

Diroptes gen. n. (Acari, Pygmephororidae)
with a key to the species

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(With 12 figures)

Abstract

Diroptes gen. n. is described and illustrated. A key for the designation of all known species of *Diroptes* is given.

Introduction

Kaliszewski (1987 in manuscript) discussed the systematic position and evolution of some species of the subfamily Siteroptinae Mahunka, 1970. He also redescribed the genus *Siteroptes* Amerling, 1861 and described a new genus *Pseudobakerdania* within the Siteroptes. The present paper contains description of the third monophyletic group of the subfamily Siteroptinae, the genus *Diroptes*.

Diroptes is presently represented by five known species, *Siteroptes vetus* Rack, 1965 from Germany (Europe); *Siteroptes kaszabi* Mahunka, 1969 from Mongolia (Asia); *Siteroptes longisetosus* Mahunka, from Bolivia (South America); *Siteroptes stigmatus* Mahunka, 1979 from Tanzania (Africa); and *Siteroptes stellifer* Zaki, 1983 from Hungary (Europe). Members of the genus have been found in samples of rotten plants, litter, roots of grasses, humus, and soil. Judging from the structure of the gnathosoma species of this group are fungivorous. It seems to be interesting that all known species of *Diroptes*, with the exception of the European species, were found in highlands greater than 1500 m above sea level.

The terminology and notation follow Lindquist (1986).

Diroptes gen. n.

Type species: *Siteroptes vetus* Rack, 1965.

Member species of the genus *Diroptes*:

1. *D. vetus* (Rack, 1965) (examined holotype female from ZMH¹)

¹) Zoologische Museum der Hamburg Universität, 2000 Hamburg 13, Martin-Luther-King-Platz 3, West Germany.

2. *D. kaszabi* (Mahunka, 1969) (examined holotype female from HNHM²)
3. *D. longisetosus* (Mahunka, 1969) (examined paratype female, slide no. A 12/72 fom ZMH)
4. *D. stigmatus* (Mahunka, 1979) (included based on literature)
5. *D. stellifer* (Zaki, 1983) (examined female holotype, and male paratype from HNHM)

Diagnosis: Species of *Diroptes* are distinguishable from those of all other Pygmephororidae by the combination of the following features³).

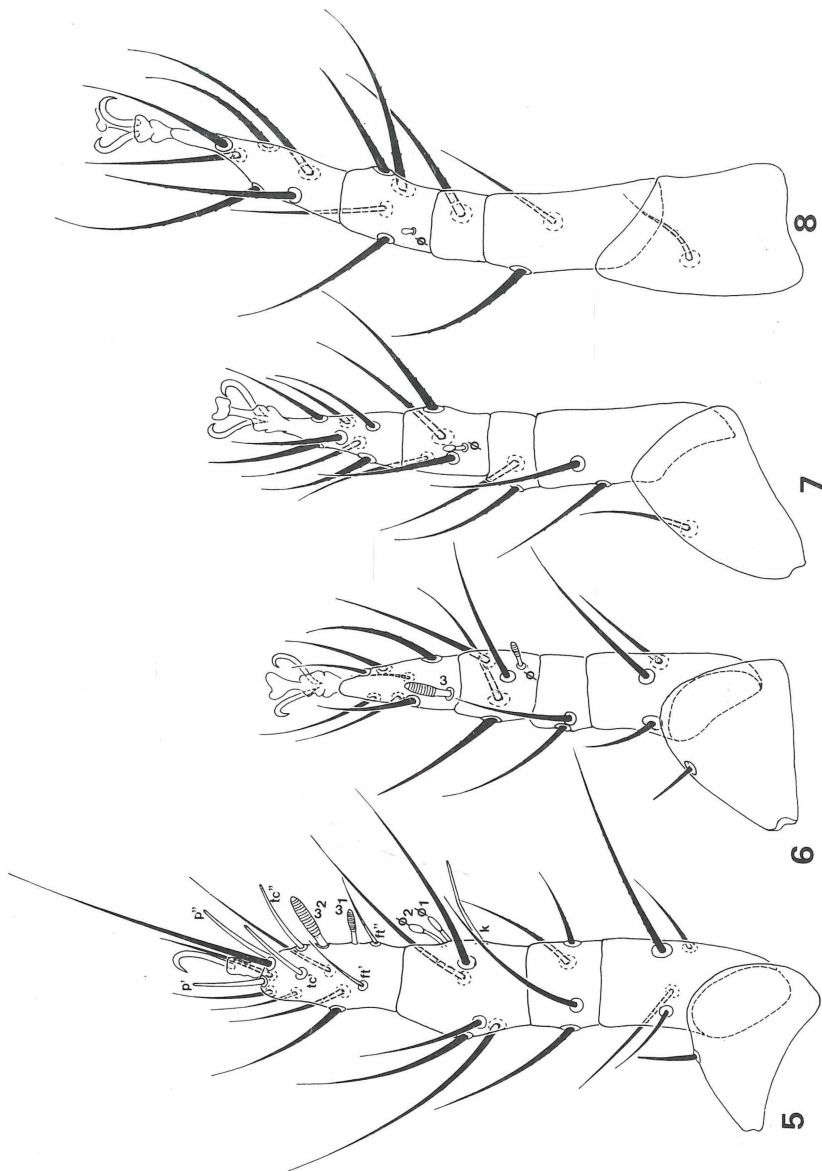
Female

(Figs 1-8)

