

**Almanac of Alberta
2009
Part II - Adults < 0.3 mm
Oribatida**



**Version 1.3
David Evans Walter
The Royal Alberta Museum**

Version 1.3 7 December 2009

Part II

Oribatids in Alberta with adults <0.300 mm in body length

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Supercohort Palaeosomatides

Ctenacaroida

Aphelacaridae

Aphelacarus Grandjean, 1954

Type species: *Parhypochthonius acarinus* Berlese, 1910

Also Known As:

Aphelacarus acarinus (Berlese, 1910)

Also Known As: *Parhypochthonius acarinus* Berlese, 1910

ABMI code: APHEACA

Diagnostic characters: 440 long; pale, sack-like body, long setae

DOC (1/2008): [+other] Distribution: **AB**; [Kinsella; Cosmopolitan]

Collections:

Supercohort Enarthronotides

Atopochthonioidea

Atopochthoniidae

Atopochthonius Grandjean, 1948

Type species: *Atopochthonius artiodactylus* Grandjean, 1948

Also Known As:

Atopochthonius artiodactylus Grandjean, 1948

Also Known As:

ABMI code: ATOPART

Diagnostic characters: length 200; dorsal setae leaf-like, foveolate, posterior setae elongate

DOC (1/2008): [+other] Distribution: **AB**, ON, QC, NB, NS; [Holarctic]

Collections:

Pterochthoniidae

Pterochthonius Berlese, 1913



Type species: *Cosmochthonius angelus* Berlese, 1910

Also Known As:

Pterochthonius angelus (Berlese, 1910)

Also Known As: *Cosmochthonius angelus* Berlese, 1910

ABMI code: PTERANG

Diagnostic characters: length 200; dorsal setae leaf-like, foveolate

Collections: Moose Pasture (53.656667, -112.759444); Lindo & Visser (2004)

DOC (1/2008): [+other] Distribution: **AB**, QC; [Holarctic]

Overview: This minute, ornate mite is common in aspen forest litter. No males are known and the mite probably reproduces by parthenogenesis.

Protoplophoroidea

Haplochthoniidae

Haplochthonius Willmann, 1930

Type species: *Cosmochthonius (Haplochthonius) simplex* Willmann, 1930

Also Known As: *Tetrochthonius* Hammer, 1958

Haplochthonius sp. 1 DKK (Osler et al. 2008)

Also Known As:

ABMI code: HAPLSP1

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution: none.

Sphaerochthoniidae

Sphaerochthonius Berlese, 1910

Type species: *Hypochthonius splendidus* Berlese, 1904

Also Known As:

Sphaerochthonius sp. 1 DKK (Osler et al. 2008)

Also Known As:

ABMI code: SPHASP1

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution: none.

Brachychthonioidea

Brachychthoniidae

Comments: Brachychthoniid mites are among the smallest of the Oribatida and no species in Alberta reach the 0.3 mm length limit. Unlike many soil microarthropods, brachychthoniids are able to tolerate the disturbance of cropping and maintain a high diversity and abundance in some systems (Osler et al. 2008).

***Brachychthonius* Berlese, 1910**

Type species: *Brachychthonius berlesei* Willmann, 1928 (= *Brachychthonius brevis* Michael sensu Berlese, 1910)

Also Known As: *Brachychochthonius* Jacot, 1938

Brachychthonius berlesei Willmann, 1928 (Osler et al. 2008)

Brachychthonius nr. *berlesei* Willmann, 1928 (Lindo & Visser 2004)

Also Known As: *Brachychochthonius berlesei* (Willmann, 1928); *Brachychthonius brevis* Berlese, 1910

ABMI code: BRACBER

Diagnostic characters: 196-212 long

Collections: EMEND (56.46, -118.22), Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution: **AB**; NU, NT; [Holarctic].

Overview: Specimens have been found in the feathers of birds in Russia, a possible means of long distance dispersal (see Krivolutsky & Lebedeva 2004).

Brachychthonius bimaculatus Willmann, 1936

Also Known As: *Brachychochthonius bimaculatus* (Willmann, 1936)

ABMI code: BRACBIM

Diagnostic characters: prodorsal and notogastral setae ciliated; Na with a pair of eye-like spots; sensillus strongly clavate and with two rows of cilia.

Overview: a very similar mite with smooth setae on the pygidial shield occurs in Canola fields near Lethbridge (49.684619°, -112.749009°).

Collections: Lethbridge (49.48 N, 112.54° W)

DOC (1/2008): [+other] Distribution: BC;

Brachychthonius pius Moritz, 1976

Also Known As: *Brachychochthonius berlesei erosus* sensu Hammer, 1952

ABMI code: BRACPIU

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54° W)

DOC (1/2008): [+other] Distribution: NU, NT

Brachychthonius sp. 1 DKK (Osler et al. 2008)

Also Known As:

ABMI code: LIOCSP1

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54° W)

DOC (1/2008): [+other] Distribution

Brachychthonius sp. 2 DKK (Osler et al. 2008)

Also Known As:

ABMI code: LIOCSP1

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54° W)

DOC (1/2008): [+other] Distribution

***Liochthonius* van der Hammen, 1959**

Type species: *Hypochthonius brevis* Michael, 1888

Also Known As: see *Brachychthonius*

Liochthonius nr. *brevis* (Michael, 1888) (Lindo & Visser 2004)

Also Known As: *Brachychthonius perpusillus* Berlese, 1910; *Liochthonius perpusillus* (Berlese, 1910)



ABMI code: LIOCBRE

Diagnostic characters: length 160-223

Collections: EMEND (56.46, -118.22);

DOC (1/2008): [+other] Distribution: **AB**; [Holarctic]

Liochthonius nr. *clavatus* (Forsslund, 1942) (Lindo & Visser 2004)

Also Known As:

ABMI code: LIOCCLA

Diagnostic characters:

Collections: EMEND (56.46, -118.22);

DOC (1/2008): [+other] Distribution: **AB**; [Holarctic]

Liochthonius lapponicus (Trägårdh, 1910)

Also Known As: *Hypochthonius brevis lapponica* Trägårdh, 1910; *Brachychthonius lapponica* (Trägårdh, 1910); *Liochthonius perpusillus* sensu Pérez-Inigo, 1968

ABMI code: LIOCLAP

Diagnostic characters: length 175-200

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution: **AB**, NU, NT, MB, ON, NF; [Holarctic]

Liochthonius leptaleus Moritz, 1976

Also Known As:

ABMI code: LIOCLEP

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution: [Russia]

Liochthonius nr. *muscorum* Forsslund, 1964 (Lindo & Visser 2004)

Also Known As:

ABMI code: LIOCMUS

Diagnostic characters: length 200-228

Collections: EMEND (56.46, -118.22);

DOC (1/2008): [+other] Distribution: **AB**; [Holarctic].

Liochthonius sellnicki (Thor, 1930)

Also Known As: *Brachychthonius sellnicki* Thor, 1930; *Brachychthonius scalaris* Forsslund, 1942 in Hammer 1952; *Liochthonius scalaris* (Forsslund, 1942); *Brachychthonius nodosus* Willmann, 1952; *Brachychthonius brevis* sensu Hammer, 1944

ABMI code: LIOCSEL

Diagnostic characters: length 200-237

DOC (1/2008): [+other] Distribution: YT, NU, NT, MB, QC, NF; [AK; Holarctic]

Collections: EMEND (56.46, -118.22);

Overview: A suspected parthenogen. Specimens have been found in the feathers of birds in Russia, a possible means of long distance dispersal (see Krivolutsky & Lebedeva 2004).

