

## Dermtion (*Dermtion*) *gallinulae* spec. nov. (Acarina: Sarcoptiformes) from *Gallinula chloropus* L. (Aves: Rallidae)

by

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Investigating a *Gallinula chloropus* L., found dead near Nijmegen, we found a number of mites of the family Epidermoptidae Trouessart, deviating from species so far described.

The characteristics: genu II with only one seta, anus ventral with lateral shields, trochanteres I and II ending anteriorly in a sharp chitinous process, tarsi and femora of the posterior legs with retrorse processes, without fixation organs on the gnathosoma and the idiosoma, setae *l2* lacking, setae *ae* present, point to the genus *Dermtion* Trouessart and Neumann (1888) subgenus *Dermtion*. The species of this subgenus are parasites on the skin of Rallidae.

Species: 1. *Dermtion (Dermtion) bibamatum* Trouessart et Neumann (1888) from *Porzana pusilla intermedia* (Herm.), patria France. 2. *Dermtion (Dermtion) lateralli* Fain (1964) from *Latevallus melanophaius oenops* (Scl. et Salv.), patria South America.

### *Dermtion (Dermtion) gallinulae* spec. nov.

FEMALE (holotype). — With the characters of the subgenus *Dermtion*, habitus as *Dermtion lateralli* Fain (1964). Idiosoma 199  $\mu$  long and 148  $\mu$  wide, in ten paratypes  $\emptyset$  197  $\mu$  (185—213) long and  $\emptyset$  148  $\mu$  (137—162) wide.

Venter (fig. 1). — Idiosoma broadly oval in shape. Cuticle striated, epimera I convergent, their posterior extremities fused with the epigynium. Genital aperture triangular with two small genital apodemes. Anus subterminal ventral surrounded by a sclerotized shield U-shaped and open anteriorly. Palpi two-segmented, each carrying a hair, enveloped with membranes. Gnathosoma compact with a pair of setae ventrally (*gn s*) and dorsolaterally. Two pairs of coxal setae: *cx I* (12  $\mu$ ), *cx III* (18  $\mu$ ); three pairs of genitals: *ga* (13  $\mu$ ) situated close to *cx I*, *gm* (20  $\mu$ ) near the internal end of the epimera IV, *gp* (18  $\mu$ ) at the level of the epimerites IV. On the U-shaped perianal shield setae *ai* (11  $\mu$ ), *ae* (11  $\mu$ ), *d4* (5  $\mu$ ), *d5* (59  $\mu$ ) and the long *l5* (177  $\mu$ ).

All the free segments of the legs normally developed. Hind legs longer than fore legs. Tarsi I—IV and tibiae I and II with distinct transversal edges on the ventral surface. Tarsi III and IV with a strong hook ventral latero-posterior and a smaller dorsal latero-anterior arising from the base directed backwards. Femora III and IV with strong recurved barbed hooks ventral latero-posterior and smaller hooks at the base dorso-median (fig. 2). Trochanteres I and II ventral latero-anterior with finely attenuated chitinous processes.

Chaetotaxy of the legs: tarsi 6-6-6-5; tibiae 1-1-1-1; genua 2-1-0-0; femora 1-1-0-0; trochanteres 1-1-1-0.