- 1'. Peritrematae troughlike, more than three times longer than wide.
2. Prodorsal shield with setae v_1 , v_2 , sc_1 and sc_2 .
3. Setae e and f usually present. *D. longisomus* is the only exception.
- 4'. Lateral plates (La) and posterior sternal plates ($StPo$) fused, their posterior edge forms an almost straight line.
- 5'. Setae $1c$ of coxae I bifurcate.
- 6'. Coxal plates II with two pairs of setae. Setae $2c$ absent.
- 7'. Setae $4c$ absent from coxae IV.
8. Tarsus and tibia of leg I separate.
9. Tarsus I with 13 setae.
10. Genu I with four setae.
11. Femur I with four setae.
- 12'. Genu II with two setae.

²⁾ Hungarian National History Museum, Budapest VIII, Baross u. 13, Hungary.

³⁾ Characters marked with a prime are apomorphic compared with the most primitive character states in Siteroptidae sensu Kaliszewski (in prep.) which includes the following genera: *Asensilla* Rack, 1974, *Diroptes* gen. n., *Elattoma* Mahunka, 1969, *Pseudobakerdania* Kaliszewski, 1987, part of *Pygmephorcellus* Cross & Moser, 1971 sensu Savulkinina (1981), part of *Siteroptes* Amerlin, 1861 sensu Savulkinina (1981).



Figs 5-8: *Diropterus vetus* (Rack, 1965), adult female. Leg I (5), leg II (6), leg III (7) and leg IV (8).

Male

(Figs 9-11)

1. Gnathosoma with one pair of solenidia, one pair of eupathidial setae, and three pairs of "normal" setae.
2. Prodorsal shield with four pairs of setae.
- 3'. Setae *d* reduced to small peg-like structures.
4. Setae *e* and *f* on tergite *EF* present.
- 5'. Aedeagus characteristically bent, relatively short, rigid.
- 6'. Coxal plates II with two pairs of setae. Setae *2c* absent.
- 7'. Setae *4c* absent from coxae IV.
8. Tarsus I 13 setae.
9. Genu I with four setae.
10. Femur I with four setae.
- 11'. Genu II with two setae.
- 12'. Femur IV with one setae.

Description

Female

(Figs 1-8)

Gnathosoma rectangular in outline, slightly longer than wide, with three pairs of setae (*Gd*₁, *Gd*₂, *Gv*₂). Cheliceral stylets small, with bases shorter than half palpal width. Palpi directed anteriorly, approximate, with setae *pp*, *Fed*, *Ged*, one modified eupathidial setae, one solenidion, and a single terminal tibial claw each. Pharynx forming three pharyngeal pumps in idiosoma.

Dorsum of idiosoma: Stigmae slit-like. Peritremae long, strongly sclerotized, oriented posteromedially to gnathosoma. Propodosomal shield with setae *v*₁, *v*₂, *sc*₂ and club-like sensilli *sc*₁. Hysterosoma with setae *c*₁, *c*₂, *d*, *e*, *f*, *h*₁ and *h*₂. Setae *f* may be absent. Cupulus *ia*, *im*, and *ih* present.

Venter of idiosoma: Apodemes weak. Lateral opisthosomal plates (*La*) fused with posterior sternal plate (*StPo*), their posterior edge forms an almost straight line. Coxal plates I with two or three pairs of setae. Setae *1c* bifurcate. Coxal plates II with two pairs of setae. Coxal plates III with three pairs of setae. Coxal plates IV without setae *4c*. Posterior sternal plate with setae *4b*. Tergite *Ps* with three pairs of setae.

Legs: Leg I with one claw, without empodium. Legs II-IV with paired claws and membranous empodia. Leg setal formulas: leg I, 1 - 4 - 4 - 6(2φ) - 13(2ω); leg II, 1 - 3 - 2 - 4 (1φ) - 7(1ω); leg III, 1 - 2 - 2 - 4(1φ) - 7; leg IV, 1 - 2 - 1 - 4(1φ) - 6.

Male

(Fig. 9-11)

Gnathosoma reduced, nonfunctional, with one pair of solenidia, one pair of modified eupathidial setae, and three pairs of "normal" setae. Cheliceral stylets and pharynx absent.

