the Oppioidea, the family Oppiidae and the genera, nearly related to the genus Oppia.
Oppioidea

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2. Method and Material

The Method for erecting the definitions of the Oppioidea, the Oppidae, the Oppini and the genera near related to the genus Oppia follows WOAS, 1986. The definitions of these taxa are based on the comparison of 85 species, within the initial group, leading to a total amount of more than 400 characters with approximately 3200 different structural conditions. Every species is documented by 9-10 separated and normed drawings, concerning the dorsal, lateral and ventral aspect of the animal, the legs I and IV, the sensillus and its surrounding, the rostral edge, the infracapitulum, the pedipalpus and the chelicer. 65 of these species are already enlisted in WOAS (1990). The 6 oppiid taxa, added to this list are the following ones:

1. Baloghoppia inornata n. sp.
2. Pulchroppia sufflata n. sp.
3. Pulchroppia curarii n.sp.
4. Trapezoppia nova n.sp.
5. Brachyoppiaglabra n.sp.

Four further species, Globoppia velata, Oppia (Arcoppia) campinaranensis n.sp., Oppia (Arcoppia) porifera n.sp and Oppia phoretica n.sp. are only described and incorporated in the basic genera of the Oppia-group s.l., in the Oppia (Arcoppia)-group and in the Oppia clavipunctata-group.

3. Definition of Higher Taxa and Species Diagnoses

Oppioidea

Diagnosis

Prodorsum: Rostrum always with lamellar setae and without any rostral groove, rostral scale, "naso" and without any dorsal swelling in the central part. Prodorsum without enantiophysa in the lamellar region, and without tutoria and protruding or blade-like lamellae. Prodorsum separated by a distinct step from the notogaster within the region of the dorsosejugal line. Bothridia never funnel-shaped. Prodorsal setae (excluding sensilla) setiform. Sensilla always fully developed, never darkened or opaque, peduncle of sensilla always without any ring-like ornamentation at its base.

Notogaster: Cuticle without any parallel striation especially in the dorsosejugal region. Notogaster without a lenticule, a carina alaris and without any pteromorphe or shoulder pieces. "Stigmata", "tracheal organs" and humeral organs totally absent. Octotaxic system mostly totally absent or in some cases only rudimentary. Notogaster convex without a circumpleural running furrow or cuticle ridge. Dorsosejugal line at least partially developed.

Acetabular- and epimeral region: Without carina circumpedalis, pedotectum II, custodia and without parasagmatic sclerites or "bridges" between acetabula II and III. Pedotectum I always existing. Discidal region protruding the border of the ventral plate. Epimeral region without any minitecta or minitectial structures in the sternal region and without any sclerites directly on the epimera. Region of apodema I always without a median sclerite or processus of different size and shape, protruding the area of the mentum or the camerosome. Epimera 3 and 4 fused. Rear part of the epimeral region without any deep sternal groove or "aprofondissement brusque". Epimera 1 with three pairs and epimera 2 with one pair of setae. Epimeral setae and the setae h on the mentum normal shaped (setiform), never heavily barbed or with long side branchings. Epimeral setae even not partially pointing forward, forward pointing epimeral setae directly in front of the genital opening always missing.

Anogenital region: Distinctly brachytylpin, without a carina circumventralis, a carina circumpedalis and without any minitecta or sclerites in front of or beneath the genital opening, cuticle never striated. The front edge of the anal opening without a tubular preanal organ, the causal region of the anal opening without a strong protruding colulus. Anogenital region, including the genital and the anal flaps, without large neotrichy, the aggenital setae well separated from the adanal setae. All setae of the anogenital region setiform and never incrassate or heavily barbed.

Legs: The different articles without protrude setae-bearing cuticular ridges. Pori, sacculi or brachytrachea absent. No sockets on all articles. Tibiotarsal articulation area of tarsus I in central position. Tarsi well articulated to the following tibiae. All tarsi (including claws) longer than the following tibiae. The ambulacra of the tarsi not inserting on a pistillum. Tibia I without a large free ending forward protruding horn. Tibiae butt-shaped, femora with a clavate appearance. Tibiae, femora and especially trochanter IV without any blade- or spine-like apophysis or spurs in the dorsal or in the ventral position. Trochanter not broader than the femora. Tarsus I (including solenidia) always with more than 18 setae. Tibia IV (including the always existing solenidium) with 4 setae, genu I (including the always existing solenidium) with three setae, genu IV with less than three setae, femur I with 4-5 setae und femur IV with two setae. Tectoral setae absent. Tarsi always
monodactyl, claws sickle-shaped, unguinal und proral setae normal, setiform. Claws and setae on the legs never darkened. Position of solenidium \( \varphi_1 \) on tibia I not in front of the articulation region between tibia and tarsus. Solenidium \( \varphi_2 \) on tibia I never inserting behind solenidium \( \varphi_1 \). Solenidium \( \sigma \) on genu I distinctly longer than the remaining setae. All solenidia pin-pointed.

**Discussion**

In 1961, BALOGH created the Oppioidea and in 1972 he incorporated the Oppiidae, Suctobelbidae, Oxyam eridae, Rynchornibidae, Eremellidae, Autogonidae, Caleraeidae, Arceremaeidae, Machadoebelidae, Tuparezetidae, Anderemaeidae, Thyrisomidae and Spinozetidae into this superfamily. AYILDIZ & LUXTON (1989) follow the system of BALOGH and add their new family of the Epimerellidae to the Oppioidea. The given description by the two authors of *Enisella turcicus* AYILDIZ & LUXTON, 1989 and *Epimerella distenta* AYILDIZ & LUXTON, 1989 of the new family shows, however, that these species differ from the above given diagnosis of the Oppioidea by the narrow ventral and dorsal flanges on all femora, by the dorsal spurs on all trochantera of *Enisella turcicus* AYILDIZ & LUXTON, 1989 and by the broad median furrow of the epimeral region, flanked by clear visible and fully developed ridges, which might show the tendencies to form minitecta-like structures. As minitecta or related structures never appear in oppiid mites, the Thyrisomidae and the Sternoppiidae cannot be regarded as members of the Oppioidea as well. This is supported by the megascleritic nymph of *Pantelozetes paoli tuxenii* FUJIKAWA, 1978, which belongs to the family of the Banksinomidae FUJIKAWA, 1978 (= Thyrisomidae GRANDJEAN, 1954). Such a megascleritic nymphma, as they are common in the Ceratozetidae for example, certainly never appears within the Oppioidea.

The large side-branches of the epimeral setae of *Stemppia* reminds the epimeral setae of the Staurobatidae, which according to GRANDJEAN (1966) and due to their ameroebiblid characters (funnel-shaped bothridia, enantiophysa on the rostral part of the prodorsum) are eremuloid mites and do not belong to the Oppioidea.

The species *Spinozetes inexpectatus* PIFFI, 1966 certainly has to be incorporated into the Eremuloidea sensu GRANDJEAN. This species shows a tarsus I, which has a larger diameter than the following tibia and funnel-shaped Bothridia, characters which are common in such eremuloid genera like *Eremobelsbelba* or *Ctenobelsbelba*. In addition, tibia I bears a protruding horn carrying the two solenidia and genu I carries 4 setae (including the solenidium). All these characters, as well as the protruding horn-like lamella, will never appear in oppiid mites.

The funnel-shaped bothridia and the forward-pointing discidal processus of *Iberopella paradoxa* PEREZ-NEUG, 1986 show that these species may be closer related to *Ctenobelsbelba* than to *Oppia*, so that this species certainly has to be incorporated into the Eremuloidea GRANDJEAN, 1965 as well. It is easily recognizable that this species is not an oppiid mite, due to the fully developed pedotectum II, a character which is always missing in oppiid mites. Therefore the Spinozetidae sensu PEREZ-NEUG, 1986 are certainly not representing oppiid mites.

According to the drawing of leg I of *Proteremella pulchella* BALOGH, 1959 and to own investigations on material from Peru, eremellid oribatid mites show a very special type of leg, which with the strong ring-like cuticle ornamentation on all articles recall the Passalozetidae, and with their claws inserting on distinct pistilla show affinities to the Eremellidae or the Gymnodamaeidae. The protruding horn on tibia I, carrying a large solenidium, is very common in more basic higher Oribatei, like in Scapheremaeus, Scutovertex, Passalozetes, Gymnodamaeus or Autogneta. All these characters are totally absent in the Oppioidea. BALOGH himself (1959) claimed the possible position of this genus close to the Caleraeidae, an assumption which might be possible indeed. The eupheredermate Caleraeidae, however, were incorporated in the group A of the Eremuloidea by GRANDJEAN (1965). So the Eremellidae may show eupheredermate or plicated nymphma, which are not common within the Oppioidea. Here at least the genera *Quadroppia*, *Suctobelsbelba*, *Oppia* and *Oppiella* show neither plicated nor eupheredermate nymphma. *Oxyam erus spathulatus* AOKI, 1965 shows a fully developed pedotectum II, shoulder-pieces on the front edge of the slightly flattened notogaster, an indistinct circumenteal running furrow in the caudal region and a totally missing dorsosejugal line. These characters are not common in Oppioidea. According to the drawings of AOKI, even the setation formula of legs differ from the formula of the Oppioidea, as femur I of *O. spathulatus* has only two instead of 4 or 5 setae. As the setation formula of the legs of this species even differ from the one from the genus *Amerus*, its relationship seems to be not quite certain. However, it was incorporated into the Amerobelloididae GRANDJEAN, 1961 by AOKI himself, a family, which later was incorporated into the Eremuloidea (GRANDJEAN, 1965).