Liochthonius nr. *simplex* (Forsslund, 1942) (Lindo & Visser 2004)

Also Known As:

ABMI code: LIOCSIM

Diagnostic characters: length 150-175

DOC (1/2008): [+other] Distribution: **AB**; [Holarctic]

Collections: EMEND (56.46, -118.22);

Liochthonius sp. 1 DKK (Osler et al. 2008)

Also Known As:

ABMI code: LIOCSP1

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution

Liochthonius sp. 2 DKK (Osler et al. 2008)

Also Known As:

ABMI code: LIOCSP1

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution:



Liochthonius sp. 3 DKK (Osler et al. 2008)

Also Known As:

ABMI code: LIOCSP1

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution:

***Mixochthonius* Niedbała, 1972**

Type species: *Brachychthonius pilosetosus* Forsslund, 1942

Also Known As: see *Brachychthonius*

Mixochthonius nr. *concavus* (Chinone, 1974) (Lindo & Visser 2004)

Also Known As:

ABMI code: MIXOCON

Diagnostic characters:

Collections: EMEND (56.46, -118.22)

DOC (1/2008): [+other] Distribution: **AB**;

***Neoliochthonius* Lee, 1982**

Type species: *Hypochthonius brevis* Michael, 1888

Also Known As: *Paraliochthonius* Moritz, 1976 (pre-occupied)

Neoliochthonius nr. *occultus* (Niedbała, 1971)

Also Known As: *Paraliochthonius* nr. *occultus* (Niedbała, 1971) (Lindo & Visser 2004)

ABMI code: NEOLOCC

Diagnostic characters:

Collections: EMEND (56.46, -118.22)

DOC (1/2008): [+other] Distribution: **AB**;

Neoliochthonius piluliferus (Forsslund, 1942)

Also Known As: *Brachychthonius piluliferus* Forsslund, 1942

ABMI code: NEIOPIL

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution

Paraliochthonius nr. occultus* (Niedbala, 1971) (Lindo & Visser 2004) – see *Neoliochthonius

***Poecilochthonius* Balogh, 1943**

Type species: *Brachychthonius brevis italicus* Berlese, 1910

Also Known As: see *Brachychthonius*

Poecilochthonius nr. spiciger (Berlese, 1910) (Lindo & Visser 2004)

Also Known As:

ABMI code: POECSPI

Diagnostic characters: length 175-208

Collections: EMEND (56.46, -118.22)

DOC (1/2008): [+other] Distribution: **AB**; []; NB: *Poecilochthonius spiciger* (Berlese, 1910) ON, QC; [Holarctic]

***Sellnickochthonius* Krivolutsky, 1964**

Type species: *Brachychthonius zelawaiensis* Sellnick, 1928

Also Known As: see *Brachychthonius*, *Poecilochthonius*

Diagnostic characters: 3 suprapleural plates; hypertrophied an2-3

Sellnickochthonius furcatus (Weis-Fogh, 1948)

Also Known As:

ABMI code: SELLFUR

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution:

Sellnickochthonius immaculatus (Forsslund, 1942)

Also Known As: *Brachyochthonius immaculatus* Forsslund 1942; *Brachychthonius immaculatus* (Forsslund, 1942); *Brachyochthonius arcticus* Hammer, 1952; *Liochthonius arcticus* (Hammer, 1952); *Brachychthonius obscurus* Krivolutsky, 1966



ABMI code: SELLIMM

Diagnostic characters: length 170-195

Collections:

DOC (1/2008): [+other] Distribution: **AB**, NU, NT, ON; [Holarctic]

Sellnickochthonius jugatus (Jacot, 1938)

Also Known As: *Brachyochthonius jugatus* Jacot, 1938; *Brachychthonius jugatus* (Jacot, 1938); *Sellnickochthonius* nr *jugatus* (Osler et al. 2008)

ABMI code: SELLNIC

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution: NU, NT, QC;

Sellnickochthonius rostratus (Jacot, 1936)

Also Known As: *Brachychthonius rostratus* Jacot, 1936; *Brachyochthonius rostratus* (Jacot, 1936)

ABMI code: SELLROS

Diagnostic characters: length 175-205

Collections:

DOC (1/2008): [+other] Distribution: **AB**, NU, NT, QC; [Holarctic];

Sellnickochthonius sp. 1 DKK (Osler et al. 2008)

Also Known As:

ABMI code: SELLSP1

Diagnostic characters:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution:

Sellnickochthonius suecica (Forsslund, 1942) (Lindo & Visser 2004)

Sellnickochthonius nr *suecica* (Forsslund, 1942) (Osler et al. 2008)

Also Known As: *Brachychthonius suecica* (Forsslund, 1942); *Brachyochthonius jugatus suecica* Forsslund, 1942

ABMI code: SELLSUE



Diagnostic characters: length 150-170

Collections: Lindo & Visser (2004)

DOC (1/2008): [+other] Distribution: **AB**, NU, NT, YT; [Holarctic];

***Synchthonius* van der Hammen, 1952**

Type species: *Brachyochthonius crenulatus* Jacot, 1938 (= *Synchthonius boschmai* van der Hammen, 1952)

Also Known As: see *Brachychthonius*

***Synchthonius crenulatus* (Jacot, 1938)**

Also Known As: *Brachyochthonius crenulatus* Jacot, 1938; *Synchthonius boschmai* van der Hammen, 1952

ABMI code: SYNCCRE

Diagnostic characters: seta *d2* not on margin of Anterior plate, inserted more medially; seta *ad2* broad, blade-like; one pair of supraplural plates; dorsal depressions with foveolate margins; setae relatively short; SEM (Meanook)

Similar species: *Synchthonius elegans* Forsslund, 1957 has much longer setae (*c1* passing insertion of *d1*)

Collections: Lethbridge (49.48 N, 112.54° W); Meanook; Moose Pasture (53.656667, -112.759444)

DOC (1/2008): [+other] Distribution: **AB**, NU, NT, YT; [Holarctic]

***Verachthonius* Moritz, 1976**

Type species: *Brachychthonius laticeps* Strenzke, 1951

Also Known As: see *Brachychthonius*

Verachthonius montanus (Hammer, 1952)

Also Known As: *Eobrachychthonius montanus* Hammer, 1952

ABMI code: VERAMON

Diagnostic characters: length 240

Collections: Lethbridge (49.48 N, 112.54° W); Moose Pasture (53.656667, -112.759444); Rocky Mountains near Jasper

DOC (1/2008): [+other] Distribution: **AB**, ON;

Supercohort Desmonomatides

Cohort Brachypyliina

Ameroidea

Caleremaeidae

Veloppia Hammer, 1955

Diagnostic characters: small oppioid-like mites with fluffy, granular cerotegument; genital and anal plates large, but separate

Also Known As:

Type species: *Veloppia pulchra* Hammer, 1955

World species:

Comments:

Canadian species listed on DOC (bold = AB): ***Veloppia kananaskis* Norton, 1978 AB**; *V. pulchra* Hammer, 1955 YT NF; *Veloppia* sp. YT NF

***Veloppia kananaskis* Norton, 1978**

Also Known As:

ABMI code: VELOKAN

Diagnostic characters: length 275; prodorsum foveolate, costular ridges running from tubercle *A* to *le* (37), *in* (~32), *ex* (~20), *ro* (~35) curve mediad, *bo* smoothly spindle-shaped (~45), bothridium with posterior tubercle that fits between paired sejugal tubercles; notogastral carinae run from outer tubercle laterad 7 pairs long (65-80) dorsal setae, *lm* set mediad others, 3 pairs *ps* setae lateroposterior; donut-like cng between *c-la*; 6 pairs long genital setae, 1-4 aligned near anterior median margin of plate; epimere with a variety of tubercles

Overview: most specimens probably pass through the 300 µm grid

Barcodes:

ID Check: Determination by DEW.

Similar taxa: *Veloppia pulchra* Hammer, 1955 (YT, NF); *Veloppia* sp. (YT, NF); *Veloppia nortoni* Chen & Wang, 2002 (China)

Collections: 2007: 1133

DOC (1/2008): [+other] Distribution: **AB**

Images:

Ecology:

Literature: Marshall et al. (1987); Norton (1979)



Damaeolidae

Fosseremus Grandjean, 1954

Diagnostic characters: small oppioid-like mites with fluffy, granular cerotegument; genital and anal plates large, but separate

Also Known As:

Type species: *Dameosoma laciniatum* Berlese, 1905

World species: 1-3

Comments:

Canadian species listed on DOC (bold = AB): none.

*****Fosseremus laciniatum* Berlese, 1905**

Also Known As: *Dameosoma laciniatum* Berlese, 1905; *Fosseremus quadripertitus* Grandjean, 1965; *Fosseremus laciniatus* (Berlese, 1905)

ABMI code: FOSSLAC

Diagnostic characters:

Overview: Often misspelled as ‘Fosseremaeus’ and the like.