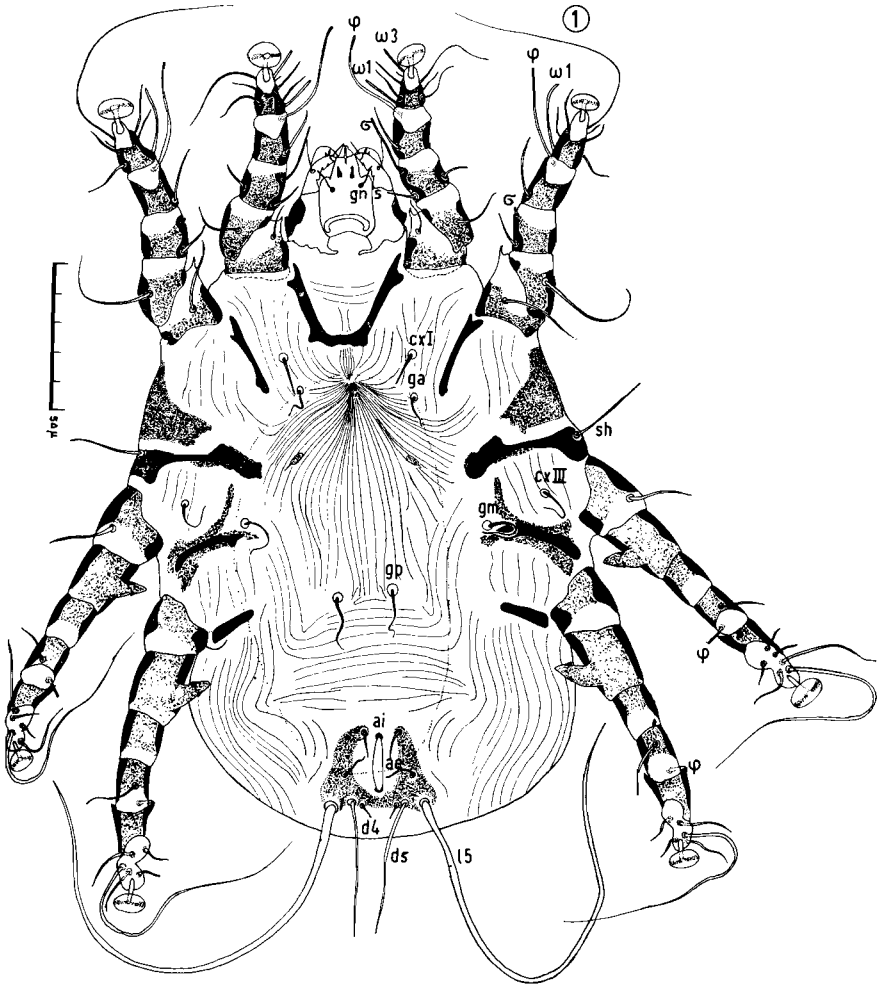


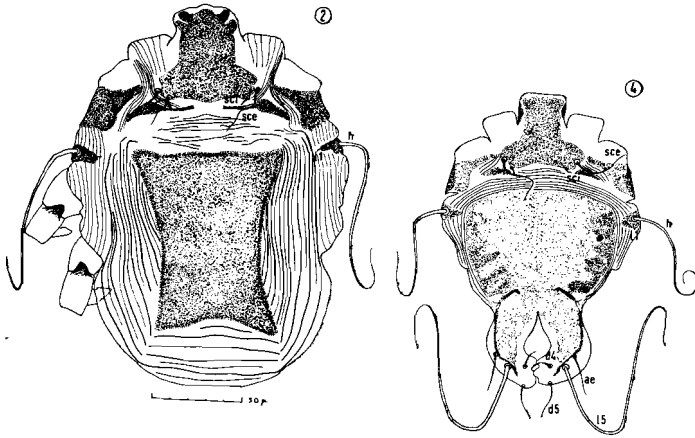
Fig. 1. *Dermation (Dermation) gallinulae*, n. sp., female (holotype), venter. The egg-shape is projected into the figure from a paratype.

Solenidiotaxy: tarsi 2-1-0-0-, tibiae 1-1-1-1; genua 1-1-0-0.

**Dorsum** (fig. 2) with 2 large median (a propodosomal and a hysterosomal) and two pairs of smaller lateral propodosomal punctured shields. The inner lateral shields distinctly separated from the propodosomal shield (also in all paratypes). Hysterosomal shield trapezoidal 99  $\mu$  long and 83  $\mu$  maximum width.

Setae *sci* very weak (4  $\mu$ ), *sce* 35  $\mu$  long, setae *l1* and *b* on the sclerotized ends of epimera III. The lateral setae 2 and 3 are lacking. Unsclerotized cuticle coarsely striated.

**MALE** (allotype). — Idiosoma round, terminating posteriorly in two partly membranous lobes. Length including the lobes, but without the gnathosoma



*Dermation (Dermation) gallinulae*, n. sp.  
Fig. 2. Female, dorsum; Fig. 4. Male (allotype), dorsum.

158  $\mu$ , in 4 paratypes 154—165  $\mu$ . Greatest width 112  $\mu$  (109—120  $\mu$  in the paratypes).

**Venter** (fig. 3). — Epimera I separated, epimera III bifid at the internal ends. Genital region with a short penis and a sclerotized field on each side at the level of trochanter III. Large adanal suckers on the terminal lobes.