WOAS (1986), referring to available data of GRANDJEAN (1953, 1963) and SENICZAK (1975), discussed the deviation in the ontogeny of the Autognetidae from the Oppiidae which differs in the setation formula of leg IV.
of the protonymph (0-0-0-0-7-1) from the oppiid type (0-0-0-0-5-1). As the number of setae on tarsus IV (7) is common to all species hitherto investigated in the Eremuloidea and Ptergogasterina and most of the more basic higher Oribatei, this difference between the Autognetidae and the Oppiidae is of highest systematic value. In addition, the fully developed pedotecta II, the forward projecting horn of tibia I, the solenidium \( \phi 2 \) of tibia I, inserting behind solenidium \( \phi 1 \) and the three setae on genu IV of the adult Autognetidae show, that the species of this family do not belong to the Oppiidea, according to the definition of this group given above. *Anderemaeus magellanicus* HAMMER, 1962 shows the cuticle ridges \( U2 \) beneath the genital opening and a tubular preanal organ. These characters, which are always missing in the Oppiidea, are common to *Caleremaeus*, which is euperdeermate, an ontogenetical feature which does not fit into the type of ontogeny of oppiid mites as well. In fact, *Anderemaeus* HAMMER, 1962, *Chisteremaeus* BALOGH & CSISZAR, 1963 and *Megeremaeus* HIGGINS & WOOLLEY, 1956 may be allied to the genus *Caleremaeus*, an assumption, which for the genus *Chisteremaeus* was already given by BALOGH & CSISZAR, 1963. Though the cuticle ridge \( U2 \) is lacking in *Megeremaeus montanus* HIGGINS & WOOLLEY, 1965 and *M. hylaius* BEHAN-PELLETIER, 1990, both species show a well developed tubular preanal organ and a lamellar complex, which is similar to the lamellar complex of *Caleremaeus* and *Chisteremaeus*. In addition and according to BEHAN-PELLETIER (1990) at least *M. hylaius* is euperdeermate like *Caleremaeus*. Therefore, the Anderemaeidae certainly cannot be incorporated into the Oppiidea. It is very possible that the genera *Caleremaeus*, *Anderemaeus*, *Chisteremaeus* and *Megeremaeus* belong to the Eremuroidae, a new superfamily still to be defined, and from which, especially from the surrounding of the Carabodidae, the Oppiidea have to be derived. It may be that even the Arceremaeidae, with their 4 well separated epimeral plates, belong to the "Eremuroidae", especially if one regards the blade-like apophyssa (flanges) on all femora of the legs of *Tectaremaeus cornutus* HAMMER, 1961. In any case, these characters show, that the Arceremaeidae are no members of the Oppiidea. The species *Machadobelba symmetraca* BALOGH, 1958 shows enantiophsysa in front of the bothridia and 4 distinct epimeral plates. Therefore, the Machadobelbidae certainly do not belong to the Oppiidea. The same remarks can be made for the genus *Tuparezetes* SPAIN 1969. According to LUXTON (1985) the type species of this genus, *T. christiniae* SPAIN, 1969, is triactylos, shows a well developed pedotectum II and seems to have funnel-shaped bothridia, characters, which according to BALOGH (1972) are found in the species *T. philodendros* SPAIN, 1967 as well. Therefore, the Tuparezetidae must have to be removed from the Oppiidea too. In 1986, WOAS made an attempt to revise the Oppiidea and integrated the genera *Rhychnoribates* GRANDJEAN, 1929, *Teratoppia* BALOGH, 1959, *Quadroppia* JACOT, 1937, *Suctobelba* PAOLI, 1908, *Arcoppia* HAMMER, 1977, *Oppia* C. L. KOCH, 1842 and *Oppiella* JACOT, 1937 in this superfamily. The genus *Teratoppia*, however, has to be removed from the Oppiidea due to the ventral spurs of the tibiae of the front-legs, the longitudinal striation of the epicuticule in the dorsosejugal area of the notogaster and the very small solenidium \( \sigma \) on genu I. The ventral spurs of the tibiae of the front legs seem to show tendencies towards the formation of sockets and the type of longitudinal striation of the epicuticule is more a character of such basic genera like *Stryttoria* or *Trematoppia*. Therefore, *Teratoppia* seems more to be related to the Eremuloidea than to the Oppiidea. Undoubtedly wrong is the position of *Rhychnoribates* within the Oppiidea (WOAS, 1986; 1990). This genus certainly has to be excluded from the Oppiidea as the very small and slender solenidium \( \sigma \) on genu I in this genus seems to be more an eremuloid than an oppiid character, while the rostral scale of the species within this genus represents a more basic character, not common in the Oppiidea. **Oppiidae** **Diagnosis** Oppiidea with 21-22 setae on tarsus I, two setae on genu IV and 5 setae on femur I. **Discussion** In 1989, SUBIAS & P. BALOGH excluded the subfamilies Borhidiniae, Cuneoppiniinae, Chavininae, Rioppiniinae (Lyroppiniinae), Granuloppiniinae, Quadroppiniinae, Hexpoppiinae, Papillontiniae, Teratoppiniinae, Stemoppiniinae, Machuellinae and Trizetinae from the family Oppiidae. As to these subfamilies, this is done in accordance with WOAS, who in 1986 excluded the genera belonging to these subfamilies from the Oppiidea too, which was obviously overseen by the authors. Since according to J. BALOGH & P. BALOGH (1990: 10), the "Identification Keys to the Genera of the Oppiidae GRANDJEAN, 1951" (SUBIAS & P. BALOGH (1989) were published during the preparation of the manuscript "Oribatid Soil Mites of the Neotropical Region II", the latter work still incorporates such genera like *Sternoppia*, *Quadroppia*, *Chavinia*, *Teratoppia*, *Rioppia* and *Machuellia* within the Oppiidae, genera which certainly have to be removed from this family. On the other hand *Granuloppia* BALOGH, 1958 which shows many characters in common with the genus *Pulchroppia* HAMMER, 1979 (one pair of setae behind or within the rear area of the epimeral region and near to the pair of aggenital setae, apodema 4 reduced or only very weak, anal setae \( \text{ad} 1 \) reduced), must be regarded as a genus of the Oppiidae. This is
emphasized by the genus *Pulchroppia*, which in accordance with the diagnosis for the family given above, is a member of the Oppiidae, showing some special characters like the lack of a distinct apodema 4 and the tendency to reduce the adanal setae ad1. This is clearly shown by the new species *P. sufflata* described below, which shows a hemideficient pair of the adanal setae ad1, whereas the second new-described species of this genus carries only the adanal setae ad2 and ad3. The slender but chewing chelicera of above, is a member of the Oppiidae, showing some accordance with the diagnosis for the family given where it is very much elongated and touching the chelicera with their protruding digiti of *P.* Therefore according to the description of the pedipalpus of *P.* elegans, mentioned by HAMMER (1979), which are not normally found in the genus *Suctobelba* and to some account in the genus *Brachioppia* too. In the genus *Suctobelba* these spines have the tendency to become foliate or clavate as shown by WOAS (1986) and as described by HAMMER (1979) for *P.* elegans.

According to the description of *Baloghoppia inornata*, given below, chelicera with protruding digiti are also found in the genus *Baloghoppia* MAHUNKA, 1983 together with the spine-like setae on tarsus IV, similar to those of *Pulchroppia elegans* or of the genus *Suctobelba*. In addition, the solenidium on the tarsus of the pedipalpus of *Baloghoppia* is inserting the same way like in *Suctobelba grandis* (GRANDJEAN 1951: 92, fig. E) where it is very much elongated and touching the eupathidia in the terminal position of the tarsus. These characters seem not to be common in the genus *Oxyoppia* and are totally missing in the genus *Oppiella*. Therefore *Baloghoppia* cannot be incorporated neither in the *Oxyoppinae* nor in the *Oppiella-group* as suggested by MAHUNKA (1983), SUBIAS & BALOGH (1989) or by J. BALOGH & P. BALOGH (1990). This genus, which in all characters fits to the definition of the Oppioidea given above, seems to represent a more basic taxon of the Oppidae, combining characters of the Suctobelbinae and the Oppiinae sensu WOAS (1986).

Furthermore it shows, that the Suctobelbinae are closely related to the Oppiinae and therefore, should not be excluded from the Oppiidae. GRANDJEAN himself (1951) claimed the close relationship of *Suctobelba* and *Oppiella* and proposed two families, the Suctobelidae and the Oppidae to be incorporated in one superfamliy. Finally, the near relationship between *Suctobelba* and *Oppiella* is given by the same setation-formula of leg IV of the protoynymna, shown by GRANDJEAN, when he defined the Suctobelbidae and Oppiidae in 1954. It was not known to WOAS that a basic group of oppiid mites may exist, combining the characters of the Oppiinae and the Suctobelbinae, when he discussed the uncertain systematical position of the genus *Granuloppia* in 1986. But do we know if *Granuloppia* show tendencies towards suctorial mouth-parts, regarding the descriptions and diagnosis given of the species of this genus until now? It may be that it has such tendencies including the possibility, that the solenidium on the pedipalpus shows an insertion modus like in *Baloghoppia*. Furthermore the tarsus IV or other articles of the legs may carry spine-like or clavate setae on the ventral side or in different position.

Such characters may even appear in the genus *Macrosoma* HAMMER, 1979. This is supported by the description of the closely related *Senectoppia rugosa* AKOI, 1977. This species shows an oppiid setation-formula of the legs and tendencies towards clavate, spine-like or incrassate setae on the legs, documented by the very thick and lanceolate dorsal setae on femur II. But as no detailed figures or descriptions on the characters of the mouth-parts of *Senectoppia rugosa* AKOI, 1977 and *Macrosoma rugosa* HAMMER, 1979 are given, the question of the systematical relationship between the genera *Granuloppia*, *Senectoppia* and *Macrosoma*, which might belong into one genus, has to remain open until more detailed investigations on these genera will be possible. This incorporates the question on the relationship between *Pulchroppia* and *Granuloppia*, which apparently seems to be very narrow too, though the new species of the genus *Pulchroppia* described below show no strong granulation, reticulation or a rugose ornamentation on the prodorsum or on the notogaster.

In contrast to the Suctobelbinae sensu WOAS, 1986, the Mystroppinae BALOGH, 1983 and the Oxyoppinae SUBIAS & BALOGH, 1989 should be excluded from the Oppiidae and even from the Oppioidea. *Oxyoppia suramericana* (HAMMER, 1958) from the Amazon region, very similar to *Oxyoppia polynesia* (HAMMER, 1972), shows blunt ending solenidia on the genu of the legs, a small tectoral ridge above the acetabulum I and a faint striation of the anogenital region (oil-emersion). Furthermore, the tibiotarsal articulation area of tarsus I is more in dorsal than in a central position. Regarding these characters and the additional caudal pointing interbothridial sclerites, this species certainly is more related to *Eremobolba* BERLESE, 1908, *Heterobolba* BERLESE 1913, *Basilobelba* BALOGH 1958, *Striatoppia* BALOGH, 1958, *Autogneta penicillum* GRANDJEAN, 1960, *Cosmogneta* GRANDJEAN 1961 or *Fosseremus quadripartitus* GRANDJEAN 1965, than to the Oppiidae. As the fan-shaped setae, especially on the notogaster of the nympha of *Cosmogneta* GRANDJEAN, 1961 and *Conchogneta* GRANDJEAN (1963) are very similar to those of the adult *Striatoppia niliaca* (POPP, 1960), the relationship between the Autognetidae GRANDJEAN, 1960 and *Striatoppia* seems to be very close too. Therefore the protonympha of this genus might have 7 setae on tarsus IV, whereas the Oppiidae are
characterized by 5 setae on their protynymphal tarsus IV. *Striatoppia* however has been incorporated into the Mystroppiinae *Balogh*, 1983 which certainly is not a subfamily of the Oppiidae as claimed by *Balogh* (1983) and by *Subias & P. Balogh* (1989). It seems that species closely related to the genus *Striatoppia* have been transferred by *Subias & P. Balogh* (1989) to their new subfamily of the Oxyoppini. This is shown by the species *Oxyoppia suramericana* (Hammer, 1958) and *Lineoppia frouini* J. *Balogh* & P. *Balogh*, 1983. Both species show a parallel striation of their cuticle, a character also to be seen in *Mystroppia dallai* Bernini, 1973. Furthermore, *O. suramericana* and *M. dallai* show blunt-ending solenidia on the genu of their legs, which supports the assumption of a close relationship between these two species. Due to the fact that *M. dallai* combines characters of the genera *Striatoppia* *Balogh*, 1958 and *Mystroppia* *Balogh*, 1959 the relationship between some species of the Oxyoppini and the Mystroppiinae seems to be obvious as discussed by *Bernini* (1973). Therefore, *Oxyoppia, Mystroppia* as well as *Striatoppia* certainly do not belong to the Oppiidae. These genera seem to represent a group, closely related to the Eremuloidea, a group into which the genus *Stachyoppia* *Balogh*, 1961 has to be included, due to the protruding horn of tibia I of *S. kosarovi Jeleva matritensis* Perez-Inigo, 1967. This is supported by *Poppp* (1960: 208, fig. 8) and by own investigations after which species of the *Stachyoppia-Striatoppia-Mystroppia* group show a “corne double mal ajustée” on the tarsus of their pedipalps. Otherwise, most of the species of the genus *Subiasella* *Balogh*, 1983, incorporated into the Oxyoppini by *Subias & P. Balogh*, 1989 will certainly belong to the family Oppiidae, as they show no large protruding horn on tibia I, pin-pointed ending solenidia on the genu of their legs and no parallel striation on their cuticle. All their other characters seem to fit into the definitions of the Oppioidea and of the Oppiidae given above, though their number of setae on tarsus I might be lower than mentioned for the Oppiidae.

Therefore, the Oxyoppini certainly represent a heterogenous taxon including species which belong either to the Eremuloidea and to the Autognetidae or to the Oppiidae. The Antilloppiinae certainly have to be removed from the Oppiidae, as *Antilloppia schauenbergi* Mahunka, 1985, according to the ventral aspect given by J. *Balogh* & P. *Balogh* (1990), seems to show a minitectum-like structure in the genital region and simultaneously is provided by an tubular preanal organ. These characters are more similar to characters of the Banksinomidae Fujikawa, 1979 than to characters of the Oppiidae. In addition, the form of the anal opening of this species is closer to that of an *Eremaeus* than to that of an *Oppia*. This also holds for the shape of the preanal organ and the anal opening in *Neoppia minuta* Battacharya & Banerjee, 1981. Finally, *Neoppia* *(Joboppia) Ruiz, Minguéz & Subias, 1988* is characterized by a huge postanal colulus, a character uncomon to the Oppiidae. In contrast to J. *Balogh* & P. *Balogh* (1990) the genus *Enantioppia* has to be removed from the family of the Oppiidae too. This is shown by the condyli U2 beneath the genital opening of *Enantioppia multituberculata* *Balogh* & Mahunka, 1969. These condyli are more a character of basic higher Orbatei, like *Calareremaeus* or *Licereremaeus*, than that of an *Oppia*. There are certainly more taxa not incorpored by *Subias & P. Balogh* (1989) and J. *Balogh* & P. *Balogh* (1990) in the Oppiidae, which might be excluded from this family. But the diagnoses and figures given in these works are not sufficient to discuss their systematic position.

**Oppiinae**

**Diagnosis**

Oppiidae without tectopedial fields on the rostral part of the prodorsum. Genital opening distinctly narrower than anal opening. Aggenital setae never in a more lateral position than adanal setae ad3. Infracapitulum with clearly developed denticulated rutella.