Barcodes:

ID Check: Determination by DEW.

Similar taxa: *Fosseremus americanus* (Jacot, 1938)?

Collections Onoway (53.77N, 114.06W):

DOC (1/2008): [+other] Distribution: [Cosmopolitan]

Images:

Ecology: Suspected parthenogen, only males known. Specimens (as “Fosseremaeus laciniatus”) have been found in the feathers of birds in Russia, a possible means of long distance dispersal (see Krivolutsky & Lebedeva 2004).

Literature: Marshall et al. (1987)

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Oppioidea

Oppiidae

***Micropia* Balogh, 1983**

Diagnostic characters:

Also Known As:



Type species: *Dameosoma minus* Paoli, 1908

World species:

Comments:

Canadian species listed on DOC (bold = AB): *Microppia minus* (Paoli, 1908); *M. simplissimus* (Jacot, 1938)

****Microppia minus* (Paoli, 1908)**

Also Known As: *Dameosoma minus* Paoli, 1908

ABMI code: MICRMIN

Diagnostic characters: 0.200 mm long; short crista, short basal costular line; short, clubbed *bo*

Overview: most specimens probably pass through the 300 µm grid

Barcodes:

ID Check: Determination by DEW based on Balogh & Balogh (2002).

Similar taxa:

Collections: ABMI 1150 residuals.

DOC (1/2008): [+other] Distribution: NU, NT, MB, ON, QC; [Holarctic]

Images:

Ecology: Suspected parthenogen, only males known.

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975)

***Microppia simplissimus* (Jacot, 1938)**

Also Known As: *Oppia minus simplissimus* Jacot, 1938

ABMI code: MICRSIM

Diagnostic characters:

Overview:

Barcodes:

ID Check: Determination by DKK.

Similar taxa:

Collections: Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution: BC, QC; []

Images:

Ecology:

Literature: Marshall et al. (1987);

***Moritzoppia* Subías & Rodríguez, 1988**

Diagnostic characters: 4 pairs genital setae; cristae absent

Also Known As: *Moritzziella* Balogh, 1983

Type species: *Oppia keilbachi* Moritz, 1969

World species: ~32

Comments: see also Part I.

Canadian species listed on DOC (bold = AB): ***Moritzoppia clavigera* (Hammer, 1952);**
Moritzoppia sp. NF

***Moritzoppia clavigera* (Hammer, 1952)**

Also Known As: *Moritzoppia unicarinata* (Paoli, 1908) sensu Subías (2004)

ABMI code: MORICLA

Diagnostic characters: 235-280 long; prodorsum punctate, *ro* (25) barbed, *le* (15) simple at tip of costulae, *in* (25-30) in basal costular pocket; *bo* 930-33) with swollen (spoon) head covered in minute barbs; notogastral setae long, fine, *c2* (40), others subequal, *lm*, *la* (30); 4 pairs genital setae; *iad* paranal

Overview: most specimens probably pass through the 300 µm grid

Barcodes:

ID Check: Determination by DEW based on Colloff & Syed (1991).

Similar taxa:

Collections: ABMI (residuals) 216, 1133; EMEND (56.46, -118.22)

DOC (1/2008): [+other] Distribution: **AB**, YT, NU, NT, MB;

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975); Hammer (1952); Colloff & Syed (1991); Lindo & Visser (2004)

***Multioppia* Balogh, 1965 (Hammer, 1961)**

Diagnostic characters: costulae and cristae absent

Also Known As: *Oppia* CL Koch, 1836

Type species: *Multioppia radiata* Hammer, 1961

World species: 43

Comments:

Canadian species listed on DOC (bold = AB): *Multioppia carolinae* (Jacot, 1938); *Multioppia* sp.

****Multioppia* sp. 2 DEW**

Also Known As:

ABMI code: MULTSP2

Diagnostic characters: 240 long; costulae and cristae absent; *bo* (35) with oval, ciliated club, bothridial simple; *in* (7) simple; *le* (~12) barbed; *ro* (~19) strongly barbed, curve mediad; rostrum entire. Notogaster with 12 pairs of setae, mostly subequal (~15) and simple, but *ti* with a few distal barbs and *c2* minute (~4); inserted mediad short ridge on anterior margin of notogaster; 4 pairs of genital setae.

Overview:

Barcodes:

ID Check: Determination by DEW based on Balogh & Balogh (2002).

Similar taxa:

Collections: Lethbridge (canola) (49.68N, 112.75W)

DOC (1/2008): [+other] Distribution: *Multioppia* sp. reported from NS;

Images:

Ecology:

Literature: Marshall et al. (1987);

***Oppiella* Jacot, 1937**

Diagnostic characters: 5 pairs genital setae; costulae and cristae present

Also Known As:

Type species: *Eremaeus novus* Oudemans, 1902

World species: 6 or more described species depending on generic definitions. Marshall et al. (1987) report

Comments:

Canadian species listed on DOC (bold = AB): ***Oppiella nova* (Oudemans, 1902)**; *Oppiella* sp.; ***O. washburni* (Hammer, 1952)** (see Part I)

***Oppiella nova* (Oudemans, 1902)**

Also Known As:

ABMI code: OPPINOV

Diagnostic characters: 220-280 long, yellow brown; prodorsum smooth; costulae (30-40) end about midway, fork around *le* (15-20) and *in* (10), with backward-pointing tubercle at

posterior end; *ex* (20); bothridium with posterior tubercle that meets crista, *bo* (45-63) spindle-shaped, usually with 4-6 distal marginal hairs (+ smaller hairs at base of club) + distal filament; cristae doubled, encompass *c2* (~20, curved posteriorly), end about half way to *la* (25-30); *lm* (15-20); *lp* (~15); 5 pairs genital setae, anterior pair (~10) longer than others

Overview: most specimens probably pass through the 300 µm grid

Barcodes:

ID Check: Determination by DEW.

Similar taxa:

Collections: ABMI (residuals) 216, 217, 218, 248, 277, 650, 855, 857, 1133, BOG7; EMEND (56.46, -118.22), Lethbridge (49.48 N, 112.54' W)

DOC (1/2008): [+other] Distribution: **AB**, YT, NU, NT, BC, SK, MB, ON, QC, NB, NS, PE, NF; [Cosmopolitan]

Images:

Ecology: A cosmopolitan parthenogenetic (thelytokous) species known from many habitats. Specimens have been found in the feathers of birds in Russia, a possible means of long distance dispersal (see Krivolutsky & Lebedeva 2004).

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975); Lindo & Visser (2004)

Oppiella sp. 2 DEW

Also Known As:

ABMI code: OPPISP2

Diagnostic characters: 240-280 long, yellow brown; prodorsum smooth; *ro* (27), *ex* (30) very long; costulae (47) end about midway, *le* (~20) inserted subdistally on costula; *in* (30) in pocket, with backward-pointing tubercle at posterior end; bothridium with posterior microtuberculate tubercle that meets crista, *bo* (60) with fusiform head with microciliate margins; cristae doubled, encompass *c2* (28), outer ridge runs about to *la* (35), *lm* (22); 5 pairs genital setae

Overview: most specimens probably pass through the 300 µm grid.

Barcodes:

ID Check: Determination by DEW based on Balogh & Balogh (2002).

Similar taxa: *Oppiella nova*

Collections: ABMI (residuals) 248, 857

DOC (1/2008): [+other] Distribution:

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975); Osler et al. (2008)

Oppiella sp. 4 DEW

Also Known As:

ABMI code: OPPISP4

Diagnostic characters: 235-270 long, yellow brown; prodorsum smooth, with a half dozen cells above pedotectum I and microtuberculate along leg bases, rostrum with shallow, convex median process; *ro* (21-22) barbed, *ex* (21-25) smooth; costulae (~30), about 1/3rd length of prodorsum, with patch of microtubercles, *le* (~17-18) inserted subdistally in Y; *in* (25-26) in pocket, with backward-pointing tubercle at posterior end; bothridium with posterior microtuberculate and large tubercle that meets crista, *bo* (31-35) with subglobose, ciliated head occupying about half length; notogastral margin straight, cristae doubled, encompass *c2* (25-30), outer ridge runs 3/4ths distance to *la* (30), *lm* (~20); 5 pairs genital setae; epimerel region III-IV with a half dozen cells on either side of the midline and 4 setae (2 on posterior margin); iad paranal.

