

503 CLASSIFICATION AND GEOGRAPHICAL DISTRIBUTION  
OF LISTROPHOROIDEA

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Classification of the Listrophoroidea

The name Listrophorinae was utilized for the first time by Mégnin and Trouessart in 1884.

Canestrini (1892) ranged in the Listrophoridae all the fur mites (= the "glicricoles" of Mégnin). They belonged to three genera: *Listrophorus* Pagenstecher, *Myocoptes* Claparede and *Criniscansor* Poppe. Canestrini did not include in this family the genus *Chirodiscus* Trouessart and Neumann, probably because *Chirodiscus amplexans*, the type species, had been described from a bird, and therefore could hardly be considered as a fur mite.

Trouessart (1892) erected the subfamily Chirodiscinae for the genus *Chirodiscus*. In 1895, he described the new genus *Labidocarpus*, which he also placed in this subfamily. In 1896, he added a third genus *Schizocarpus* Trouessart (= *Histiophorus* Friedrich) to the Chirodiscinae.

Gunther (1942) divided the Listrophoridae into 4 subfamilies:

1. Listrophorinae: which attach themselves to the host by means of their modified gnathosoma; the legs being normal.
2. Myocoptinae: which have the posterior legs modified as attaching organs; the anterior legs and the gnathosoma being normal.
3. Atopomelinae: which are attached to the host by means of their anterior legs only slightly modified and still bearing ambulacra. The gnathosoma being normal.
4. Labidocarpinae: with the same characters as the Atopomelinae but with strongly modified anterior legs that have lost their ambulacra.

In 1951, Dubinin erected the superfamily Listrophoroidea for the single family Listrophoridae and in 1968, McDaniel raised to family rank Gunther's 4 subfamilies.

Recently (1971) we proposed a new definition of the Listrophoroidea and of the families forming this group. We have retained in this superfamily only the true pilicolous mites and we have therefore excluded the hypopi of the Glycyphagidae and the Rhyncoptidae.

The following families have been retained in the Listrophoroidea (see Fain, 1971):

1. Listrophoridae Mégnin and Trouessart, 1884:

Presence of a strongly sclerotized and ventrally concave tegmen covering completely the gnathosoma. There are two large striated sternal membranes which pro-

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trude to form a tunnel in which the hair of the host is tightened. All the legs normal, with 5 free segments and ending in a sucker. Body generally subcylindrical. Type genus: *Listrophorus* Pagenstecher, 1861.

### 2. Myocoptidae Gunther, 1942:

Gnathosoma normal, without tegmen. Sternum without membranes. Anterior legs normal, bearing suckers. Legs III and IV in the female and III in the male strongly modified into powerful claspers. Body flattened or subcylindrical.

Type genus: *Myocoptes* Claparède, 1869.

### 3. Atopomelidae Gunther, 1942:

Tegmen absent. Gnathosoma normal without ventral membranes. Anterior legs with 5 free segments, the distal segments being slightly thickened and modified, the tarsi bear a small sucker and are devoid of striated attaching membranes. Posterior legs without attaching organs but with tarsi and tibiae always completely fused. Body either flattened or subcylindrical, rarely compressed laterally.

Type genus: *Atopomelus* Trouessart, 1917.

### 4. Chirodiscidae Trouessart, 1892.

Tegmen absent. Gnathosoma without ventral striated membranes. Anterior legs variably modified, without suckers but bearing a large striated chitinous membrane, simple or twofold. Posterior legs either normal or with the genu and the femur fused. Body variable: flattened, subcylindrical or laterally compressed.

Type genus: *Chirodiscus* Trouessart and Neumann, 1889.

We have divided the Chirodiscidae into 4 subfamilies:

#### a) Chirodiscinae Trouessart, 1892:

Body strongly flattened and without dorsal shields. Vulva longitudinal. Epimeres and epimerites I and II fused. Anterior legs with most of the segments fused and ending into a long striated membrane.