**Discussion**

In 1989, *Subias & P. Balogh* incorporated the genus *Pluritchoppia* *Subias & Arillo*, 1988 into the Oppiinae. This shows that the definition for the Oppiinae — "lamellar and/or translamellar lines present (if absent: sensillae either pectinate or ciliate)" given by *Subias & P. Balogh* (1989: 357) — is insufficient. *P. insolita* *Subias & Arillo* certainly is more related to *Eremaeus*, than it is to *Oppia*. This is shown by the large protruding colulus behind the anal-opening of *P. insolita*, which is protruding in form of a carina circumventralis into the analogenal region. Such a colulus is easily to be seen in species like *Eremaeus oblongus* C. L. Koch, 1836, *Calareremaeus monilipes* (Michael, 1882), *Saxicolestes arundata Grandjean*, 1951 or in the genus *Passalozetes*. According to the figure of *P. insolita* given by the authors, there seems to be a small colulus on the notogaster in caudal position. This character is well developed in species like *Zetorchestes saltator* Oudemans, 1915, *Z. novagineanephu* Krisper, 1987, *Z. vanderhammeni* Krisper, 1987 and *Z. aoki* Krisper, 1987, as documented by the figures of Krisper (1987). The near relationship of *Zetorchestes* and *Eremaeus* is documented by the "nymph trachéenne", which is a character of *Tricheraeaeus*, *Cymbaeremaeus* and *Scapheraeaeus* too, as pointed out by Grandjean (1934). An additional remaeid character of *Pluritchoppia insolita* is that of the very denseley ciliated sensillae. Therefore, if *P. insolita* is a relative closely related to *Eremaeus* it may show the gastronomic neotrichy similar to that of *Tricheraeaeus nemossensis* Grandjean, 1963, mentioned by the author of this species. As *P. insolita* will therefore certainly differ in the
ontogeny from species of the Oppiinae it should not be incorporated into this subfamily and it certainly will not belong neither to the Oppiidae nor to the Oppioidea. Extensive neotrichy, especially on the notogaster and the ventral plate, certainly is an apomorphic but old character, restricted to phylogenetical older taxa, and never will appear in the Oppioidea. Therefore *Neotrichoppia pseudoconfinis* SIBIAS & ITURRONDÓBEITIA, 1980 certainly does not belong into the systematical neighbourhood of the genus *Oppia* too. This is supported by the extensive carina circumventrals of this species as shown in figure 3 (SIBIAS & ITURRONDÓBEITIA 1980: 207) of the description.

**Basic-group of the Oppiinae**

The basic-group of this subfamily is a group of almost tropical distributed genera and of high transspecific variability. In this group characters of the morphotypes of more peripheral groups are foreshadowed, and together with characters of more basisc groups, they are distributed like a mosaic over their different genera and species. So none of the different distributed characters do characterize all their species together. In fact the composition of characters in nearly every species or genus is different. Such a group can only be defined by trends, and the type-species of such a group may represent only some of these characters. The main trends within this group may be defined as follows:

1. Tendency to aquire a physogastric or an elongated notogaster and to remote the notogastral shield to a more caudal position.
2. Tendency to form a custodium-like ridge below acetabulum III and to hide the acetabulum behind a cuticular folding.
3. Tendency to form a pouch-like infolding between acetabula I and II.
4. Tendency to dislocate the acetabula III and IV towards the dorsal position.
5. Tendency to reduce apodema 4.
6. Tendency to widen the region of the epimera 3 and 4 far beyond the genital opening.
7. Tendency to remote acetabulum IV from acetabulum III.
8. Tendency to form a large velum between the acetabula I and IV.
9. Tendency to show a distance between genital and anal opening, distinctly smaller than the length of the genital opening.
10. Tendency to variability in the position of the genital opening, distance between the sejugal apodema and the genital opening sometimes longer than genital opening.
11. Diminishing tendency to form a small protruding horn on tibia I.
12. Tendency towards suctorial mouth-parts.
13. Tendency to form darkened digitii of chelicera.
14. Tendency to reduce the adanal setae ad1.
15. Tendency to form an additional pair of setae between the aggenital and the epimeral setae and to incorporate this pair of setae into the region of the epimera 3 and 4.
16. Tendency to arrange 6 genital setae almost in a longitudinal or oblique row.
17. Tendency towards clavate or spine-like, mostly distinctly barbed, pleuroventral setae on tarsus IV.
18. High variability in the appearance of the sensillus.
19. Loss of cuticle ornamentation.
20. Tendency to lose or to modify the cuticle ridges of the prodorsum, especially in the lamellar region.
21. Tendency to lose or to modify the type of spinea adnatae of the notogaster.
22. High variability in the position of the lyrifissure iad.
23. The lyrifissure often in apoanal position and situated obliquely at some distance from the lateral border.

The definition of a genus in this highly variable basic-group of the Oppiinae is problematical. This is easily to be shown by the newly described species *Pulchroppia sufflata* n. sp. and *P. curariri* n. sp. which, without any doubt, are belonging to the subfamily and which might also be incorporated in the genus *Granuloppia* BALOGH, 1958. The shape of the lamella of *P. sufflata* is nearly the same as in *Granuloppia congoensis* BALOGH, 1958. In addition, *P. sufflata* and *P. curariri* have 6 almost longitudinal arranged genital setae, a character which is shown by the species of the genus *Granuloppia* BALOGH, 1958 too, but which appears also in the more peripher genera like in *Tectoppia* WALLWORK, 1961 and in *Arcoppia* HAMMER, 1977. The species *P. curariri*, however, shows no distinct lamella on the prodorsum, a character which this species has in common with the species *P. elegans* HAMMER, 1979 and *P. similis* HAMMER, 1979. In addition, the two species of HAMMER show the same type of ornamentation like the two new species from the Amazon region (large oval meshes, bordering the caudal part of the epimera 3 and 4 and enclosing an additional pair of setae between the aggenital and the epimeral setae). In *P. elegans* and *P. similis*, however, even the aggenital setae are incorporated into the caudal part of the epimeral region. Furthermore, these species have only 5 pairs of genital setae. For this reason they differ from the newly described species here. The hemideficient pair of the setae ad1 in *P. sufflata* shows, that the number of adanal setae within this group may be variable, so that the missing setae ad1 in *Granuloppia* certainly is without any generic value. For this reason not only the species *P. elegans* and *P. similis* may belong into this group, but also such species like *Multioppia berndhauseri* MAHUNKA, 1978 and *M. schauenbergi* MAHUNKA, 1978. As it seems relatively sure that the relationship between *Granuloppia* and *Pulchroppia* is close, the genus *Granuloppia* should not be excluded from the Oppiidae as it was supposed by WOAS (1986) and done by SIBIAS & P. BALOGH (1989).
It might even be that the species Senectoppia rugosa Aoki, 1977 and Macrosoma rugosa Hammer 1979 belong in this group, as both species show the missing setae ad1 and an additional pair of setae between the aggenital and the epimeral setae more or less within the caudal border of the epimeral region, like in the genera Granuloppia and Pulchroppia, the lateral spinae adnatae of Granuloppia congoensis Balogh, 1958 and G. kamerunensis Mahunka, 1974 and the notogastral shield in a more caudal position, like in the more periphery Tectoppia nigricans Wallwork, 1961. The very basic genus Baloghoppia of this subfamily even combines eremaeid characters (caudal region of the notogaster with a broad, not distinctly protruding colulus) and scutoverticid/pterogasterinid characters (digiti of chelicera distinctly darkened) with suctobelbid characters (acetabulum III hidden behind a cuticular infolding, tarsus IV with two thickened, strongly barbed pleuroventral setae, tarsus of pedipalpus with an extremely elongated solenidium, touching the distal eupathidia) and oppiellid characters (Prodorsum with short costulae, notogaster with spinae adnatae). Therefore the present identification-keys of the very basic genus aggenital and the epimeral setae more or less within the setae ad1 and an additional pair of setae between the Type-species: adnatae of Oppiidae will fail in the future without comparative short costulae, notogaster with spinae adnatae). eupathidia) and oppiellid characters (Prodorsum with extremely elongated solenidium, touching the distal eupathidia) and oppiellid characters (Prodorsum with short costulae, notogaster with spinae adnatae). Therefore the present identification-keys of the Oppiidae will fail in the future without comparative morphological and phylogenetical investigations, for new discovered species of the basic-group of the oppiid mites may show such mosaic-patterned characters, belonging either to more basic or to more peripheral taxa of the subfamily of the Oppiinae.

**Genus Baloghoppia Mahunka, 1983**

**Type-species:** Baloghoppia dentata Mahunka, 1983

**Diagnosis**

With the characters of the Oppiinae. Acetabular region with a custodium-like ridge below acetabulum III, the acetabulum hidden behind a cuticular infolding, like in Suctobelba. tarsus of pedipalpus with an extremely elongated solenidium, touching the distal eupathidia, like in Suctobelba. Digiti of chelicera darkened. Insertion points of notogastral setae surrounded by an indistinct corona-like structure.

**Remarks:** Like in the genus Suctobelba, Baloghoppia shows two thickened and heavily barbed pleuroventral setae on tarsus IV. This underlines the suctobelbid character of this genus. However, as the thickened, heavily barbed pleuroventral setae on tarsus IV are a character of Pulchroppia elegans Hammer, 1977 and to some account of the genus Brachyoppia too, this character cannot be used for the definition of this genus. The diagnosis, given above, certainly is of temporary value and insufficient to define a genus-group. It is possible that the genus-group is defined rather by variable than by static characters and that genera like Trizetes, Berlese 1904 have to be incorporated into such a basic group of Oppiinae, together with genera closely related to Baloghoppia, Mahunka, 1983 and Mahunkella, Balogh & Mahunka, 1978.

**Discussion**

The diagnosis for this genus, given by Mahunka (1983, p. 207) sounds as follows: "Family Oppiidae, subfamily Oppiellinae. Rostrum rounded. Prodorsum with well developed costula, lamellar setae arising much nearer to interlamellar than to rostral ones. Notogaster with two pairs of strong teeth, directed forwards, and with a long crista backwards. Sensillae slightly fusiform, with 8 long branches of different lengths. Notogaster with 13 pairs of well ciliated setae. Surface foveolate. Five pairs of genital setae. Pori iad in adanal, setae ad3 in preanal position." The diagnosis is completed by the following remarks: "The new genus belongs in the relationship of Neostriatinina Mahunka, 1979, and Mahunkella Balogh, 1983; however, Neostriatinina has only one pair of lateral tubercles while Mahunkella lacks it, and both genera display an unfoveolated cuticula. Mahunkella shows ten pairs of notogastral setae and Neostriatinina has a long, pectinate sensillus. The new genus is distinguished from both genera also by the characteristic pedotecta 3-4."

By these remarks, Mahunka comes to the conclusion that Baloghoppia dentata "stands far removed from the related taxa."

It seems, however, that at least Mahunkella is extremely close related to Baloghoppia. The diagnosis for this genus, given by Balogh (1983, p.29) sounds as follows: "Prodorsum: costulae lyriform, converging, bearing setae le. Sensillus pectinate with 7 branches. Rostrum not incised. Setae le much nearer to setae in than to setae ro. Notogaster: crista disappearing, each represented only by a small knob. Setae ta present. 12 pairs of notogastral setae. Ventral G = 5. Pori iad adanal. Setae ad1 in postanal position but fairly lateral. Setae ad3 in preanal position."

The comparison of the two definitions, given for the genera Baloghoppia and Mahunkella shows, that the differences between these genera seem to be very small. The difference in the number of notogastral setae of the both genera is devaluated by the fact, that the type of arrangement of the setae in the middle of the notogaster (two rostral diverging rows of 6 notogastral setae on each side) is nearly the same in Baloghoppia dentata Mahunka, 1983, in Baloghoppia inornata, newly described below, and in Mahunkella transitoria (Balogh & Mahunka, 1978). Furthermore, Mahunkella bears 12 instead of only 10 pairs of notogastral setae, as stated by Mahunka (1983). The shape of the rostrum, the position of lamellar setae, the number of genital setae and their arrangement, and the position of adanal setae ad3 is the same in all three species.

According to the drawings of the sensilla of Baloghoppia dentata and Mahunkella transitoria, given by Mahunka (1983) and Balogh & Mahunka (1978), both species show no difference in this character. The same number of branches, however of different shape, are to be seen on the sensilla of Baloghoppia inornata. Even the characteristic pedotecta 3 and 4, mentioned by Mahunka...
(1983) for Baloghoppia dentata are to be seen in Baloghoppia inornata as in Mahunkella transitoria as well. So the differences between the genera Baloghoppia and Mahunkella are only shown by the presence or absence of spinae adnatae, by the foveolated or smooth cuticle and by the well ciliated or smooth notogastral setae. Baloghoppia inornata, which shows the 13 pairs of notogastral setae like Baloghoppia dentata, is characterized by smooth and slender notogastral setae and by a smooth cuticle, which both are characters of Mahunkella transitoria. When seen from the dorsal aspect, only indistinct crista of the spinae adnatae are to be seen in Baloghoppia inornata. Furthermore, the inner spinæ adnatae of this species form knob-like processus, carrying the setae ta in a foveolated or smooth cuticle and by the well ciliated or smooth notogastral setae.