Overview: most specimens probably pass through the 300 µm grid

Barcodes:

ID Check: Determination by DEW based on Balogh & Balogh (2002).

Similar taxa: *Oppiella nova*

Collections: Moose Pasture (53.656667, -112.759444)

DOC (1/2008): [+other] Distribution:

Images:

Ecology:

Literature:

Oppiella sp. 5 DEW

Also Known As:

ABMI code: OPPISP5

Diagnostic characters: 275 long, yellow brown; prodorsum rather short and broad, with a half dozen cells above pedotectum I and microtuberculate along leg bases, rostrum bluntly acuminate; *ro* (25) barbed, *ex* (~30) barbed?; costulae (~40), <1/2 length of prodorsum, without patch of microtubercles, *le* (~15) inserted subdistally in Y; *in* (15) in pocket, interbothridial tubercle bifurcate; bothridium with posterior microtuberculate, inner margin of bothridium and tubercle with parallel ridges, *bo* (40) with spoon-like head with short barbs; notogastral margin straight, cristae very faint, *c2* (~25) on notogastral margin and directed laterally; *la* (22) directed laterally, *lm* (~20); 5 pairs genital setae; epimerel region

III-IV with a half dozen cells on either side of the midline and 4 setae (2 on posterior margin), posterior margin crenulate; *iad* paranal.

Overview:

Barcodes:

ID Check: Determination by DEW based on Balogh & Balogh (2002).

Similar taxa:

Collections: 2007: none

DOC (1/2008): [+other] Distribution: [Moose Pasture (53.656667, -112.759444)]

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975)

Subiasella (Lalmoppia) Subías & Rodriguez 1986

Diagnostic characters: 5 pairs genital setae; small humeral process and translamellar ridge present; 10 pairs of setae (*c2* small); sensillus club-shaped and ciliated; *iad* apoanal.

Also Known As: *Cassioppia* Poltavskaja, 1994, *Pararectoppia* Mahunka, 1987

Type species: *Subiasella* Balogh, 1983 (*Oppia exiguus* Hammer, 1971); *Lalmoppia* Subías & Rodriguez 1986 (*Oppia ventronodosa* Hammer, 1962) = *Oppia maculata* Hammer, 1952; but listed as *Ramusella (Insculptoppia) maculata* (Hammer, 1952)

World species:

Comments:

Canadian species listed on DOC (bold = AB): ***Subiasella*** sp. ON, NS, NF

****Subiasella (Lalmoppia) sp. 1 DEW***

Also Known As:

ABMI code: SUBISP1

Diagnostic characters: 250-260 long, prodorsum with faint translamellar ridge and lamellar setae (sinuate, ~12) on short apophysis; sensillus with long stalk and suboval head with ciliate margin; bothridium with posterior tubercle; interlamellar setae short (~7), slender; rostral seta (~30) barbed; *ex* short (10), acicular. Notogaster with 10 pairs of setae, setae *c2* (~5) minute, inserted between small tubercles on anterior margin of notogaster; other setae (15-20) curved, barbed, tapering; 5 pairs genital setae, *g1* directed anteriorly; *iad* apoanal near posterior corner of anal shield.

Overview:

Barcodes:

ID Check: Determination by DEW based on Balogh & Balogh (2002).

Similar taxa:

Collections ABMI 1223 (residuals)

DOC (1/2008): [+other] Distribution:

Images:

Ecology:

Literature: Marshall et al. (1987); Norton & Kethley (1989)

Quadropiidae

Quadropia Jacot, 1939

Diagnostic characters:

Also Known As:

Type species: *Notaspis quadricarinata* Michael, 1885

World species:

Comments:

Canadian species listed on DOC (bold = AB): *Quadropia ferrumequina* (Jacot, 1938) BC;
***Quadropia quadricarinata* (Michael, 1885) AB** YT NU NT MB QC; *Quadropia* sp. ON
QC NS NF

Quadropia quadricarinata (Michael, 1885)

Also Known As:

ABMI code: QCADQUA

Diagnostic characters: 225 long; *bo* (30-35) with long, oval, barbed club, bothridium with posterior tubercle; costulae long, translamella recurved; cristae large, tubercles with squared corners, carinae run most length of oval notogaster

Overview:

Barcodes:

ID Check: Determination by DEW. SEM from Meanook.

Similar taxa: *Quadropia ferrumequina* (Jacot, 1938), *Quadropia illnoisensis* (Jacot, 1938), *Quadropia skookumchucki* Jacot, 1939. *Quadropia* sp. reported by Osler et al. (2008).

Collections: ABMI (residuals) 484, 1101, BOG5, UPL7; EMEND (56.46, -118.22); Meanook, Moose Pasture.

DOC (1/2008): [+other] Distribution: **AB**, YT, NU, NT, MB, QC; [Cosmopolitan]

Images:

Ecology: Parthenogenetic (thelytokous).



Literature: Marshall et al. (1987); Weigmann (2006); Lindo & Visser (2004)

Suctobelbidae

Suctobelba Paoli, 1908

Diagnostic characters:

Also Known As:

Type species: *Notaspis trigona* Michael, 1888

World species: ~19

Comments: Schneider (2005) place members of this family in the carnivore-scavenger-omnivore feeding guild (i.e. feeding on living and dead animals and on fungi)

Canadian species listed on DOC (bold = AB): ***Suctobelba* sp.**

Suctobelba sp. 1 ZL (Lindo & Visser 2004)

Also Known As:

ABMI code: SUCBSP1

Diagnostic characters:

Overview:

Barcodes:

ID Check:

Similar taxa:

Collections: Lindo & Visser (2004)

DOC (1/2008): [+other] Distribution: **AB**, QC, NS

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975);

***Suctobelbella* Jacot, 1937**

Diagnostic characters: suctobelbid mouthparts; anterior margin of notogaster with 1-2 pairs tubercles or cristae; generally <400 and mostly <250 long

Also Known As: *Suctobelba* Paoli, 1908

Type species: *Suctobelbella serratiostrum* Jacot, 1937

World species: ~185

Comments: Members of this genus are thought to be thelytokous. They are very diverse in Alberta, but most species are minute. See also Part I for larger species.

Canadian species listed on DOC (bold = AB): *Suctobelbella acutidens* (Forsslund, 1941); *S. frothinghami* Jacot, 1937; *S. hammerae* (Krivolutsky, 1965); *S. hurshi* Jacot, 1937; *S. laxtoni* Jacot, 1937; *S. longicuspis* Jacot, 1937; ***S. nr. acutidens* (Forsslund, 1941)**; *S. palustris* (Forsslund, 1953); *S. sarekensis* (Forsslund, 1941); *S. setosoclavata* (Hammer, 1952); ***Suctobelbella* sp.**

Key to *Suctobelbella* (<0.3 mm) in Alberta

[\(return to Suctobelbidae > 0.3 mm\)](#)

- 1. 5 pairs (3+2) of genital setae 4
 - 6-7 pairs (4-5+2) of genital setae 2
- 2. Rostral margin with 4-5 teeth; sensillus strongly barbed 3
 - Rostral margin with a single large tooth; sensillus spatulate and lightly barbed
..... ***Suctobelbella* sp. B DEW**
- 3. Head of sensillus distinctly swollen, not tapering; interlamellar tubercle tuberculate
..... ***Suctobelbella* sp. C DEW**
 - Head of sensillus slender, tapering to acuminate tip and barbed along margin; interlamellar tubercle smooth..... ***Suctobelbella* sp. A DEW**
- 4. Rostral margin with strong foveolate-reticulate ornamentation between legs I and rostral teeth .
..... ***Suctobelbella* 1192R**
 - Rostral margin smooth between legs I and rostral teeth ***Suctobelbella arcana* Moritz, 1970**

***Suctobelbella* sp. A DEW**

Also Known As:

ABMI code: SUCTSPA

Diagnostic characters: 200 long; 4+2 genital setae; 8 pairs relatively short (10-15), simple notogastral setae; crista with 2 well developed tubercles; *bo* long (60) with slender (38) tapering head with strong barbs (~20) on one margin, rim of bothridium weakly tuberculate; interlamellar setae (~10) fine, interlamellar tubercle well developed and smooth posteriorly; lamellar setae (~8) simple, tubercle with anterior and posterior tooth; *ex* (~12) simple; tectopedal fields large, with a pair of weak, faintly foveolate posterior depressions and sparse, rounded teeth on margin; lateral fields weakly tuberculate; *ro* geniculate with barbed joint and long (~22) process; rostrum evenly tuberculate with 4 teeth: a distinct lateral cusp followed by 2 large and 1 small tooth; chelicerae (~68) relatively stout.