Chaetotaxy of the ventral idiosoma: *cx I* (19  $\mu$ ) between the ends of epimera I and II, *cx III* (29  $\mu$ ) near the base of trochanter III, three pairs of genitals, *g a* (5  $\mu$ ) situated close to the penis, *g m* (20  $\mu$ ) at the end of epimera IV, *g p* (9  $\mu$ ) at the level of trochantères IV; *a i* (10  $\mu$ ) near the anal opening, thin *s b* (31  $\mu$ ).

Legs III much stronger and longer than legs IV. Legs I and II as in the female. Tarsus III as in the female, but not distinctly thicker than the tibia III. Femur III ventral with a little process, dorsal without process. Tarsus IV normal without recurved processes, setae latero-posterior modified into very short cylindrical and transparent sensory setae situated on slightly raised areas (*sa* and *sb*). Tarsus IV thinner than tibia IV. Femur IV without processes. Chaetotaxy of the legs as in the female.

**Dorsum** (fig. 4): Two median and two pairs of small lateral propodosomatal shields well separated from the median propodosomatal shield as in the female. Sejugal furrow present. Unsclerotized cuticle coarsely striated. Hysterosomal shield very broad, extending through the lobes, its metapodosomal part separated from the opistosomal part by lateral incisions at the level of the trochanter IV. Setae *sc i* weak and thin (4  $\mu$ ), *sc e* stronger and 34  $\mu$ , humural setae (56  $\mu$ ) stronger and longer than subhumural; *l 1* thin and short (5  $\mu$ ). Dorsal on the lobes are situated the thin *d 4* (12  $\mu$ ), *d 5* (21  $\mu$ ), *a e* (22  $\mu$ ) and the strong and long *l 5* (142  $\mu$ ). The membranous inside of the lobes is forming little bays. Setae *l 3* are lacking.

**TRITONYMPH**: Idiosoma, broadly oval in shape, 206  $\mu$  long and 136  $\mu$  wide. Venter (fig. 5): Epimera I are not convergent and very small in their internal half