The high amount of suctobelbid characters and the type-species of the genera Baloghoppia and Mahunkella, the genus Baloghoppia cannot be withdrawn from the system. The high amount of suctobelbid characters and the darkened digit of the chelicera of Baloghoppia inornata leads to new aspects concerning the systematical position of Trizetes pyramidalis Berlese, 1904, which might be relatively close to the genera Baloghoppia and Mahunkella. According to the drawings of Berlese (1904, fig. 43, tab. II), Sellnick (1937, p. 79, figs. 1-2) and Perez-Iñigo (1971, p. 326, figs. 65-68) and according to the redescriptions of Sellnick (1937) and Perez-Iñigo (1971), the following characters of Trizetes fits to the definition of the Oppioidea given above:

1. Type of surface structure of cuticula: parallel striation of the epicuticula missing, especially in the areae of the dorsosejugal line.
2. Type of prodorsum: without any rostral groove, rostral scale or naso and without any enantiophysis; lamellar setae developed, all prodorsal setae setiform; distinct step between prodorsum and notogaster.
3. Shape of notogaster: convex without a circumpleural running furrow or any related structure.
4. Type of acetabular region: carina circumpedalis, pedotectum II, custodia and parastigmatic sclerites missing; pedotectum I very small but apparently existing; discidium protruding the outer border of the ventral plate.
5. Type of epimeral region: minitecta and sclerites on the epimera missing; no median, forward pointing sclerite or processus on apodema 1; epimera 3 and 4 fused, no sternal groove or "aprofondissement brusque" on this epimera; setation formula of epimera 3-1-2-3; shape and position of epimeral setae and setae h on the mentum normal and without any large side branchings; forward pointing setae directly in front of the genital opening missing.
6. Type of analogenital region: arrangement of genital and anal opening distinctly brachypylin; no carina circumventrals; sclerites or minitecta and caudal colulus missing; no trace of neotrichy, the anal flaps included; analogenital setae normal shaped, without large side branchings.
7. Type of legs: without any setae bearing ridges; all articles with normal articulation; tibiotarsal articulation fully developed; length of all tarsi normal; horn or processus on tibia I missing; tibiae and femora butt- or clavate, trochanter normal; no apophysa, spurs or chista on tibiae, femora and trochanter in ventral and in dorsal position; genu I, including solenidium, with 3, tibia IV, including solenidium, with 4 and femur IV with two setae, as far as can be seen by the drawings; ambulacra apparently not inserting on a pistillum.
8. Number and type of claws: all tarsi monodactyl, claws sickle shaped.
9. Type of solenidia: length of solenidium σ on genu I distinctly longer than the remaining setae.
10. Type of mouth-parts: camerostome not fully covered by the mentum; no trace of a "corne double" on the tarsus of the pedipalpus.

Furthermore Trizetes pyramidalis shows some characters which either might be regarded as suctobelbid characters or which fit to the trend definition, given for the basic group of Oppiinae above:

1. Notogastral shield remoted to a more caudal position.
2. Acetabulae III and IV dislocated towards the dorsal position.
3. Acetabulum IV far remoted from acetabulum III.
4. Region of epimera 3 and 4 widened relatively far beyond the genital opening.
5. Presence of sectorial mouth-parts.
6. Tips of cheliceral digit darkened.
7. Presence of two distinctly barbed pleuroventral setae on tarsus IV.
8. Presence of a foveolated cuticula on the mentum. One of the characters of Trizetes pyramidalis seems to be typical for the genus-group Oppia. This character is represented by a cuticular ridge, running in a slight arch from the area of acetabulum IV towards the dorsosejugal line of the notogaster. A very similar structure is to be seen in species, related to Oppia clavipunctata and in some modifications in species of the genera Trapezoppia and Gliopoppia and in the subgenus Oppia (Arcoppia). The isolated sclerite in front of acetabulum IV, often to be seen within the Oppiinae, seems to be a remaining part of this cuticle ridge.

Some of the characters of Trizetes, however, reminds more the conditions of the caraboid genus Beckiella, of the more scutoverticid Pelopidae and of the genus Rhynchoribates. The digit of the chelicera of Trizetes are very small, like in Rhynchoribates, Beckiella, Eupelops and in Galumnopsis. The darkened tips of the
Figure 1. *Baloghoppia inornata* n. sp.: a) dorsal; b) ventral; c) lateral. All drawings by E. FRANKLIN and F. WEICK.
cheliceral digitii, which appear already in such basic genera, like in *Cymbaeremaeus*, are more a character of the "Scutoverticoidea" and the "Pterogasterina s.str." As according to own investigations, the Oppioidea should be derived from very basic *Oppia*-like oribatid, in the surrounding of the "Eremaeoidea/Carabodoidea", characters of this group have to be expected in such a presumed type of basic Oppiidae or Oppiinae, like in *Trizetes*. Furthermore, investigations of *Behan-Pelle-tier* (1990) show, that basic carabid characters may even appear in such more peripheral genera of the Oppiinae, like in *Oppia*. Without detailed knowledge, especially of the setation-conditions on legs, pedipalps and chelicera of *Trizetes* (which could be of a more basic type), it is not sure wether this genus is really closely related to the genera *Baloghoppia* and *Mahunkella* or not, but in spite of this, and especially with regard to the character-trends of basic Oppiinae, the possibility of such a close relationship seems to be very high.

*Baloghoppia inornata* n.sp.

**Diagnosis**

Colour bright yellowish brown. Cuticle without any foveolation. Length 350 μm, width 180 μm. Prodorsum with costula-like lamella and with knob-like interbothridial ridges in front of the dorsosejugal line, ridges more or less separate and not directly connected to the lamella. Dorsosejugal line convex and very faint in the middle. Notogaster with two pairs of not very prominent spinae adnatae, the cristae of the spinae adnatae indistinct. Sensillus pectinate. Notogaster with 13 pairs of smooth notogastral setae, the first pair of setae ta near the dorsosejugal line very small.

**Description**

Cuticle (fig. 1, 3): Exobothridial- and acetabular region with small rounded nodules. Femora of legs with a fine area porosa-like tuberculation and with transverse and parallel running indistinct ridges on the hind legs. Interlamellar region with two pairs of relatively large rounded but indistinct maculae. Epimeral region with a mesh-net, the meshes on epimera 1 and 2 indistinct, on
epimera 3 and 4 distinct and of oval but irregular shape. Prodorsum (fig. 1, 3): Shorter than notogaster. The costula-like lamella clearly developed and slightly converging to the front, no translamella developed. Rostral, lamellar and interlamellar setae setiform, interlamellar and rostral setae smooth, lamellar seta slightly bristled. The upright standing but slightly foreward pointing lamellar and interlamellar setae nearly of same length and slightly shorter than the rostral seta. Sensillus of medium length, slender, pectinate, and with 7 branches. Prodorsum with one pair of slightly bristled exobothridial setae. An additional pair of exobothridial setae is only represented by their insertion-points (hemideficient).

Notogaster (fig. 1): Convex and with 13 pairs of smooth setae of medium length. The first three pairs of setae in ta-ti-te position and the setae ta very small. Middle of the notogaster with two rostral diverging rows of 6 setae on each side. Insertion points of notogastral setae with an indistinct corona- like structure in the cuticle. Notogaster without any area porosa-like maculae.

Podosoma (fig. 1): Acetabula I-III at the same level, acetabulum IV displaced towards the lateral notogastral border. From lateral aspect acutabular region with a separate prominent rounded sclerite between acetabula III and IV. Epimeral region with a distinct apodema 4. Epimeral setae of medium length and smooth. Formula of epimeral setae: 3-1-2-3.

Anogenital region (fig. 1): Genital opening much smaller than anal opening and very indistinct broadening to the front. Genital flaps with 5 pairs of setae, the last two pairs inserting clearly isolated from the rest of the setae. Anal flaps with two pairs of setae. The adanal region with the setae ad1- ad3. Distance ad3 - ad3 more than twice as long than distance ad1-ad1, like in Baloghoppia dentata and in Mahunkella transitoria. Aggenital seta displaced to the middle of the anogenital region. Lyrifissure iad running parallel at some distance to the anal opening. Legs (fig. 2): Articles normal shaped and with normal articulation. Tarsi with one claw. Setation formula of legs (including solenidia): leg I 5-3-6-22-1
leg IV 1-2-2-4-10-1

Infracapitulum (fig. 3): Diarthric. Rutella with darkened prominent distal denticles.

Chelicera (fig. 3): Of normal type but with aviculid protruding digiti. Digitus fixus and digitus mobilis darker sclerotized than the rest of the cheliceral body. Setae cha and chb distinctly feathered.

Pedipalpus (fig. 3): Femora of pedipalpi of medium length, distal slightly incrassate. Tarsi slightly elongated. Tarsal solendium extremely long hyalin, blunt ending and, like in Suctobelba, attached to the distal eupathidium. Setation formula (including solenidium): 2-1-3-9.
Figure 4. *Pulchroppia sufflata* n. sp.: a) dorsal; b) ventral; c) lateral.
Figure 5. *Pulchroppia sufflata* n. sp.: a) leg I; b) leg IV; c) bothridial region; d) rostral region.
Discussion

According to the characters of Baloghoppia inornata, neither the genus Baloghoppia nor the genus Mahunkella are closely related to Oppiella or Oxyoppia, as suggested by Mahunka (1983) or Balogh (1979) and J. Balogh & P. Balogh (1990). Furthermore the systematical position of the genus Neostrinatina Mahunka, 1979 is far elongated from these two genera. According to the drawings, Neostrinatina seems to posses minitectal structures or sclerites beneath the genital opening and, in addition, shows epimeral- and anogenital setae with long distinct side-branchings. Both characters, however, are more characters of a basic "eremaeid/carabodid" group of higher Oribatei, still to be defined. So this genus may come closer to genera, like Epimerella, Staurobates or Oxyoppia than to Baloghoppia or Mahunkella. As no species of the genus-group Oppiella will show suctobelbid characters on their mouth-parts or on the acetabular region, as well as on tarsus IV, the species of this group are certainly not directly related to the genera Baloghoppia and Mahunkella. However, the species of the genus-group Oppiella certainly have to be derived from basic Oppiidae or Oppiinae, to which the genera Baloghoppia and Mahunkella belong.

Genus-group Granuloppia/Pulchroppia

Type-species: Granuloppia congoensis Balogh, 1958 or Pulchroppia elegans Hammer, 1979

Diagnosis

With the characters of the Oppiinae. Apodema 4 nearly or totally missing. One pair of additional setae between the epimeral region and the pair of aggenital setae, the additional pair of setae sometimes within a field of large meshes. Chelicera slender or with protruding digiti.

Discussion

No final definition can be given of this group as it is not sure, whether the genus Granuloppia is a genus of its own or not. Moreover, the following two new species described below combine characters of the genus Granuloppia (setae ad1 reduced or nearly reduced) and of the genus Pulchroppia (rear border of the epimeral region with large oval meshes on the cuticle and
Pulchroppia

Abbildung 7. Pulchroppia sufflata n. sp.: Antero-lateral aspect (190x)

widened more or less far beyond the rear border of the genital opening; cuticle without a strong granulation or ornamentation on the central part of the prodorsum and on the notogaster).

**Pulchroppia sufflata** n. sp.

**Diagnosis**

Colour red brown. Length 470 μm, width 280 μm. Prodorsum with well developed lamella. Each bothridium opposed by an enantiophysis originating from below the dorsosejugal line. Lyrifissure iad parallel running to the edge of the anal opening and interrupted centrally.

**Description**

Cuticle (fig. 4, 5, 7, 8): Exobothridial region with small rounded nodules. Interlamellar region with two or three pairs of more or less fusing maculae. Epimeral region with a mesh-net on epimera 1, 2, 3 and 4. The meshes on the hind margin of epimera 4 large, elongated, oval-shaped and pointing into the direction of the anal opening. Meshes of the epimera 1 and 2 indistinct.

Prodorsum (fig. 4, 5, 7): Elongated, nearly as long as the notogaster. Lamella well developed, converging to the rostral tip and forming a trapezoidal figure. Both lamella are ending in lamellar sclerites which are connected by a short translamella. An additional connection between the lamella is formed by a second translamella running between the lamellar and the interlamellar region. Caudal portion of each bothridium with a blunt-ending processus, opposed by an enantiophysis from below the dorsosejugal line. Rostral, lamellar and interlamellar setae setiform and faintly feathered. The upright standing interlamellar seta longer than the rostral and the lamellar seta and slightly curved to the rear. Sensillus relatively long and slender, with a central spindle. The spindle bears 4 or 5 long pin-pointed branches and one short spine in terminal position. Prodorsum with one pair of smooth exobothridial setae. An additional pair of exobothridial setae is only represented by their insertion-points (hemideficient).