Dorsum of idiosoma: Propodosomal shield with setae v_1 , v_2 , sc_1 , and sc_2 . Tergite *CD* with two pairs of setae *c*, and one pair of reduced to small peg-like structures setae *d*. Tergite *EF* with setae *e* and *f*. Tergite *H* of characteristic surface structure forms dorsal part of genital capsule. Setae *h*, similar to setae *d*. Aedeagus characteristically bent, relatively short and rigid. Venter of idiosoma: Apodemes weak. Apodemes *V* present. Tergite *Ps* forms ventral part of genital capsule. Coxae *II* with two pairs of setae. Coxae *III* with three pairs of setae. Coxae *IV* without setae *4c*. Posterior sternal plate with setae *4b*. Tergite *Ps* with only two pairs of setae.

Legs: Leg *I* with one claw, without empodium. Legs *II* and *III* with paired claws and membranous empodia. Leg *IV* with highly modified claws and empodium, without spine-like setae. Leg setal formulas: leg *I*, 1 - 4 - 4 - 6(2 ϕ) - 12(2 ω); leg *II*, 1 - 3 - 2 - 4(1 ϕ) - 7(1 ω); leg *III*, 1 - 2 - 2 - 4(1 ϕ) - 7; leg *IV*, 1 - 1 - 1 - 4(1 ϕ) - 6.

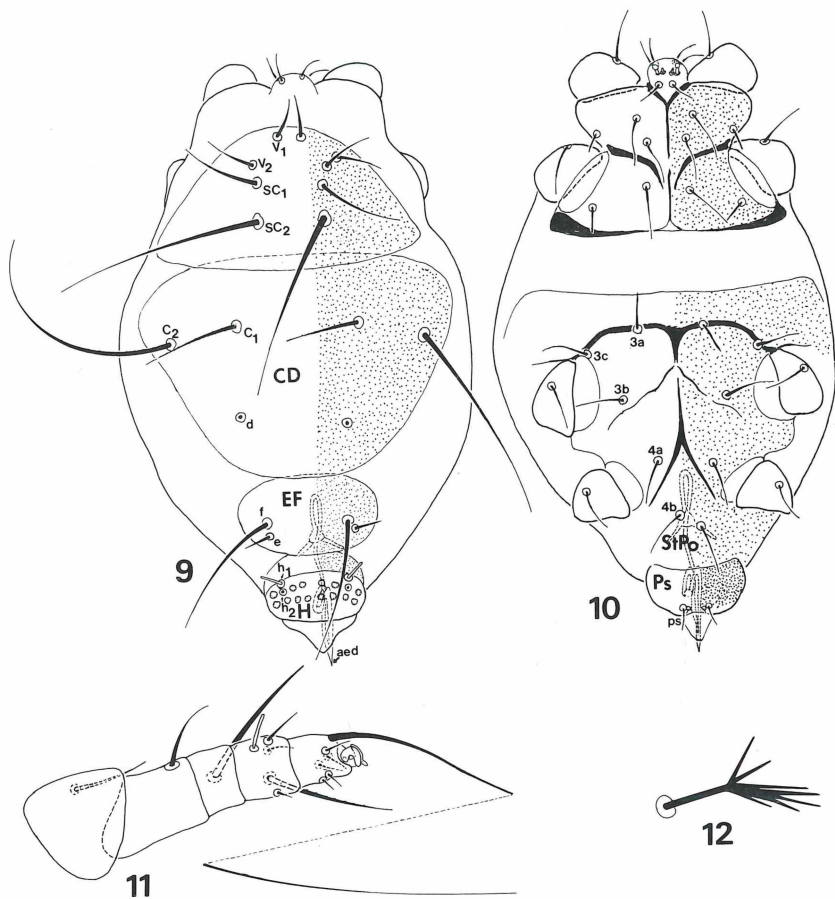
Key to the Species of the Genus *Diroptes* gen. n.

Females

- | | |
|--|---|
| 1. Coxal plates <i>I</i> with three pairs of setae | 2 |
| - Coxal plates <i>I</i> with two pairs of setae | 3 |
| 2. Tergite <i>EF</i> with one pair of setae . <i>D. longisetosus</i> (Mahunka, 1969) | |
| - Tergite <i>EF</i> with two pairs of setae | 4 |
| 3. Setae <i>d</i> longer than distance between them; setae <i>f</i> longer than distance between them <i>D. kaszabi</i> (Mahunka, 1969) | |
| - Setae <i>d</i> shorter than distance between them; setae <i>f</i> shorter than distance between them <i>D. stigmatatus</i> (Mahunka, 1979) | |
| 4. Setae v_2 simple <i>D. vetus</i> (Rack, 1965) | |
| - Setae v_2 divided into seven branches (Fig. 12) | |
| <i>D. stellifer</i> (Zaki, 1983) | |

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Figs 9-12: *Diroptes stellifer* (Zaki, 1983). Male: dorsal aspect of idiosoma (9), ventral aspect of idiosoma (10), leg IV (11). Female: seta v₂ (12).

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