Overview:

Barcodes:

ID Check:

Similar taxa:

Collections: ABMI (residuals) 343 SE.

DOC (1/2008): [+other] Distribution:

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975)

***Suctobelbella* sp. B DEW**

Also Known As:

ABMI code: SUCTSPB

Diagnostic characters: 280 long; 5+2 genital setae; 8 pairs relatively long (33-45), simple notogastral setae; crista with well developed, tuberculate lateral tubercle and weak median tubercle; *bo* long (55), slender with weakly barbed, acuminate spatulate head (18), rim of bothridium tuberculate, weakly mitten-shaped; interlamellar setae (~10) fine, interlamellar tubercle tuberculate, well developed posteriorly; lamellar setae (~20) simple, tubercle with postero-median tooth; *ex* (~11) extremely fine; tectopedal fields elongate, merging at midpoint, with a pair of weak, faintly foveolate posterior depressions and sparse, rounded teeth on margin; lateral fields strongly tuberculate; *ro* geniculate with barbed joint and simple (~20) process; rostrum evenly tuberculate, truncate laterally at palp setal portal, without lateral cusps; with a single, large lateral tooth; chelicerae (~74) relatively stout.

Overview:

Barcodes:

ID Check:

Similar taxa:

Collections: ABMI (residuals) 1101 NE

DOC (1/2008): [+other] Distribution:

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975)

***Suctobelbella* sp. C DEW**

Also Known As:

ABMI code: SUCTSPC

Diagnostic characters: 270-290 long; 4(5)+2 genital setae; 8 pairs relatively long (30-40), simple notogastral setae; crista with both tubercles well developed; *bo* long (60), stout, with strong, subfusiform head (~30), acuminate and strongly barbed on outer face, rim of

bothridium tuberculate; interlamellar setae (~13) fine, interlamellar tubercle tuberculate, well developed posteriorly; lamellar setae (~18) simple, tubercle with antero-median tooth; *ex* (~20) simple; tectopedal fields subcircular, separated by a few large tubercles, with rounded teeth on margin and extending antero-ventrally to rim; lateral fields with large and small tubercles; *ro* geniculate with barbed joint and simple (~27) process; rostrum weakly tuberculate and with subreticulate areas posteriorly and marginally, with 5 marginal teeth: a lateral cusp followed by 2 large teeth and 2 small teeth; chelicerae (~80) relatively stout.

Overview:**Barcodes:****ID Check:****Similar taxa:**

Collections: ABMI (residuals) 330, 388, 584, 793

DOC (1/2008): [+other] Distribution:

Images: SEM (388)

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975)

***Suctobelbella* sp. 1192R DEW**

Also Known As:

ABMI code: SUCTSPS

Diagnostic characters:**Overview:****Barcodes:****ID Check:****Similar taxa:**

Collections: ABMI (residuals) 1192

DOC (1/2008): [+other] Distribution:

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975)

***Suctobelbella* nr. *acutidens* (Forsslund, 1941) (Lindo & Visser 2004)**

Also Known As:

ABMI code: SUCTACU

Diagnostic characters: length 195-220; tectopedal fields granular; sensillus with smooth, elongate club; rostrum notched, bracketed by broad, notched tooth and 2 teeth; *le* on single tubercle

Overview: most specimens probably pass through the 300 µm grid

Barcodes:

ID Check:

Similar taxa: *S. arcana* Moritz, 1970; *S. acutidens lobata* (Strenzke, 1951); *S. sarekensis* (Forsslund, 1941)

Collections: EMEND (56.46, -118.22)

DOC (1/2008): [+other] Distribution: **AB**, *S. acutiens* reported from YT, NU, NT, QC, NF; [AK, Holarctic]

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975); Lindo & Visser (2004)

***Suctobelbella arcana* Moritz, 1970

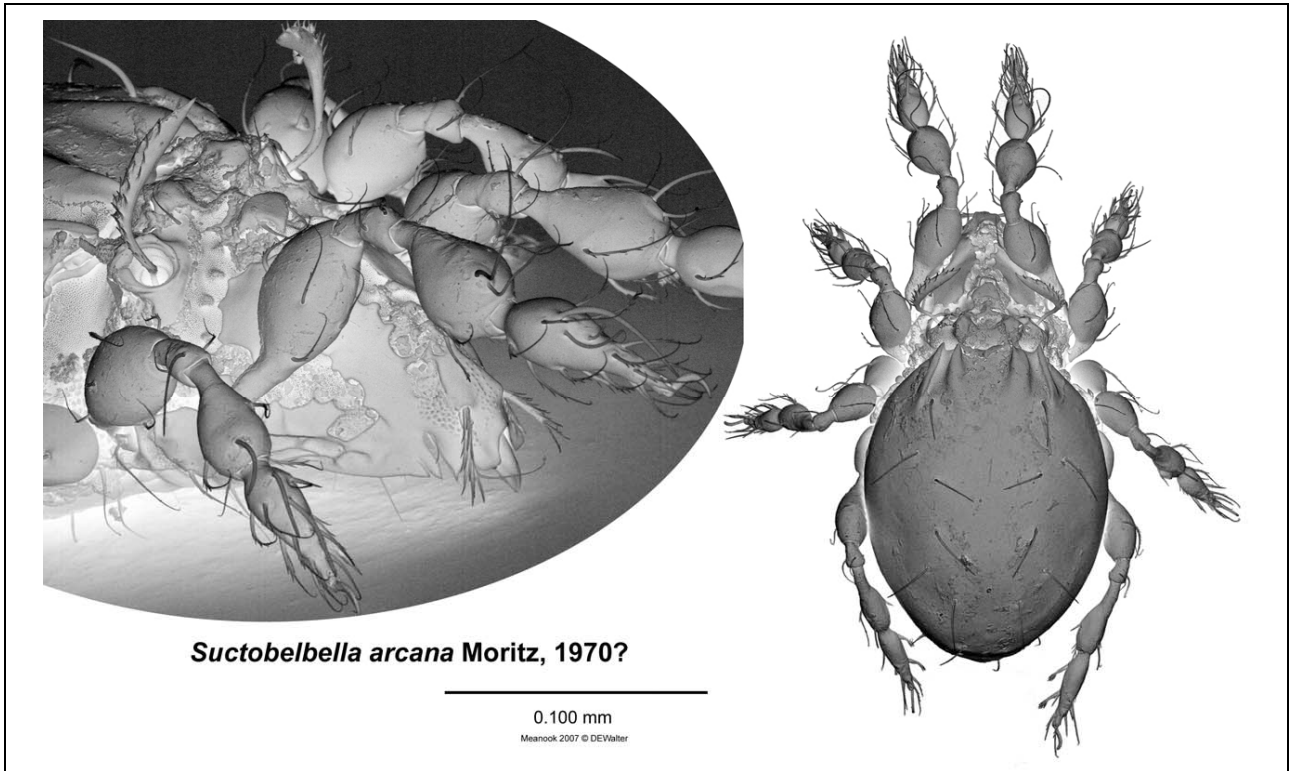
Also Known As:

ABMI code: SUCTARC

Diagnostic characters:

180-210 long; 3+2 genital setae; 8 pairs relatively long (20-30), simple notogastral setae; crista with both tubercles well developed; *bo* short (~40), stout, with strong, subfusiform head (~23), acuminate and strongly barbed on outer face, rim of bothridium weakly tuberculate and distinctly notched posterolaterally; interlamellar setae (~12) fine, interlamellar tubercle weakly tuberculate posteriorly, smooth dorsally; lamellar setae (~10) simple, tubercle smooth, with antero-median tooth; *ex* (~11) simple; tectopedal fields obtardrop shaped, separated by a few large tubercles, with coarsely toothed, gear-like margin and extending antero-ventrally to rim; lateral fields mostly smooth, with a few tubercles; *ro* geniculate with barbed joint and simple (~15) process; rostrum weakly tuberculate and with subreticulate areas posteriorly and marginally, with 3 marginal teeth: lateral cusp replaced by rounded to emarginate lobe and followed by 1 large tooth and 2 smaller teeth; chelicerae (~80) relatively stout.

length 180-225; prodorsum microtuberculate with median and lateral fields with larger tubercles surrounding smooth tectopedal fields with crenulate margins, smooth cuticle reaches rostral teeth; rostrum concave, flanked by rectangular tooth-slit-large tooth-narrow pocket-tooth, with reticulate-foveolate posterior margin; *bo* directed dorso-medially with elongate club with short bristles on outer margin; *le* short (~*in*), directed anteriorly on single tubercle with anterior point; *in* short, at base of small tubercles; notogastral margin with pair of pointed tubercles separated by concave channel, outer carina reaches to level of *c2*; notogastral setae short, smoothly acuminate, *la* longest, others not reaching insertion of next seta



Overview: most specimens probably pass through the 300 µm grid; SEM from Meanook

Barcodes:

ID Check: Determination by DEW based on Weigmann (2006).

Similar taxa: *S. acutidens* (Forsslund, 1941); *S. acutidens lobata* (Strenzke, 1951); *S. sarekensis* (Forsslund, 1941)

Collections: ABMI (residuals) 248, 277; Meanook

DOC (1/2008): [+other] Distribution: [Holarctic]

Images:

Ecology:

Literature: Weigmann (2006)

***Suctobelbella* sp. 1 ZL** (Lindo & Visser 2004)

Also Known As:

ABMI code: SUCTS1Z

Diagnostic characters:

Overview:

Barcodes:



ID Check:

Similar taxa:

Collections: EMEND (56.46, -118.22)

DOC (1/2008): [+other] Distribution:

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975); Lindo & Visser (2004)

Suctobelbella sp. 2 ZL (Lindo & Visser 2004)

Also Known As:

ABMI code: SUCTS2Z

Diagnostic characters:

Overview:

Barcodes:

ID Check:

Similar taxa:

Collections: EMEND (56.46, -118.22)

DOC (1/2008): [+other] Distribution:

Images:

Ecology:

Literature: Marshall et al. (1987); Weigmann (2006); Gilyarov & Krivolutsky (1975); Lindo & Visser (2004)

Cohort Astigmatina

Comments: The Astigmatina has traditionally been treated as its own order or suborder (Astigmata, Acaridida), but recent work indicates that it is likely a derived lineage from within the Brachyplina. House dust mites, fur mites, feather mites, cheese mites, grain mites, and the human itch mite are only some of the well known Astigmatina.

Histiostomatoidea

Histiostomatidae

***Anoetus* Dujardin, 1942**

Diagnostic characters:

Also Known As:

Type species: *Anoetus alicola* (Dujardin, 1842)

Comments:

***Anoetus* sp. 1 DEW**

Also Known As:

Diagnostic characters:**Overview:****Barcodes:****ID Check:****Similar taxa:****AB Records:** Edmonton**Images:****Ecology:****Literature:****Hemisarcoptoidea****Winterschmidtiidae**

Comments: Members of the subfamily Ensliniellinae are characterized by the loss of solenidion σ from genu III in the adults which live in the nests of Hymenoptera (Megachilidae, Sphecidae, Vespidae) and the reduction of ω -2 on tarsus I of the deutonymphs which are phoretic on the same, especially the eumenine vespids. Genera include *Kennethiella* (on *Ancistrocerus* – several AB species); *Monobiacarus* Baker & Cunliffe, 1960 (on *Monobia*, *M. quadridens* (Linnaeus, 1763) is known from ON, but is probably too southern to show up in AB); *Vespacarus* Baker & Cunliffe, 1960 (on *Parancistrocerus* – several AB species); *Ensliniella* Vitzthum, 1925 (supposedly restricted to the European *Allodynerus*), *Crabrovidia* Zachvatkin, 1941, *Sphexicozela* Mahunka, 1970, and *Vidia* Oudemans, 1905 (on Megachilidae).

Kennethiella* Cooreman, 1954*Diagnostic characters:**

Also Known As:

Type species: *Kennethiella tigris* Cooreman, 1954



Comments: Members of the subfamily Ensliniellinae are characterized by the loss of solenidion σ from genu III in the adults and the reduction of ω -2 on tarsus I of the deutonymphs. The species are phoretic on Hymenoptera (Megachilidae, sphecidae, Vespidae), especially the eumenine vespids. Genera include *Kennethiella* (on *Ancistrocerus*); *Monobiacarus* Baker & Cunliffe, 1960 (on *Monobia*, *M. quadridens* (Linnaeus, 1763)); *Vespacarus* Baker & Cunliffe, 1960 (on *Parancistrocerus*); and

Kennethiella

Also Known As:

Diagnostic characters:

Overview:

Barcodes:

ID Check:

Similar taxa:

AB Records: Edmonton

Images:

Ecology:

Literature:

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Glossary of Oribatid Terms

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- Aa – the anterior tubercle of the prodorsal enantiophysis that spans a transverse or paired groove at midlength of the prodorsum.
- abaxial - away from the axis of the body (midline), e.g. the outer or lateral face of a chelicera (also antiaxial).
- abjugal plane (furrow) - a mostly theoretical division between the podosoma and gnathosoma.
- acanthoides - eupathidia
- acetabulum - a concave cavity in the body wall where a leg or other structure is inserted; in brachypylid oribatids they may be cavities where the trochanter articulates with the coxae (which are fused to the body wall) and may contain tracheal stigmata; the genital opening and papillae of acariform mites are contained within an acetabulum; also, the concave portion of a ball and socket joint.
- acinose, aciniform - resembling a cluster of grapes.
- actinopilin - optically active component of the core of birefringent setae in acariform mites that is resistant to maceration in lactic acid. The actinopilin core is surrounded by an isotropic layer that forms the outer surface. Actinopilin may occur in true setae (typical mechanoreceptors and trichobothria) and the eupathidia and famuli which have a protoplasmic core. Solenidia do not have actinopilin. (Also actinochitin).
- Actinotrichida - the Acariformes; those mites having setae containing actinopilin. (see Anactinotrichida).
- acuminate - coming to a point.
- ad 1-3 - designations for the setae of the adanal segment in Acariformes (see Grandjean system).
- AD - adanal segment in acariform mites; added on the deutonymph, see anamorphosis. (See Grandjean system.)
- Ad – the dorsosejugal porose area
- adanal plate (or region) - sclerites or sclerotized fields laterad the anal region; usually used in oribatid mite taxonomy and bearing adanal setae.
- adanal setae - setae on the adanal plate or region in acariform mites; paranal setae in Mesostigmata
- adaxial - towards the axis of the body (midline), e.g. the inner face of a chelicera (also paraxial).
- adjacent - in reference to structures next to one another, contiguous; as opposed to separated.
- adoral - referring to setae distal on the subcapitulum of acariform mites (designations ao1, ao2)