Notogaster (fig. 4): Convex and with 10 pairs of smooth setae, the dorsal setae very long and arched. The first three pairs of setae in ta-te-ti-position and the setae ta very small. The notogaster bears one pair of area porosa-like maculae behind the setae ti.
Podosoma (fig. 4): Position of the acetabula III and IV above the acetabula I and II. Epimeral region without a distinct apodema 4. Epimeral setae very long and partially feathered. Formula of epimeral setae: 3-1-2-3+1

Anogenital region (fig. 4): Genital opening much smaller than anal opening and narrowing to the front. Genital flaps with 6 pairs of setae, the last two pairs inserting at some distance from the rest of the setae. Anal flaps with two pairs of setae. The adanal region with the setae ad2 and ad 3 the setae ad1 only represented by their insertion-points (hemideficient). Position of the aggenital setae near to the setae ad3. Lyrifissure iad running parallel to the border of the anal opening and interrupted centrally.

Legs (fig. 5): Articles normal shaped and with normal articulation. Tarsi with one claw. Setation formula of legs (including solenidia):

<table>
<thead>
<tr>
<th></th>
<th>leg I</th>
<th>leg IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5-3-6-22-1</td>
<td>1-2-2-4-10-1</td>
</tr>
</tbody>
</table>

Infracapitulum (fig. 6): Diarthric. Rutella with a smooth and transparent plate covering the distal denticles

Chelicera (fig. 6): Of normal type but with avicular protruding digiti. Setae cha and chb distinctly feathered.

Pedipalpus (fig. 6): Femora of pedipalpi very short and slightly incrassate. Tarsi slightly elongated. Setation formula (including solenidium): 2-1-3-9. Solenidium on the tarsus slightly capitated and touching the neighbouring eupathidium.

Brazil, Amazonas: Manaus, INPA-campus (3° 08' S, 60° 01' W) secondary forest on dryland yellow latosol (terra-firme), 04. 05. 1988, E. FRANKLIN leg.; holotype and 3 paratypes at INPA, Manaus, 1 paratype at Staatliches Museum für Naturkunde Karlsruhe, Germany, LNK A0121; same locality, 18. 04. 90, E. FRANKLIN leg.; 15 specimens at INPA, Manaus, 10 specimens at Staatliches Museum für Naturkunde Karlsruhe, Germany, LNK A 0126.

Discussion

This species shows a lamellar-complex very similar to that-one of Granuloppia congoensis BALOGH, 1958 var. ghanensis WALLWORK, 1961. As in contrast to the definition of the genus Granuloppia by BALOGH (1958) and to the descriptions of G. congoensis BALOGH, 1958 var. ghanensis WALLWORK, 1961, G. major BALOGH, 1958 var. nuda WALLWORK, 1961, G. conflata MAHUNKA, 1974 and G. kamerunensis MAHUNKA, 1974, the cutícula of the prodorsum of this species is smooth and not densely granulated, it is provisionally incorporated into the genus Pulchroppia HAMMER, 1979.

Pulchroppia curarii n.sp.

Diagnosis

Colour yellowish brown. Length 390 µm, width 220 µm. Prodorsum with faint costula-like lamella. Bothridia not opposed by enantiophysa, originating from below the dorsosejugal line. Lyrifissure iad running obliquely in front of and at some distance from the anal opening.

Description

Cuticle (fig. 9, 11): Exobothridial region with small rounded nodules. Interlamellar region with uncertain number of very indistinct maculae. Epimeral region with a mesh-net on epimera 1, 2, 3 and 4. The meshes on the hind margin of epimera 4 large, oval-shaped and
Figure 9. *Pulchroppia curari* n. sp.: a) dorsal; b) ventral; c) lateral.
Figure 10. *Pulchroppia curani* n. sp.: a) leg I; b) leg IV.
more pointing into the direction of the genital than to the anal opening. Meshes of the epimera 1 and 2 indistinct. Prodorsum (fig. 9, 11): Prodorsum not nearly as long as the notogaster. Lamella only faintly developed, running parallel and not forming a trapezoidal figure. Both lamella more or less separated from the distinct lamellar sclerites, which have the tendency to form a transverse running translamella-like structure. Caudal portion of each bothridium without a distinct blunt-ending processus, opposed by an enantiophysis from below the dorsosejugal line. Rostral, lamellar and interlamellar setae setiform and faintly feathered. The upright standing interlamellar seta longer than the rostral- and the lamellar setae and pointing slightly forward. Sensillus relatively long and slender, with a central spindle bearing 6 long pin-pointed branches and one short spine in terminal position. Prodorsum with one pair of smooth exobothridial setae. An additional pair of exobothridial setae is only represented by their insertion-points. (hemideficient).

Notogaster (fig. 9): Convex and with 10 pairs of smooth setae, the dorsal setae very long and arched. The first three pairs of setae in ta-te-ti-position and the setae ta very small. Notogaster without any area porosa-like maculae.
Podosoma (fig. 9): Position of the acetabula III and IV above the acetabula I and II. Epimeral region without a distinct apodema 4. Epimeral setae very long and partially feathered. Formula of epimeral setae: 3-1-2-3-4+1.

Anogenital region (fig. 9): Genital opening much smaller than anal opening and narrowing to the front. Genital flaps with 6 pairs of setae, the last two pairs inserting at some distance from the rest of the setae. Anal flaps with two pairs of setae. The adanal region with the setae ad2 and ad 3, the setae ad1 totally missing. Position of the aggenital setae near to the setae ad3. Lyrifissure iad running obliquely in apoanal position and at some distance of the anal opening.

Legs (fig. 10): Articles normal shaped and with normal articulation. Tarsi with one claw. Setation formula of legs (including solenidia):

- leg I: 5-3-6-22-1
- leg IV: 1-2-4-10-1


Brazil, Amazonas: Ilha de Curari (03° 15’ S, 59° 49’ W), Rio Solimões near Manaus, white-water region, inundation forest (Várzea), 27 02. 1981, J. ADIS leg.; holotype and 1 paratype at INPA, Manaus, 15 specimens at Staatliches Museum für Naturkunde Karlsruhe, Germany, LNK A0128.

Discussion
This species, which shows no larger lamella is closely related to P. sufflata. It is therefore provisionally incorporated in the genus Pulchroppia HAMMER, 1979.

Section Oppia/Oppiella

This section consists of two evolutionary isolated groups, the Oppia-group s.l. and the Oppiella-group, which both apparently have evolved from basic Oppiidae or Oppinia. All species of this section are defined by the following characters:

Diagnosis
With the characters of the Oppinia. Acetabular region always without a custodium-like ridge below acetabulum III, the acetabulum never hidden behind a cuticular infolding. Fused epimera 3 and 4 always separated by an apodema 4 from the anogenital region. Anogenital region always with three pairs of adanal setae and one pair of aggenital setae. Infracapitulum diarthric, never suctorial. Tarsal solenidium, of pedipalpus never strongly elongated and touching the distal eupathidia, eupathidia never furcated. Tibia of pedipalpus always with three setae. Chelicera always of normal shape and with setae cha and chb. Digit of chelicera never darkened. Insertion points of notogastral setae never surrounded by an indistinct corona-like structure.

The species of the Oppia-group s.l. and the Oppiella-group are discriminated by the following definitions:

**Oppia-group s.l.**

Diagnosis
Apodema 4 sometimes weakly developed, normally strongly arched, genital opening protruding the area of epimera 3 and 4 at least 2/3 of the opening length. Prodorsum normally without any interbothridial sclerites, but with interbothridial spots.

**Oppiella-group**

Diagnosis
Apodema 4 always fully developed, faintly arched, genital opening never totally protruding the area of epimera 3 and 4. Prodorsum always with interbothridial sclerites, the sclerites sometimes integrated into the dorsosejugal line. Prodorsum always without interbothridial spots.

**Basic genera of the Oppia-group s. l.** (i.e. Tectoppia, Globoppia, Trapezoppia, Antennoppia, Brachyoppia, Gittella)

The basic, almost tropical distributed genera of the Oppia-group s.l., still are dominated by tendencies wich already where defined for the basic Oppinia above. These tendencies are:

1. Tendency to aquire a physogastric or an elongated notogaster and to remote the notogastral shield to a more caudal position.
2. Tendency to form a pouch-like infolding between acetabula I and II.
3. Tendency to dislocate the acetabula III and IV towards the dorsal position.
4. Tendency to remote acetabulum IV from acetabulum III.
5. Tendency to form a large velum between the acetabula I and IV.
6. Tendency to show a distance between genital and anal opening, distinctly smaller than the length of the genital opening.
7. Tendency to variability in the position of the genital opening, distance between the the sejugal apodema and the genital opening sometimes as long as the genital opening.
Globoppia

8. Tendency to arrange 6 genital setae almost in a longitudinal or oblique row.
9. Tendency towards clavate or spine-like, mostly distinctly barbed, pleuroventral setae on tarsus IV.
10. High variability in the appearance of the sensillus.
11. Loss of cuticle ornamentation.
12. Tendency to lose or to modify the cuticle ridges of the prodorsum, especially in the lamellar region.
13. High variability in the position of the lyrifissure iad; the lyrifissure often in apoanal position and situated obliquely at some distance from the lateral border.

Tendencies, apparently more restricted to the basic genera of the Oppia-group s.l., are to be characterized as follows:

1. Tendency to develop an acuminated, not denticulated rostrum.
2. Tendency to develop a very weak apodema 4.
3. Tendency to develop sclerites in lateral or median position of the sejugal apodema.
4. Tendency to form 4 pairs of setae (2+2) on epimera 3 and 4.
5. Tendency to show a high heteromorphic appearance in the length of notogastral setae.
6. Tendency to arrange the dorsal notogastral setae in two almost longitudinal rows.

Discussion:
The systematical position of Tectoppia WALLWORK, 1961 seems to be very basic in the Oppia-group s.l., because of the distance between the anal- and the genital opening, being lower than the length of the genital opening. This, however, is a character of basic Oppioidea, as to be seen in the genus Quadroppia. Even the adanal position of the setae ad3, at a large distance from the lateral and far beyond the frontal border of the anal opening, seems to be seldom within this group.

Otherwise, like many basic species, Tectoppia nigricans WALLWORK, 1969 as Tectoppia costulata MAHUNKA, 1988 as well, combine characters of different, apparently more evolved genera. The 9 pairs of notogastral setae of both species, very different in their length, are to be seen in Daedaloppia sp. HAUSER & MAHUNKA, 1983 and to some account in Globoppia intermedia HAMMER, 1962 and Globoppia minor HAMMER, 1962. The two species of the genus Globoppia HAMMER, 1962, however, show 10 pairs of such heteromorphic setae on their notogaster.

A very strong heteromorphy of notogastral setae is to be seen in Tanzoppia triseta MAHUNKA, 1988. Though this species bears 11 pairs of notogastral setae, this heteromorphy correspond with the shape of notogastral setae in the genera Tectoppia, Globoppia and Daedaloppia. This is supported by the strong globular "globoppia-like" sensillus of Tanzoppia and by the position of the adanal setae ad3 of Daedaloppia, at a large distance from the lateral and far beyond the frontal border of the anal opening, like in Tectoppia.

On the other hand, the four pairs of setae on epimera 3 and 4 of Tectoppia nigricans show affinities to Antennoppia major MAHUNKA, 1983, as Antennoppia major bears four pairs of well developed and an additional pair of very tiny setae on these epimera. It should be mentioned, that this number of setae on epimera 3 and 4 seems to be normal for most of the species of the genus Globoppia too. Otherwise the number of setae on epimera 3 and 4 is not stable within the genus Tectoppia, as Tectoppia costulata bears five pairs of good developed setae instead of four on these epimera. The well developed velum between the acetabula I and IV in Tectoppia shows the affinities of this genus to genera like Trapezoppia and Antennoppia while the shape of costulae, especially in Tectoppia costulata MAHUNKA, 1988, foreshadows the conditions in the genera Globoppia and Oppia (Arcoppia). Even the arrangement and the number of genital setae in Tectoppia is still to be seen in the genus Oppia (Arcoppia). At least the position of the acetabula III and IV, dislocated towards the dorsal position, shows the same or related conditions in Tectoppia, Globboppia, Antennoppia, Oppia (Arcoppia) and Oppia (Ramusella). Finally the lyrifissures, sometimes in apoanal position and often situated obliquely at some distance from the lateral border, are to be found in such genera like in Globoppia, Trapezoppia and Brachyoppia. Therefore the definition of genera within this basic group is extremely difficult.

Globoppia velata n. sp.

Diagnosis
Colour yellowish brown. Length 480 μm, width 290 μm. Prodorsum with an arched costular ridge directly in front of the the insertion points of the lamellar seta. Sensillus relatively short, with a peduncle and a slight clavate, globular head. The head with short spines. Interlamellar seta relatively long. Dorsosejugal line convex and well developed. Notogastral setae ciliated and arranged in two parallel rows, the first two pairs very long, the other setae of medium length. Acetabular region with a pouch-like infolding in front of acetabulum II and with a velar-like thinner tectum between acetabula II and III. Formula of epimeral setae 3-1-2-2.