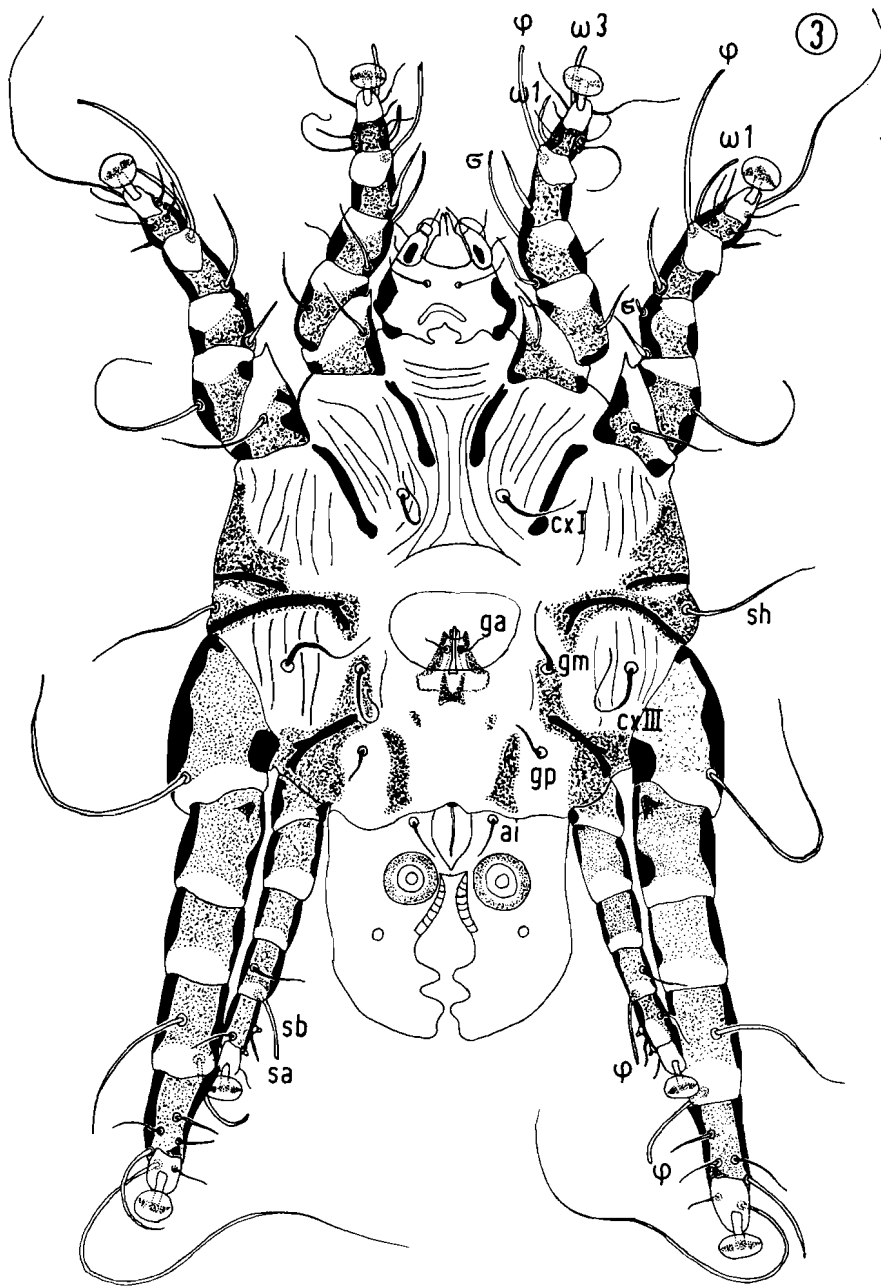


Fig. 3. *Dermation (Dermation) gallinulae*, n. sp., male (allotype), venter.

epimera III very short, anus without surrounding shield. Setae as in the female, but the genitals displaced. *cx I* 15  $\mu$ , *cx III* 15  $\mu$ , *ga* 10  $\mu$ , *gm* 12  $\mu$ , *gp* 11  $\mu$ , *sb* 18  $\mu$ , *ai* 10  $\mu$ , *ae* 8  $\mu$ , *d4* 4  $\mu$ , *d5* 31  $\mu$ , *l5* 142  $\mu$ .

Chaetotaxy and solenidiotaxy of the legs as in the female. Barbed hooks on femora III and IV shorter than in the female.

**Dorsum** (fig. 6): Median propodosomal shield and outward propodosomal shields as in the female, inner shields lacking. Hysterosomal shield splitted. Setae: *sce* 28  $\mu$ , *sci* 4  $\mu$ , *h* 87  $\mu$ , *l1* 4  $\mu$ .

**PROTONYMPH**: Shape as in the tritonymph, idiosoma 172  $\mu$  long and 119  $\mu$  wide. Present are: *cx I* 12  $\mu$ , *cx III* 12  $\mu$ , *gm* 8  $\mu$ , *ai* 4  $\mu$ , *ae* 5  $\mu$ , *d4* 4  $\mu$ , *d5* 25  $\mu$ , *l5* 113  $\mu$ , *sb* 14  $\mu$ , *h* 50  $\mu$ , *l1* 4  $\mu$ , *sce* 19  $\mu$ , *sci* 3  $\mu$ . Dorsal shields as in the tritonymph.

Legs as in the tritonymph without ventral hooks on femur IV.

Chaetotaxy of the legs: tarsi 6-6-6-4; tibiae 1-1-1-1; genua 2-1-0-0; femora 1-1-0-0; trochanters 0-0-0-0.

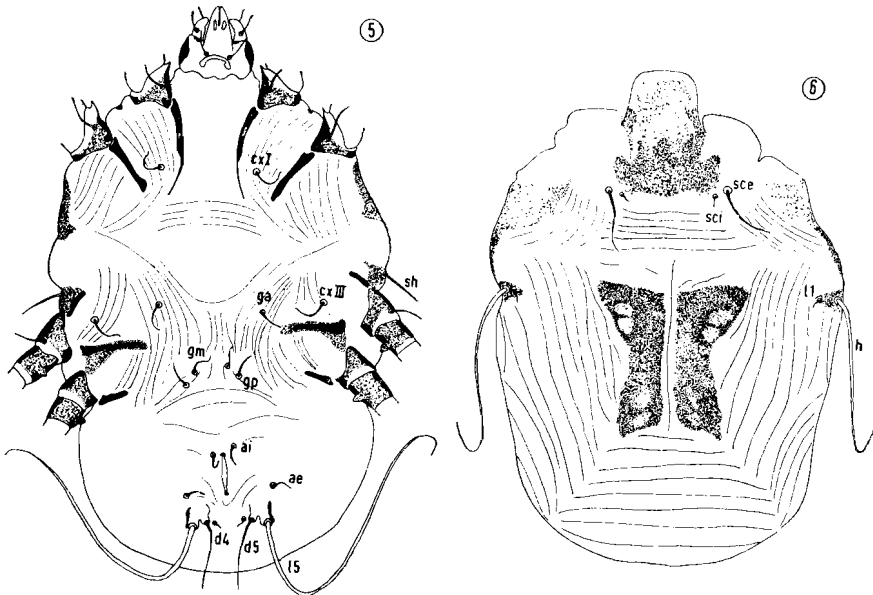
Solenidiotaxy: tarsi 1-1-0-0; tibiae 1-1-1-1; genua 1-1-0-0.