- aff. (also affin.) - affinis (L. related to, adjacent to), used for uncertain species designations (e.g. *Cosmolaelaps aff. vacua* (Michael)), meaning 'similar to', and implying that the specimen referred to may represent a new species (see nr., sp. nr., and cf.).
- ag - a designation used for aggenital or pregenital setae in the Acariformes, e.g. ag1-3.
- aggenital (also adgenital) plate (or region) - sclerites or sclerotized fields on either side of the genital opening.
- Ah – one of the two possible humeral porose areas on the subhumeral region of the ventral plate (see Am)
- Aj – the humerosejugal porose area of the prodorsum
- Al – the sublamellar porose area of the prodorsum
- alveolus - a setal socket (also a single depression in alveolate ornamentation).
- Am – one of the two possible humeral porose areas on the subhumeral region of the ventral plate (see Ah)
- ambulacrum - the claws and empodium of the apotele or pretarsus (technically including the ambulacral stalk [confusingly sometimes also called 'pretarsus'] and apotele [empodium and claws]).
- AN - anal segment in acariform mites; added on the protonymph, see anamorphosis. (See Grandjean system.)
- anal seta - any seta on an anal valve or ascribed to the anal region; pseudanal setae ps1-3 in spider mites; true anal setae may be present in acariform mites that add segment AN.
- anal valve (shield, plate) - a shield protecting the anal opening.
- anamorphosis - the addition of body segments (and their structures) during ontogeny; in Acariformes, additions occur behind the anal opening (pseudanal segment in the larva): anal (AN) in the protonymph, adanal (AD) in the deutonymph, peranal (PA) in the tritonymph.
- anarthric - an unjointed subcapitulum without a labiogenal suture or scissure.
- annulus (pl. annuli) - a ring like structure or ornamentation.
- anogenital region - the ventral region encompassing the genital, aggenital, anal and adanal sclerites in oribatid mites.
- anteriad - to the front (do not use with the preposition 'to' since this is part of the meaning of the word), e.g. 'setae ro are usually inserted anteriad setae le'.
- anterior - the front part of the body or towards that region in comparison, e.g. 'anterior to'.
- anterolaterals (a) - a pair of ventral setae between the subunguinal seta and the primiventrals on the tarsi of acariform mites (see whorl).
- antiaxial - away from the axis of the body (midline), e.g. the outer or lateral face of a chelicera (also abaxial).
- Ap – the posterior tubercle of the prodorsal enantiophysis that spans a transverse or paired groove at midlength of the prodorsum.



apical - at the tip of a structure.

apobasic – with a covered or sheathed base

apodeme - sclerotized invagination of the cuticle, often at the margin of a plate, that serves as attachment site for muscles.

apophysis - a projection from the body wall, often bearing a seta (similar to tubercle in some uses).

apotele - (Gr apotelein = to complete) - the terminus of an appendage; the most distal leg segment, often consisting of an empodium (which is claw-like in Oribatida or rarely absent) and a pair of claws. The chelicerae are also an appendage and terminate in the movable digit.

approximate - close together, near, adjacent.

arborescent - branched like a tree, tree-like, dendritic.

area porosae (porose areas) - usually round to oval aggregations of pore-like areas of the cuticle; usually referring to the octotaxic system of the Oribatida. See also saccules.

armored mite - any mite encased in armor, but especially members of the Oribatida and Uropodoidea.

articulation - a region of differentiated cuticle joining two parts of an exoskeleton; a joint, scissure or furrow.

aspis - a sclerotized shield over the aspidosoma; the prodorsal shield when isolated separate from ventral plating, as in box mites.

aspidosoma - the anterior dorsal region of the prosoma in acariform mites.

astegasime - having the chelicerae exposed dorsally: the rostral tectum is reduced or absent (see stegasime), as in many Prostigmata, Astigmata and some early derivative oribatids.

Astigmata - an obsolescent name used for the suborder of acariform mites having no apparent stigmatal openings. Astigmatans are usually associated with (and often parasitic on) larger animals including insects and vertebrates; many species are pests in stored products. Astigmata appears to have been derived within the Oribatida and is no longer given subordinal rank (see Astigmatina).

Astigmatina - the cohort of Sarcoptiformes containing astigmatic mites; a group of oribatid mites without bothridial sensillae [sic], usually soft-bodied, and often producing a heteromorphic deutonymph (hypopus). (See Astigmata.)

atelebasic rutellum - large rutellum with the apex expanded, toothed, and with a paraxial lobe as in Desmonomata and some Brachypylina.

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bacilliform – rod-shaped, shaped like a bacillus

basad - towards the base of a structure.

basal - towards the base of a structure; on a limb, towards the insertion on the body.

- basal article - the most basal of the maximum of three segments of the chelicera; usually absent or obscure in Acariformes.
- base - the usually columnar basal part of the tritosternum; sometimes expanded and rectangular or otherwise modified; the most basal part of any structure.
- basifemur - a basal subdivision of the femur of the leg or palp.
- bayonet-like - resembling a long, sharp blade used for stabbing, as in some corniculi; sword-like.
- bicuspid - having two points or cusps, e.g. the gnathotectum of some Mesostigmata.
- biflagellate - with two whip-like processes as in many mesostigmatan tritosterna.
- bifurcate - split into two distally or with two projections.
- bipectinate - a seta or other process having comb-like teeth on two sides (see pectinate).
- birefringent – glowing under polarized light, e.g. the plate-like cerotegument of Malaconothridae.
- biserrate - with saw-like teeth on two sides (see serrate).
- bivalved - with two longitudinal plates or valve-like coverings.
- bo* – the seta that emerges from the bothridium; the sensillus, bothridial sensillum, pseudostigmatic organ; also *ss*
- body - the idiosoma of mites.
- body divisions - apparent subdivisions of the idiosoma in Acariformes.
- bothridial sensillum (= sensillus) - an often elaborately modified seta set in a cup-like base; forms include filiform, ciliate, pectinate or variously thickened or clubbed (bat-like to globose to capitate); *bo*, *ss*.
- bothridial seta - prodorsal seta *bo* in Oribatida; the sensillus, bothridial sensillum or trichome.
- bothridium - the cup-like structure from which the sensillus originates.
- box mites - oribatid mites that exhibit ptychoidy, the ability to withdraw their limbs and close-up like a box.
- brachypyline - having separate genital and anal plates surrounded by a large ventral plate (composed of aggenital and adanal elements); usage usually restricted to traditional oribatid mites (see macropyline).
- brachytracheae - thick, relatively short porose tube-like invaginations in the cuticle of some oribatid mites.
- bruststiele - see Claparède's organ, urstigma

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- c* - a designation used for setae on segment C in the Acariformes, e.g. *c1-4*. (See Grandjean system.)
- C - a designation used for the anterior region (apparent segment) of the hysterosoma in Acariformes. (See Grandjean system.)

- camerostome - a recess under the rostral tectum that allows retraction of the chelicerae and palps of oribatid mites and that is sealed by the subcapitulum when retracted; a deep recess containing the gnathosoma in Uropodina.
- capitate - with a terminal knob or head-like swelling; clavate; globose.
- capitulum (pl. capitula) (= gnathosoma) - the anteriormost part of a mite, composed of the cheliceral and pedipalpal segments and separated from the body (idiosoma) by a ring of soft cuticle. Sometimes called the rostrum, infracapitulum, or hypostome.
- carina - a longitudinal ridge.
- caudal bend - the posteroventral curvature of the opisthosoma that results in the anal opening being ventral in most mites. Opilioacarida have a terminal anus (the presumed primitive condition) and others have secondarily terminal or even dorsal anal openings.
- caudally - in reference to the rear end.
- cepheid - a member of the brachypyline oribatid family Cepheidae, the nymphs of which often carry elaborate scalps.
- cement layer - the outermost layer of the cerotegument; often produced in an ornamental pattern.
- cerotegument - the outer layers of the epicuticle, including the wax and cement layers; often thin and inconspicuous, but sometimes very thick, ornamented, and obscuring the underlying cuticle; thick ceroteguments often can be peeled off to expose a very different-looking mite.
- cf. - confer (L. conferre - refer or compare to) used for uncertain species designations (e.g. *Cosmolaelaps* cf. *vacua* (Michael)), roughly meaning 'see or compare to', and implying that the specimen referred to may represent a new species or may simply be an unusual form of the attributed species (see nr., sp. nr., and aff.).
- chaetome - a complement of setae; the setal array present on a stage or body part.
- chaetotaxy - the use of setal position and form in taxonomy; see Lindquist-Evans system, Grandjean system, Rostral-lamellar system, etc.
- chambered - a structure with discrete compartments.
- chelate - pincer-like, as in a crab's claws, a scorpion's pedipalps or many chelicerae; in water mites (Hydrachnida), chelate palps have a dorsal palptibial process opposed to a ventral movable palptarsus (opposed to uncate).
- chelate-dentate - pincer-like chelicerae with teeth.
- chelicera - a limb on the presumed first body segment in chelicerate arthropods, the primary mouthparts. In mites the chelicerae are primitively chelate-dentate, but may be modified into almost unrecognizable forms. In Acariformes, the chelicerae are usually 2-segmented, but may have three segments.
- cheliceral - of or pertaining to the chelicera.
- cheliceral seta - any seta on the chelicera of a mite.
- chelicerate - a member of the arthropod lineage Chelicerata that includes the horseshoe crabs, scorpions, spiders, mites and their relatives.