Description
Cuticle (fig. 12, 14): Lateral and lamellar- region of the prodorsum as well as the acetabular region with distinctive rounded nodules, femora of legs with smaller but distinctive tubercles. Interlamellar region wit one pair of maculae in front of the dorsosejugal line, surrounded by indistinct cuticular ridges in the rear. Epimeral region with a mesh net, showing an Granuloppia-like arrangement following the arch of apodema 4.

Prodorsum (fig. 12, 14): Shorter than notogaster. Lamellar region with an arched costular ridge directly in front of the insertion points of the interlamellar seta. Rostral, lamellar and interlamellar setae setiform and distinctly ciliated. The upright standing interlamellar seta
Figure 12. *Globoppia velata* n. sp.: a) dorsal; b) ventral; c) lateral.
as long as the rostral seta, the lamellar seta slightly longer. Sensillus of medium length with a slight globular to fusiform head, the head with short spines. Prodorsum with one pair of ciliated exobothridial setae.

Notogaster (fig. 12): Compact, convex, slightly displaced to caudal position and with 9 pairs of ciliated setae, the setae ta very small. The setae te and ti of considerable length. The first 5 pairs of setae arranged in two parallel rows. Notogaster with two indistinct pairs of area porosa-like maculae. Podosoma (fig. 12): Position of the Acetabula III and IV above the Acetabula I and II. Epimeral region with a well developed apodema 4. Epimeral setae of medium length and smooth. Formula of epimeral setae: 3-1-2-2. Anogenital region (fig. 12): Genital opening much smaller than anal opening and narrowing to the front. Genital flaps with 6 pairs of setae, the last two pairs inserting at some distance from the rest of the setae. Anal flaps with two pairs of setae. The adanal region with the setae ad1, ad2 and ad 3. Position of the aggenital setae normal. Lyrifissure iad running obliquely near the front border of and at some distance from the anal opening. Lyrifissurerees interrupted medially. Legs (fig. 13): Articles normal shaped and with normal articulation. Tarsi with one claw. Setation formula of legs (including solenidia): leg I 5-3-6-22-1 leg IV 1-2-2-4-10-1 Infracapitulum (fig. 14): Diarthric. Rutella with a smooth and transparent plate covering the distal denticles.
Figure 14. *Globoppia velata* n. sp.: a) pedipalpus; b) infracapitulum; c) chelicera; d) bothridial region; e) rostral region.
Trapezoppia

Chelicera (fig. 14): Chelicera from the normal ovoid type and without any concave cuticular ridges behind the digit. Setae cha and chb distinctly feathered.


Brazil, Amazonas: Reserva Florestal Adolfo Ducke, 25 km north of Manaus (02° 55' S, 59° 59' W). Primary forest on dry-land yellow latosol, terra-firme. 10. 11. 1982, J. W. DE MORAIS & J. ADIS leg.; holotype and 5 paratypes at INPA, Manaus, 5 paratypes at Staatliches Museum für Naturkunde Karlsruhe, Germany, LNK A 0426

Discussion

Globoppia heterotricha BALOGH & MAHUNKA, 1969 from Guayaramerín (Bolivia) resembles very much Globoppia velata, but differs in the epimeral setation formula (3-1-2-3) and in the number of interbothridial maculae (two pairs). Intraspecific variability seems possible, so that both taxa mentioned here, may belong to the same species. But without detailed investigations, this question cannot be solved. As this species shows characters common to species of the genera Trapezoppia and Antennoppia too, no diagnosis of the genus Globoppia can be given.

Trapezoppia nova n.sp

Diagnosis

Colour yellowish brown. Length 550 μm, width 300 μm. Prodorsum without any lamella. Bothridia not opposed by enantiophysa, originating from below the dorsosejugal line. Sensillus only with short bristles. Interlamellar seta very short. Dorsosejugal line only weakly arched in the middle. Notogastral setae relatively long and arranged in two parallel rows.

Description

Cuticle (fig. 15, 17): Exobothridial region with small rounded nodules below the exobothridial setae. Interlamellar region without any maculae. Epimeral region smooth.

Prodorsum (fig. 15, 17): Not nearly as long as the notogaster. Lamella missing. Caudal portion of each bothridium with a distinct but faint blunt-ending processus, not opposed by an enantiophysa from below the dorsosejugal line. Rostral, lamellar and interlamellar setae setiform. The rostral seta faintly feathered, lamellar and interlamellar setae smooth. The upright standing interlamellar seta very small, the rostral and the lamellar seta considerably longer. Sensillus with short bristles, very long setiform and slender. Prodorsum with one pair of smooth exobothridial setae. An additional pair of exobothridial setae is only represented by its insertion-points (hemideficient).

Notogaster (fig. 15): Convex and with 10 pairs of smooth setae of medium length. The first 5 pairs of setae arranged in two parallel rows, the first pair of setae very small. Notogaster without any area porosa-like maculae.

Podosoma (fig. 15): Position of the acetabula III and IV above the acetabula I and II. Epimeral setae relatively long and partially feathered. Formula of epimeral setae: 3-1-2-2.

Notogaster without any area porosa-like maculae. Lamella missing. Caudal portion of each setae ad1, ad2 and ad 3. Position of the aggenital setae normal. Lyrifissure iad running obliquely near the front border of (and at some distance from) the anal opening.

Legs (fig. 16): Articles normal shaped and with normal articulation. Tarsi with one claw. Setation formula of legs (including solenidion): 2-1-3-10.

Brazil, Amazonas: Biological Reserve INPA-SUFRAMA (02° 34' S, 60° 06' W), Manaus-Boa Vista-highway (BR 174) at km 51 (ZF-02), primary forest, 16. 04. 1980, E. FRANKLIN leg.; holotype and 3 paratypes at INPA, Manaus, 2 paratypes at Staatliches Museum für Naturkunde Karlsruhe, Germany, LNK A 0129

Discussion

The position of the lyrifissure iad, the faint apodema 4 and the relatively small notogastral setae of this species shows its close relationship to Trapezoppia longigpectina-balbog & mahunka, 1969. Otherwise the shape of the sensillus, and the epimeral setation formula counts more for a position close to Antennoppia major mahunka, 1983.

Genus Brachyoppia HAMMER, 1961

Type-species: Brachyoppia cuscuenisis HAMMER, 1961

Diagnosis

With the characters of the Oppiinae. Interbothridial region with a faint or a distinct cuticular ridge or with small interbothridial sclerites opposing the dorsosejugal line. Notogaster with a variable number of setae, the first three pairs in ta-te-li or in ta-li-te-position, the setae ta only represented by a tiny insertion point (hemideficient) in front of the lyrifissure ia. Epimeral region with two
Figure 15. *Trapezoppia nova* n. sp.: a) dorsal; b) ventral; c) lateral.
sclerites in lateral position of the sejugal apodema below acetabulum III. Lyrifissure iad obliquely in apoanal position at some distance from the anal opening and far behind the adanal setae ad3. At least tibia II with a strong inner spiny seta and tibia IV with two ventral spiny setae, the spiny setae feathered.

Discussion
Most of the characters of this genus may be foreshadowed by more basic taxa of the Oppiinae or the Oppiidae. This is shown by the genera Senectoppia Aoki, 1977, Pulchroppia Hammer, 1979 and by the genus Baloghoppia Mahunka, 1983, where spine-like or sometimes clavate setae may appear on different
Figure 17. Trapezoppia nova n. sp.: a) infracapitulum; b) pedipalpus; c) chelicera; d) bothridial region.
articles of the legs, especially on tarsus IV. Therefore the definition of this genus has only a temporary character. Certainly the genera Brachyoppia HAMMER, 1961, Brachyoppilia HAMMER, 1962 and Plesioppia BALOGH, 1982 will belong to only one genus, namely the genus Brachyoppia, from which Brachyoppia latisternalis (BALOGH & MAHUNKA, 1874) certainly has to be excluded due to the longitudinal running sternal ridges on the epimeral region. The rostral edge within this genus seems to be variable, like in Oppia (Arcoppia) and in Oppia s.str. Therefore this character should not be used to erect new genera.

Brachyoppia glabra n. sp.

Diagnosis

Colour pale yellowish brown. Length 320 μm, width 170 μm. Prodorsum with small rounded nodules in the position of lamella, lamella missing. Bothridia with a tiny rounded processus in caudal position and opposed by a faint cuticular ridge below the dorsosejugal line. Sensillus fairly long and slender, with a central spindle. The spindle bears 4 or 5 long pin-pointed branches. Interlamellar seta of medium size. Dorsosejugal line faintly protruding and a little bit stronger arched in the middle. Notogaster with 10 pairs of setae. Notogastral setae fairly long. The first three pairs in ta-ti-te-position, the setae ta only represented by a tiny insertion point.

Description

Cuticle (fig. 18, 19): Lamellar and exobothridial region with small rounded nodules. Interlamellar region with two pairs of indistinct maculae. Epimeral region smooth. Prodorsum (fig. 18, 19): Approximately half as long as the notogaster. Lamella missing. Caudal portion of each bothridium with an indistinct tiny blunt-ending processus, opposed by cuticular ridge from below the dorsosejugal line. Rostral, lamellar and interlamellar setae setiform. The rostral, lamellar and interlamellar setae faintly feathered. The upright standing interlamellar seta longer than the interlamellar one but shorter than the rostral seta. Sensillus fairly long and slender, with a central spindle. The spindle bears 4 or 5 long pin-pointed branches. Prodorsum with one pair of bristled exobothridial setae. An additional pair of exobothridial setae is only represented by their insertion points (hemideficient). Notogaster (fig. 18): Convex and with 9 pairs of fully developed smooth setae, the setae of medium length. An additional pair of setae (ta) is situated near the dorsosejugal line in front of the lyrifissure ia and only represented by their tiny insertion points. The first three pairs of setae (the hemideficient setae included) are arranged in ta-ti-te-position. Notogaster without any area porosa-like maculae. Podosoma (fig. 18): Position of the acetabula III and IV above the acetabula I and II. Epimeral region with a distinct apodema 4. Epimeral setae of normal size and smooth. Formula of epimeral setae: 3-1-2-3. Anogenital region (fig. 18): Genital opening smaller than the anal opening and broadening to the front. Genital flaps with 6 pairs of setae, the last two pairs inserting at some distance from the rest of the setae. Anal flaps with two pairs of setae. The adanal region with the setae ad1, ad2 and ad3. Position of the aggenital setae normal. Lyrifissure iad running obliquely near the front border of and at some distance from the anal opening, far behind the setae ad3. Legs (fig. 19): Articles normal shaped and with normal articulation. Tibia II with a strong spiny setae at the inner side and tarsus IV with two spiny setae in ventral position. The spiny setae feathered. Tarsi with one claw. Setation formula of legs (including solenidia): leg I 5-3-6-21-1 leg IV 1-2-2-4-10-1

Infra capitulum (fig. 19): Diarthric. Rutella with a smooth and transparent plate covering the distal denticles. Chelicera (fig. 19): Of normal ovoid type and with 4 lateral teeth, two of them in dorsal position above from the seta cha and two of them in paraxial position beneath and in front of seta cha. Cuticular ridges behind the digit. Setae cha distinctly and setae chb faintly feathered. Pedipalpus (fig. 19): Femora of pedipalpi relatively short and slightly incrassate. Tarsi slightly elongated. Setae on femora and genu distinctly feathered. Setation formula (including solenidium): 2-1-3-10.

Discussion

The status of this new species has to be proved. It seems to be closely related to Brachyoppia pseudocostulata (BALOGH & MAHUNKA, 1969). It differs from B. pseudocostulata, however, in the shape of the rostral edge which shows a tendency towards an incision, in the relatively short interlamellar seta and in the length of the notogastral setae, which seems to be a little shorter. As B. pseudocostulata was found in the surroundings of Guayaramerin, the difference of the two species may lie within the range of intraspecific variability. Very similar to the species mentioned above is Brachyoppia tropica PEREZ-IRIGO & BAGGIO, 1980 from Sao Paulo. Unfortunately this species is only represented by figures, as no description is given by the authors. The species of Brachyoppia seem to be ubiquitous and far distributed, without special demands to their ecological surrounding.
Figure 18. *Brachyoppia glabra* n. sp.: a) dorsal; b) ventral; c) lateral.
Figure 19. Brachyoppia glabra n. sp.: a) leg I; b) leg IV; c) infracapitulum; d) pedipalpus; e) chelicera; f) bothridial region.
Genus Oppia

Type-species: Oppia nitens C. L. KOCH, 1836

Diagnosis
With the character of the Oppiinae. Prodorsum with maculae in the interlamellar region. Interbothridial line without any sclerites nearly always missing. Dorsosejugal line without any processus or spinae adnatae. Acetabular region without a pouch-like infolding in front of acetabulum II and without a cuticular ridge running from above of the acetabulum IV to the bothridial region. Epimeral region without any sclerites on the epimeral plates. Apodema 4 always distinct. Setation formula of epimera: 3-1-2-3. Lyrifissure iad always in adanal position and integrated into the edge of the anal opening. Chelicera of normal ovoid shape without protruding digitii.