**LARVA**: Shape as in the tritonymph, idiosoma 127  $\mu$  long and 76  $\mu$  wide. Present are: *cx I* 8  $\mu$ , *cx III* 12  $\mu$ , *l1* 2  $\mu$ , *l5* 78  $\mu$ , *h* 44  $\mu$ , *sb* 8  $\mu$ , *sce* 16  $\mu$ , *sci* 2  $\mu$ . Dorsal shields as in the tritonymph.

Legs I—III as in the tritonymph, but without ventral hook on femur III.

Chaetotaxy of the legs: tarsi 6-6-6; tibiae 1-1-1; genua 2-1-0; femora 1-1-0; trochanters 0-0-0.

Solenidiotaxy 1-1-0; tibiae 1-1-1; genua 1-0-0.



*Dermation (Dermation) gallinulae*, n. sp.

FIG. 5. Tritonymph, venter; FIG. 6. Tritonymph, dorsum.

EGGS: the shape of one egg of a paratype is projected into fig. 1, length 138  $\mu$ , width 74  $\mu$ .

Host and locality: On the skin of *Gallinula chloropus* L., Nijmegen, The Netherlands, 13.I.1968.

Types: Holotype female and allotype male: Rijksmuseum van Natuurlijke Historie, Leiden.

Paratypes female and male: British Museum (Natural History), London; National Museum, Washington; Institut de Médecine Tropicale Prince Léopold, Antwerp; Zoologische Staatssammlung, München; Zoologisch Laboratorium, Nijmegen.

Paratypes female: Muséum National d'Histoire Naturelle, Paris; Zoological Institute of the Academy of Sciences, Leningrad; Zoologisches Staatsinstitut und Museum, Hamburg.

Remark for the definition of the genus *Dermation*: The marks of determination given above are well matched to the definition of the genus given by FAIN 1965, except the absence of the setae *l 3* ask a modification of the genus characteristics. Instead of "the setae *l 3* are always present" we may say "setae *l 3* present in most of the species".

Key to the species of the subgenus *Dermation* (*Dermation*) Trouessart et Neumann (1888):

1. — In the female: tarsi III and IV thick, approximately as wide as long with a strong internal retrorse chitinous process; femora IV without dorsal retrorse process. In the male: tarsi III short and thick with a strong internal barbed process; femora III with a strong barbed retrorse ventral process; legs III very thick . . . . . *D. (D.) bihamatum* Trouessart et Neumann, 1888.

— In the female: tarsi III and IV longer than broad with small retrorse process; femora IV with a well developed retrorse dorsal process.

In the male: tarsi III much longer than wide with a small non-barbed process; femora III with small non-barbed process; legs III longer and stronger than legs IV, but not extremely thick . . . . . 2.

2. — In the female: accessory propodosomatal shields fused with the median shield; setae *l 3* present, *ai* absent, *sc e* shorter than 25  $\mu$ .

In the male: setae *l 3* present, *sc e* shorter than 25  $\mu$ ; terminal lobes undivided. . . . . *D. (D.) lateralli* Fain, 1964.

— In the female: accessory propodosomatal shields separated from the median shield; setae *l 3* absent, *ai* present, *sc e* longer than 30  $\mu$

In the male: setae *l 3* absent, *sc e* longer than 30  $\mu$ ; terminal lobes inside with little bays . . . . . *D. (D.) gallinulae* spec. nov.

#### Bibliography

- FAIN, A., 1965, A review of the family Epidermoptidae Trouessart parasitic on the skin of birds (Acarina: Sarcoptiformes). *Verh. K. vlaam. Acad. Wet.* 27, nr. 84 (I—II): 1—176; 1—144 (185 fig.).