Type genus: *Chirodiscus* Trouessart and Neumann, 1889.

#### b) Labidocarpinae Gunther, 1942:

Body compressed laterally. Anterior legs very short with most of the segments fused and ending into a large striated membrane divided into two equal or subequal leaves.

Type genus: *Labidocarpus* Trouessart, 1895.

#### c) Schizoptinae Fain, 1970:

Body flattened. Anterior legs normal with all the segments free and bearing apically a large striated membrane divided into two very unequal leaves. Vulva in the shape of an inverted Y.

Type genus: *Schizoptes* Lawrence, 1946.

#### d) Lemuroeciinae Fain, 1968:

Body flattened. Anterior legs modified but with all the segments free, and ending into a large striated single membrane. Anterior legs and gnathosoma with strong retrorse processes. Vulva transverse.

Type genus: *Lemuroecius* Fain, 1968.

## Geographical distribution of the Listrophoroidea

The different families of the listrophorids are not equally distributed through the world.

1. The family Atopomelidae contains 37 genera and 183 species. All these species except one, are confined to tropical or subtropical regions. This family is specially well represented in Africa (south of the Sahara), Madagascar, Australia and Neotropical America. In the Palaearctic region it is represented by a single cosmopolitan species, *Chirodiscoides caviae*, living on the guinea-pig.

2. The family Listrophoridae, containing only 20 genera and 61 species, has a more uniform distribution. It is represented in all geographical regions, except in Madagascar and Australia where it is completely absent.

3. The family Chirodiscidae with 30 genera and 75 species is almost completely confined to the bats. Its distribution corresponds roughly to that of these hosts.

4. The family Myocoptidae groups 16 genera and 49 species. Half of these species have been described from Africa (south of the Sahara), but this family is also represented in the Palaearctic, the Nearctic and the Oriental regions. So far, this family has not been recorded from Madagascar and Australia.

Most of the listrophorid species are endemic. A few species are represented either in two continents or in several parts of the world. Only the species parasitizing the domestic animals are really cosmopolitan. Among them the most important are:

- Chirodiscoides caviae* Hirst, on the guinea-pig
- Leporacarus gibbus* (Pagenstecher), on the rabbit
- Myocoptes musculus* (Koch), on mice
- Trichoecius romboutsii* (Van Eyndhoven), on mice
- Listrophoroides cucullatus* (Trouessart), on *Rattus rattus*  
and *Rattus norvegicus*, mainly in tropical countries.

## Geographical distribution of the Listrophoroidea

(N.B.: the cosmopolitan species are between brackets)

	Total number	Palaearctic Region	Nearctic Region	Africa South of Sahara	Madagascar	Oriental Region	Australian Region	Neotropical Region
<b>Listrophoridae</b>								
genera	20	4	3	3	—	5	—	5
species	61	12 (1)	10 (1)	17 (1)	—	11	—	11
<b>Myocoptidae</b>								
<b>Myocoptinae</b>								
genera	15	5	3	4	—	3	—	—
species	48	12 (2)	6 (2)	24 (1)	—	6	(1)	—
<b>Dromicioptinae</b>								
genera	1	—	—	—	—	—	—	1
species	1	—	—	—	—	—	—	1
<b>Atopomelidae</b>								
genera	37	1	—	5	3	1	20	8
species	183	(1)	—	61 (2)	30	4 (1)	59 (1)	29 (2)
<b>Chirodiscidae</b>								
<b>Chirodiscinae</b>								
genera	1	—	—	—	—	—	1	—
species	1	—	—	—	—	—	1	—
<b>Labidocarpinae</b>								
genera	27	4	2	11	—	2	1	7
species	71	16	2	31	—	3	1	18
<b>Schizocoptinae</b>								
genera	1	—	—	1	—	—	—	—
species	2	—	—	2	—	—	—	—
<b>Lemuroeciinae</b>								
genera	1	—	—	—	1	—	—	—
species	1	—	—	—	1	—	—	—

## References

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