Discussion
This group is characterized by a huge number of typostatic and therefore very similar species which are world-wide distributed but where the greater amount is restricted to the warmer geographical areas. Most of the species seem not to have a special demand to their ecological surrounding. Therefore many of the species of this group found in the rain-forest of the Amazon region may be found elsewhere in the warmer zones of South America. Most of the characters of this group, for instance such as the ornamentation of the lamellar region of the prodorsum, the position of the acetabula III and IV, the shape of the sensillus, the number of notogastral setae and the position of the opisthopleural setae, are foreshadowed in more basic groups of the Oppiinae. The near relationship between the species of this group is shown by the high amount of mosaic-like distributed characters (position of the acetabula, shape of the sensillus, number of notogastral setae, position of the opisthopleural setae, shape of the rostral edge). Within this group, the species of the Oppia (Arcoppia)-group show a more restrictive distribution than the species of the Oppia clavipectinata-group. While the species of the Oppia (Arcoppia)-group never will appear in boreal regions, the species of the Oppia clavipectinata-group are also distributed in the colder regions, though their number in these regions is very low. As the intraspecific variability within this group seems to be lower than in the more basic oppiid genera like Granuloppia, Pulchroppia, Baloghoppia or Tectoppia, discussions on the status of the species of the Oppia (Arcoppia)-group and the Oppia clavipectinata-group described below are only given, if the species-status seems to be unclear.

Species-group Oppia (Arcoppia)

Type-species: Arcoppia brachyramosa HAMMER, 1979

Diagnosis
With the characters of the genus-group. Prodorsum with an U-shaped transverse running costula-like ridge directly in front of the lamellar seta and S-shaped ridges on the lateral sides, projecting as far as or beyond the lamellar ridge. Acetabular region with a longer cuticular ridge below and in between the acetabula III and IV. Discidium smoothly arched, only indistinctly protruding the lateral side of the ventral plate, when seen from below. Acetabula III and IV at the same level above acetabulum II. Acetabulum IV in a greater distance from acetabulum III. Genital flaps with 6 pairs of genital setae.

Oppia (Arcoppia) campinaranensis n.sp.

Diagnosis
Colour yellowish brown. Length 310 μm, width 150 μm. Rostral, lamellar and interlamellar region of the prodorsum smooth and with very indistinct, slightly darker scales in front of the dorsosejugal line. Rostrum tridentate, rostral incisions relatively wide. Sensillus of medium length, with a central clavate head; the head bears 6 strong and partially bristled pinpointed branches. Interlamellar seta of medium size. Dorsosejugal linie with a nearly straight running portion in the middle. Notogaster with 10 pairs of setae. Notogastral setae of medium length, the first three pairs in ta-ti-te-position, the setae ta distinct and slightly shorter. Epimeral region with distinct reticulation on all epimeral plates.

Description
Cuticle (fig. 20, 21, 23): Exobothridial region with small rounded nodules above the actabula I and II. Interlamellar region with two pairs of indistinct maculae. Epimeral region with distinct reticulation on all epimeral plates.

Prodorsum (fig. 20, 21, 23): Approximately half as long as the notogaster and with an U-shaped transverse running costula-like ridge directly in front of the lamellar seta and S-shaped ridges on the lateral sides, projecting beyond the lamellar ridge. In front of the dorsosejugal line with indistinct, darker scales behind the interbothridial region. Rostrum tridentate, rostral teeth triangular and pinpointed, rostral incisions relatively wide.

Rostral, lamellar and interlamellar setae setiform. The rostral, lamellar and interlamellar setae faintly feathered. The upright standing interlamellar seta as long as the lamellar ones but slightly shorter than the rostral seta. Sensillus of medium length, with a central clavate head. The head bears 6 strong and partially bristled pinpointed branches. Prodorsum with one pair of faintly bristled exobothridial setae. An additional pair of exobothridial
setae is only represented by their insertion-points (hemideficient).

Notogaster (fig. 20, 21, 23): Convex and with 10 pairs of fully developed smooth setae, the setae of medium length. An additional pair of straight setae (ta) is situated near the dorsosejugal line in front of the lyrifissure ia and half as long as the rest of the setae. The first three pairs of setae are arranged in ta-ti-te-position. Notogaster without any area porosa-like maculae. Dorsosejugal line with a nearly straight running portion in the middle.

Podosoma (fig. 20, 21, 23): Position of the acetabula III and IV above the acetabula I and II. Acetabulum IV relatively far away from acetabulum III. Below and in between acetabula III and IV an epimeral setae is
Figure 21. *Oppia* (*Arcoppia*) *campinaranensis* n. sp.: a) lateral; b) rostral region; c) infracapltulum; d) pedipalpus; e) bothridial region; f) chelicera.

Anogenital region (fig. 20, 21): Genital opening smaller than the anal opening and of equal diameter in the front and in the rear. Genital flaps with 6 pairs of setae, the last two pairs inserting at some distance from the rest of the setae. Anal flaps with two pairs of setae. The adanal region with the setae ad1, ad2 and ad3. Position of the aggenital setae normal. Lyrifissure iad integrated into the edge of the anal opening far behind the setae ad3.

Legs (fig. 22): Articles normal shaped and with normal articulation. Tibia IV with two spiny setae in paraxial position, the spiny setae smooth. Tarsi with one claw.

Setation formula of legs (including solenidia):

- Leg I: 5-3-6-22-1
- Leg IV: 1-2-2-4-10-1

Infracapitulum (fig. 21): Diarthric. Rutella with a smooth and transparent plate covering the distal denticles.

Chelicera (fig. 21): Of normal ovoid type and with three lateral teeth behind setae cha in antiaxial position. Setae cha and chb faintly feathered.

**Oppia (Arcoppia) porifera n.sp.**

**Diagnosis**

Colour red brown. Length 460 μm, width 250 μm. Prodorsum smooth and with distinct rounded nodules behind the bothridial region and very indistinct, slightly darker scales in front of the dorsosejugal line. Interbothridial maculae well visible. Rostrum tridentate, rostral incisions narrow. Behind the bothridia on each side an area porosa-like structure becomes visible below the dorsosejugale line. Sensillus of medium length, with a central clavate head. The head bears one strong and long spine in a terminal and 4-5 smaller and more slender spines in a more peripheral position. The spines are pinpointed and slightly bristled. Interlamellar seta relatively long and longer than the lamellar and the rostral seta. The whole dorsosejugal line arched. Notogaster with 10 pairs of setae. Notogastral setae relatively long and faintly feathered, the first three pairs in ta-te-ti position, the setae ta distinct and very much shorter. Surface of the notogaster with two pairs of pori, the first pair situated near the setae te and ti in the rear and the second pair closely behind the setae r2. Epimeral region with distinct reticulation on all epimeral plates.

**Description**

Cuticle (fig. 24, 25, 26, 28): Exobothridial region with very distinct rounded nodules above the actabula I and II and behind the bothridia. Interlamellar region with two pairs of distinct maculae. Epimeral region with distinct reticulation on all epimeral plates. Prodorsum (fig. 24, 25, 26, 28): Approximately half as long as the notogaster and with an U-shaped transverse running costula-like ridge directly in front of the lamellar seta and S-shaped ridges on the lateral sides, projecting beyond the lamellar ridge. In front of the dorsosejugal line with very indistinct, slightly darker scales behind the interbothridial region. Rostrum tridentate, rostral teeth triangular and pinpointed, rostral incisions narrow. Behind the bothridia on each side an area porosa-like structure becomes visible below the dorsosejugale line. Sensillus of medium length, with a central clavate head. The head bears one strong and long spine in terminal and 4-5 smaller and more slender spines in a more periphery position. The spines are pinpointed and slightly bristled. The upright standing interlamellar seta relatively long and longer than the lamellar- and the rostral setae. Prodorsum with one pair of faintly bristled exobothridial setae and without an additional pair of exobothridial insertion-points. Notogaster (fig. 24, 25): Convex and with 10 pairs of fully developed bristled setae, the setae relatively long. An additional pair of straight setae (ta) is situated near the dorsosejugal line in front of the lyrifissure ia and very much smaller than the rest of the setae. The first three pairs of setae are arranged in ta-te-ti-position. Surface of the notogaster with two pairs of pori, the first pair
Figure 24. Oppia (Arcoppia) porifera n. sp.: a) dorsal; b) ventral; c) lateral.
situated near the setae te and ti in the rear and the second pair closely behind the setae r2. Dorsosejugal line totally arched.

Podosoma (fig. 24, 25): Position of the acetabula III and IV above the acetabula I and II. Acetabulum IV relatively far away from acetabulum III. Below and in between acetabula III and IV an epimeral setae is inserting on a straight cuticle ridge. Epimeral region with a distinct apodema 4. Epimeral setae of normal size and smooth. Formula of epimeral setae: 3-1-2-3.

Anogenital region (fig. 24): Genital opening smaller than the anal opening and broadening to the front. Genital flaps with 6 pairs of setae, the last two pairs inserting at some distance from the rest of the setae. Anal flaps with two pairs of setae. The adanal region with the setae ad1, ad2 and ad3. Position of the aggenital setae normal. Lyrifissure iad integrated into the edge of the anal opening far behind the setae ad3.

Legs (fig. 27): Articles normal shaped and with normal articulation. Tibia IV with two spiny setae in paraxial position, the spiny setae smooth. Tarsi with one claw. Setae cha and chb faintly feathered.

Setation formula of legs (including solenidia):

<table>
<thead>
<tr>
<th>Leg</th>
<th>Setation Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>5-3-6-22-1</td>
</tr>
<tr>
<td>IV</td>
<td>1-2-2-4-10-1</td>
</tr>
</tbody>
</table>

Infracapitulum (fig. 28): Diarthric. Rutella with a smooth and transparent plate covering the distal denticles.

Chelicera (fig. 28): Of normal ovoid type and with three lateral teeth behind setae cha in antiaxial position. Setae cha and chb faintly feathered.

Species-group "Oppia clavipectinata"

Type-species: *Oppia clavipectinata* (MICHAEL, 1887)

Diagnosis
With the characters of the genus-group. Prodorsum (lateral aspect) blunt-ending in the rostral region. Sensillus of medium length, clavate or spatulate, very often bristled, distally not ending in a pinpointed short processus. The dorsosejugal line totally arched. Space
between acetabula III and IV with a small or pedotectum-like sclerite. A cuticle ridge extending from the surrounding of the sclerite into the direction of the bothridium. Acetabulum IV in a little higher position than acetabulum III and close to it. No longer cuticle ridge between these two acetabula. Acetabular region without a pedotectum-like infolding in the region of acetabulum III. Genital opening not broadening to the front. Rutella pantelebasic. Chelicera with lateral teeth, fusing to fine cuticular ridges. Setae cha very distinctly feathered.

**Oppia phoretica** n.sp.

**Diagnosis**

Colour yellowish brown. Length 480 μm, width 290 μm. Prodorsum smooth, interbothridial maculae well visible. Rostrum with a central triangular tooth flanked by two blunt ending rostral lobes. Bothridia with a very small caudal blunt ending processus. Sensillus of medium length, smooth, with a clavate, spindle-like head. Interlamellar seta missing. Notogaster with 10 pairs of relatively long smooth and distally slightly curled setae, setae ta very small and spine like. Epimeral region with an indistinct reticulation on epimera 1 and 2, the fused epimera 3 and 4 smooth.
Figure 29. *Oppia phoretica* n. sp.: a) dorsal; b) ventral; c) lateral.
Figure 30. *Oppia phoretica* n. sp.: a) leg I; b) leg IV.
Figure 31. Oppia phoretica n. sp.: a) bothridial region; b) rostral region; c) infracapitulum; d) pedipalpus; e) chelicera
Figure 32. Oppia paraguayensis (Balogh & Mahunka, 1981): a) dorsal; b) ventral; c) lateral.
Description

Cuticle (fig. 29, 31): Exobothridial region with distinct rounded nodules above the acetabula I, II, III and behind the bothridia. Interlamellar region with three pairs of fused maculae. Epimeral region with an indistinct reticulation on epimera 1 and 2, the fused epimera 3 and 4 smooth.

Prodorsum (fig. 29, 31): Approximately half as long as the notogaster, with short, nearly parallel running costula in the interlamellar region and with a very faint transverse ridge at some distance in front of the lamellar seta. Rostrum with a central triangular tooth flanked by two blunt ending rostral lobes. Sensillus of medium length smooth, with a clavate, spindle-like head. Interlamellar seta missing, lamellar seta smooth and slightly shorter than the rostral seta. Rostral seta bended, the knee distinctly bristled. Prodorsum with one pair of exobothridial setae and without an additional pair.
of exobothridial insertion-points. Surface of the exobothridial setae with very fine granular spines.

Notogaster (fig. 29): Convex and with 10 pairs of fully developed long, smooth and distally curled setae. Setae ta and r1 very small, seta ta spine-like. The first three pairs of setae are arranged in ta-ti-te-position. Surface of the notogaster without any pori.

Podosoma (fig. 29): Position of the acetabulum IV slightly above and relatively near to acetabulum III. Below and in between acetabula III and IV a very small epimeral seta, inserting on a separate lying sclerite. Epimeral region with a distinct apodema 4. Epimeral setae of normal size and smooth. Formula of epimeral setae: 3-1-2-3.

Anogenital region (fig. 29): Genital opening smaller than the anal opening and slightly narrowing to the front. Genital flaps with 5 pairs of setae, the last two pairs inserting at some distance from the rest of the setae.
Anal flaps with two pairs of setae. The adanal region with the setae ad1, ad2 and ad3. Position of the aggenital setae normal. Lyrifissure iad integrated into the edge of the anal opening far behind the seta ad3.

Legs (fig. 30): Articles normal shaped and with normal articulation. Tibia IV with one and tarsus IV with two spiny and distinctly feathered setae in ventral position. Tarsi with one claw. Setation formula of legs (including solenidia):

- leg I 5-3-6-22-1
- leg IV 1-2-2-4-10-1

Infracapitulum (fig. 31): Diarthric. Rutella pantelebasic and with a transparent plate covering the distal denticles.

Chelicera (fig. 31): Of normal ovoid type and with a row of many tiny little nearly fused lateral teeth behind setae cha and with two further cuticular ridges in the lower portion. Seta cha very distinctly and setae chb faintly feathered.

Pedipalpus (fig. 31): Femora of pedipalpi relatively short and slightly incrassate. Tarsi slightly elongated. Setae on femur and genu smooth on the tibia partially feathered. Setation formula (including solenidium): 2-1-3-9.

Brazil, Amazonas: Region of Rio Urubú , 100 km north of Manaus (2° 10' S, 58° 49' W), under the elytra of Passalidae (Coleoptera), 1983, P. BÜHRNHEIM & N. O. AGUIAR leg.; holotype and 17 paratypes at INPA, Manaus, 5 specimen at Staatliches Museum für Naturkunde Karlsruhe, Germany, LNK A 0136.

**Oppia paraguayensis (Balogh & Mahunka, 1981)**

**Diagnosis**

Colour yellowish brown. Length 270 µm, width 130 µm. Prodorsum smooth, interbothridial maculae well visible. Edge of rostrum smooth without any incision or denticles. Bothridia without a caudal blunt ending processus. Sensillus of medium length with a strong central bilateral ciliated spine. Interlamellar seta missing. Notogaster with 10 pairs of smooth setae, seta ta extremely small, the other setae of medium length. Epimeral region with a distinct reticulation on all epimeral plates.

Description

Cuticle (fig. 32, 34): Exobothridial region with distinct rounded nodules above the actabula I, II and III. Interlamellar region with three pairs of separated maculae. Epimeral region with a distinct reticulation on all epimeral plates.

Prodorsum (fig. 32, 34): Approximately half as long as the notogaster, with short parallel running costula in the interlamellar region. Edge of rostrum smooth without any incision or denticles. Sensillus of medium length with a strong central bilateral ciliated spine. Interlamellar seta missing, lamellar seta bristled and distinctly shorter than the rostral seta. Rostral seta knee-like curved, the knee distinctly bristled. Prodorsum with one pair of exobothridial smooth setae and without an additional pair of exobothridial insertion-points.

Notogaster (fig. 32): Convex and with 10 pairs of fully developed smooth setae of medium length. Seta ta extremely small. The first three pairs of setae arranged in ta-ti-te position, insertion points of setae ti nearly at the same level as the insertion points of setae te. Surface of the notogaster without any pori.

Podosoma (fig. 32): Position of the acetabulum IV slightly above and relative near to acetabulum III. Below and in between acetabula III and IV an epimeral seta, inserting below a separate lying sclerite. Epimeral region with a distinct apodema 4. Epimeral setae of normal size and smooth. Formula of epimeral setae: 3-1-2-3.

Anogenital region (fig. 32): Genital opening smaller than the anal opening and of equal diameter in the front and in the rear. Genital flaps with 5 pairs of setae, the last two pairs inserting at some distance from the rest of the setae. Anal flaps with two pairs of setae. The adanal region with the setae ad1, ad2 and ad 3. Position of the aggenital setae normal. Lyrifissure iad integrated into the edge of the anal opening far behind the seta ad3.

Legs (fig. 33): Articles normal shaped and with normal articulation. Tarsi with one claw. Setation formula of legs (including solenidium): 2-1-3-9.

Brazil, Roraima: Ilha de Maracá (03° 25' N, 61° 40' W), forest-savanna transition, 26. 04. 1987, E. FRANKLIN leg.; 6 specimen at INPA, Manaus, 5 specimen at Staatliches Museum für Naturkunde Karlsruhe, Germany, LNK A 0136.
4. Sumário

O trabalho com ácaros oribatídeos no ecossistema "floresta-tropical" leva a uma confrontação com o elevado número de espécies não conhecidas. A maioria dos novos taxa que tem sido descrita recentemente, procede de regiões tropicais. Este fato pode ser observado no presente trabalho, onde 9 das 10 espécies de Oppiidae são novas para a ciência e não mencionadas no "Oribatid Mites of the Neotropical Region II" (Balogh & Balogh 1990). De fato, nós estamos longe de ter um levantamento completo dos ácaros oribatídeos da região neotropical, um fato de que não se tem nenhuma idéia a respeito da família Oppiidae. Desde total, 2 novas sub-famílias e uma nova família foram descritas na região, isto resultará numa explosão de taxa futura próximo. Para trabalhos práticos na floresta-tropical, isto levará a conclusões errôneas ou ao desconhecimento de atributos ecológicos especiais. A razão é que somente os taxa específicos e que certamente não poderá ser alcançado mesmo em um futuro distante. Por outro lado, as investigações ecológicas dentro do ecossistema "floresta-tropical" tornam-se urgentemente necessárias, um desafio para os taxonomistas tentarem criar taxa naturais, monofiléticas, para que os dados ecológicos sejam comparáveis. A razão é que somente os taxa monofiléticos as diferentes espécies irão mostrar demanda similar ao seu meio ambiente, baseada na similaridade de seus genotipos. Entretanto, a maioria dos taxa superiores criada nos últimos 20 anos é "artificial identification groups, based on simple, easily recognizable, so-called artificial characters" (Balogh 1972: 11). A utilização destes taxa para análises ecológicas levará a conclusões errôneas ou ao desconhecimento de atributos ecológicos especiais. Algo que da seta dabanal, a quantidade de genotipos nunca situadas em uma posição mais lateral que da seta adanal ad3, infracapítulo com rutela dentilhada claramente desenvolvida. Os gêneros, todos possuindo os caracteres de gêneros. Assim, especialmente nos taxa mais básicos, a possível combinação dos chamados caracteres diferenciais e a quantidade de gêneros monotípicos a serem criados pode ser quase indefinidamente alta. A utilização destes caracteres para a definição de gêneros indubitavelmente irá desvalorizar o conceito genérico do sistema binominal e tornará o gênero praticamente não identificável. 

Deste modo, o objetivo do presente trabalho não é somente descrever novos taxa encontrados na região amazônica, mas fazer, além disso, uma tentativa para fornecer uma definição da superfamília Oppioidea, dos Oppiidae e dos gêneros proximamente relacionados ao gênero Oppia. Os Oppiidae são definidos pela presença de 21-22 setas no tarso I; duas setas no genu IV e 5 setas no femur I.

Os Oppiinae são definidos pela ausência de areal tectopedial na parte rostral do prodorso; abertura genital distintamente mais estreita que a abertura anal; setas agenitais nunca situadas em uma posição mais lateral que da seta adanal ad3; infracapítulo com rutela dentilhada claramente desenvolvida. Os gêneros, todos possuindo os caracteres de gêneros. Assim definidos: Baloghoppia - região acetabolar com uma ponta tipo custódio abaixo do acetábulo III; acetábulo localizado atrás de uma invaginação cuticular, como em Suctobelba; tarso do pedipalpo com um solênio extremamente alargado, alcançando o eupatídio distal, como em Suctobelba; dígitos da quelicera escurecidos; pontos de inserção das setas notogastrais circundados por uma coroa indistinta. 

Gruppo Granulopippa/Pulchroppia - apodema 4 quase ou totalmente ausente; um par de setas agenitais, algumas vezes situado em uma região onde máculas formam um entrelaçado tipo malha (mesh-net); quelicera delgada ou com dígito saliente; Gruppo Oppia s. I. apodema 4 algumas vezes fracamente desenvolvido, normalmente fortemente arqueado, abertura genital quase que totalmente inserida na área dos epímeros 3 e 4; prodorso quase sempre sem nenhum esclero interbotridial, mas com máculas interbotridiais. Gruppo Oppiella - apodema 4 sempre completamente desenvolvido, levemente arqueado; abertura genital...
nunca inserida totalmente na área dos epímeros 3 e 4; prodorso sempre com escleritos interbotridiais, os escleritos algumas vezes integrados na linha dorsosejugal; prodorso sempre sem máculas interbotridiais.

Gêneros com uma posição basilar dentro do grupo **Oppia** s. l. como **Tectoppia**, **Globoppia**, **Trapezoppia**, **Antennoppia**, **Brachyoppia**, **Gitella**, são de distribuição principalmente tropical; eles são definidos apenas por "tendências", já que são de definição extremamente difícil; estas tendências são relacionadas no trabalho para os gêneros **Globoppia**, **Trapezoppia**, **Brachyoppia** e **Oppia**

**Globoppia** - devido à variabilidade intra-específica e devido aos caracteres em comum com espécies dos gêneros **Trapezoppia** e **Antennoppia**, nenhum diagnóstico do gênero **Globoppia** pode ser formulado sem investigações mais detalhadas.

**Trapezoppia** - rostro com um dente agudo mediano; região acetalobular com uma dobra em forma de bolsa na região anterior do acetábulo II; apodema fracamente desenvolvido; fórmula das setas epimerais 3-1-2-2; lirifissura iad situada obliquamente em posição aponal e a certa distância da abertura genital;

**Brachyoppia** - região interbotridial com uma aresta cuticular distinta ou fraca, ou com pequeno esclerito interbotridial oposto à linha dorsosejugal; notogaster com variável número de setas, os primeiros três pares em posição ta-te-ti ou ta-ll-te; seta ta somente representada por uma inserção (hemideficiente) em frente à lirifissura ia; região epimeral com dois escleritos em posição lateral ao apodema sejugal abaixo do acetábulo III; lirifissura iad situada obliquamente em posição aponal, a certa distância da abertura anal e muito posterior à seta adanal ad3; pelo menos tibia II com uma seta grossa em forma de espinho e tibia IV com duas setas ventrais em forma de espinho e pectinadas.

**Oppia** - prodorso com máculas na região interlamelar; escleritos interlamelares ausentes; linha dorsosejugal sem nenhum processo ou "spina adanata"; região acetalobular sem a dobra cuticular em forma de bolsa em frente ao acetábulo II e sem a aresta cuticular partindo acima ao acetábulo IV até a região botridial; acetábulo IV não posicionado diretamente na borda externa da placa ventral; região epimeral sem qualquer esclerito na placa epimeral; apodema 4 sempre distinto; fórmula das setas epimerais 3-1-2-3; lirifissura iad integrada à margem da abertura anal; quelíceras normal, ovóide, sem dígito saliente.

Grupo de espécies **Oppia** (Arcoppia) com os caracteres do gênero **Oppia**; prodorso com uma costela transversa em forma de "U" diretamente em frente das cerdas lamelares e arestas em forma de "S" na região lateral; região acetalobular com uma aresta cuticular longa, abaixo e entre os acetábulos III e IV; discídio levemente arqueado, inserindo-se levemente na parte lateral da placa ventral, quando visto por baixo; acetábulos III e IV no mesmo nível, acima do acetábulo II; acetábulo IV a uma grande distância do acetábulo III; placa genitais com 6 pares de cerdas.

Grupo de espécies "**Oppia clavipectinata**" com os caracteres do gênero **Oppia**; prodorso (aspecto lateral) terminando-se abruptamente na região rostral; sensilo de tamanho médio, clavado ou espatulado, muito frequentemente pectinado, não terminando em um processo curto e aguçado; linha dorsosejugal totalmente arqueada; espaço entre acetábulos III e IV com um esclerito pequeno ou de tipo "pedotectum"; uma aresta cuticular estendendo-se das cercanias do esclerito em direção ao botrídio; acetábulo IV em uma posição um pouco acima e perto do acetábulo III; sem aresta longa entre os 2 acetábulos; região acetabular sem a aresta em forma de "pedotectum" na região do acetábulo III; abertura genital não alargada na região anterior; rutela pantelobasica; quelíceras com pequenos dentes; seta cha distintamente pectinada.

**Literature**


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