circumcapitular furrow - the flexible articulation joining the capitulum (gnathosoma) to the body (idiosoma).

circumgastric scissure (furrow) - the flexible articulation that joins the notogaster to the ventral plate in brachypyline oribatid mites.

circummarginal furrow – U-shaped depression near the margin of the notogaster

Claparède's organ - an osmoregulatory organ located between legs I-II in the prelarvae and larvae of many acariform mites; s (= urstigma, also urpores, bruststiele). The serially homologous genital papillae are present in nymphs and adults whose larvae have Claparède's organ (Oudemans' Rule). Tydeid mites may retain the urstigmata beyond the larval stage. [Back to Top]

claw-like - having a distal hook; resembling a claw.

clavate - with a terminal knob or swelling; club-shaped; globose; capitate.

coalesced - united, grown together, as for example, the genital and anal regions when not separated by a band of cuticle.

cohort - a taxon of mites between the subordinal and superfamily levels.

collar traechae - obsolescent term used for the peritremes in spider mites and their relatives.

colliculate - having a pattern resembling fish scales.

companion seta - a seta closely associated with a solenidion, sometimes sharing the same insertion.

condylophore - (Gr kondylos = knuckle + phor = to carry) - in Acariformes, a pair of internal sclerotized structures involved in the articulation of the empodial and lateral claws.

costula - a longitudinal ridge or set of ridges on the prodorsum of some oribatid mites, similar to lamellae but without a projecting edge or cusp.

coxa - the basal segment of the leg, articulating with (Parasitiformes) or fused to (Acariformes) the body wall.

coxal fields - the venter of acariform mites where the coxae have fused to the body wall covering the sternal region.

coxisternal plate - a sclerotized plate in the coxisternal region.

coxisternal seta - a seta in or between the coxisternal plates and numbered from coxa I-IV e.g. 1a-c, 2a-c, 3a-c, 4a-c

coxisternum - floor of the podosoma that serves to support the legs, composed of the fused coxae (epimere I-IV).

crista - a complex of a tubercle and a crest-like ridge on the notogaster, especially the pair of such on some oppioid oribatid mites.

Cryptostigmata - (Gr kryptos = hidden) an obsolete term for the Oribatida.

cuneate - ending in a wedge-shaped process.

cuneiform - wedged-shaped, as in ancient writing systems that used wedge-shaped characters.

cuticular lobes - the pattern of minute, raised processes that ornament the plicate ridges in the cuticles of many mites.

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d - a designation used for setae on segment D in the Acariformes, e.g. d1-2. (See Grandjean system.)

D - a designation used for the second region (apparent segment) of the hysterosoma in Acariformes. (See Grandjean system.)

deficient - in relation to setae, reduced from a presumed holotrichous number.

dendritic - branching like a tree or bush, aborescent. [\[Back to Top\]](#)

denticles - small tooth-like processes, e.g. on the subcapitula of ticks and many mesostigmatans.

denticulate - bearing small, sharp processes, e.g. the hypostome of ticks.

deutonymph (also deuteronymph) - the second nymphal stage or instar.

deutosternum - the sternum of the second body segment (pedipalps); the basis capitulum in parasitiform mites.

DEW – David Evans Walter

diarthric - a subcapitulum with a more or less transverse articulation that reaches the lateral margin at the base of the palp.

dichoid - a body appearing to be divided between legs II-III by a flexible sejugal furrow (Acariformes).

dichoidy - having the body articulated between legs II-III by a flexible sejugal (protero-hysterosomatic) furrow (Acariformes). (See also trichoidy, ptychoidy, holoidy). [\[Back to Top\]](#)

digitus fixus - see fixed digit.

disjugal plane (furrow) - the plane separating the ancestral prosoma and opisthosoma, usually not clearly present in mites and often confounded with the sejugal furrow.

distad - towards the free end of an appendage; the part of a leg or palp segment farthest from the body.

distal - towards the free end of an appendage.

DKK – Derrick K. Kanashiro

dorsal - relating to the upper or back side; opposed to ventral.

dorsal seta - any seta on the dorsum.

dorsophragmata – the more median of the two pairs of apodemes on which the cheliceral muscles insert in the Brachypylina; sometimes partly or completely fused

dorso-sejugal suture (dorsosejugal groove) - a suture marking the fusion of the prodorsum and notogaster; the anterior portion of the circumgastric scissure. NB - this term is often misapplied to a flexible juncture or furrow.

dorsum - the upper or back side; opposed to venter.

duplex setae - a pair of setae or a seta and a solenidion sharing the same insertion.

E [\[Back to Top\]](#)

e - a designation used for setae on segment E in the Acariformes, e.g. e1-2. (See Grandjean system.)

E - a designation used for the third region (apparent segment) of the hysterosoma in Acariformes. (See Grandjean system.)

edentate - with out teeth; usually referring to chelicerae.

elattostase (adj. elattostatic) - one of the abnormal stases recognized by Grandjean where the mouthparts are not functional but the legs are, e.g. prelarvae of some Anystina and Nanorchestidae; the deutonymph in Astigmata.

elbowed - bent as in the arm at the elbow; geniculate.

Eleutherengonides (also Eleutherengonida, Eleutherengonina) - a taxon in the Prostigmata comprised of the Raphignathina and the Heterostigmata. The Eleutherengonides includes many of the most important plant-parasitic mites (e.g. spider mites, broad mite, cyclamen mite).

emergent - rising above, projecting.

empodium (empodia) - an unpaired structure arising between the tarsal claws.

enantiophysis – two tubercular processes opposed to each other across a furrow or articulation. See prodorsal enantiophysis (Aa, Ap), lateral enantiophysis (La, Lp), and humeral enantiophysis.

entire - a shield or sclerite with a continuous margin without incisions.

ep - the epicoxal of the palpcoxa in acariform mites.

ep1 - the epicoxal seta of coxa I in acariform mites.

epicoxal seta - a minute, usually peg-like seta on the dorsal face of the palpcoxa (*ep*) or coxae of legs I (*ep1*) in some acariform mites.

epimera (also epimeron) – see epimere

epimere (pl. epimeres) - in oribatid mites, a sclerotized coxal field where one of the pairs of coxae have fused to the body wall.

epimorphic - possessing the definitive number of segments on hatching. Opposed to anamorphic.

ε (epsilon) - designation for the famulus on the tarsi of some acariform mites.

eugenital setae - setae originating within the genital vestibule (Acariformes).

eupathidia - see eupathidion

eupathidion (pl. eupathidia) - an optically active but hollow seta with a pore at its tip and found on the palptarsus or leg I-II (rarely III) tarsus of many acariform mites; designation = zeta (ζ). (Also acanthoides, pseudacanthoides). Eupathidia have been hypothesized to be mechanoreceptors, but in spider mites (Tetranychidae) the palptarsal eupathidium functions are the spinneret.

eupathidium - commonly used formation for eupathidion.

euryxenic (-ous) - using a broad range (e.g. of habitats or hosts); a host or habitat (etc.) generalist.

ex, *ex1-2* – the exobothridial setae of the prodorsum

exa, *exp* – the anterior and posterior exobothridial setae of the prodorsum

excrescence - (1) a brush-like, dendritic or otherwise elaborated processes.

exuviae (pl. exuviae) - the outer layer of skin not recycled during a molt; empty exuviae are a sign of previous mite development on a substrate; some oribatid mites retain the dorsal notogastral portion of exuviae as a pagoda-like pile of scalps. (NB: the use of 'exuvia' as a singular makes no more sense than 'cloth' for 'clothes'.)

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f - a designation used for setae on segment F in the Acariformes, e.g. *f1-2*. (See Grandjean system.)

F - a designation used for the fourth region (apparent segment) of the hysterosoma in Acariformes. (See Grandjean system.)

falcate - curved and more or less sickle-shaped.

famulus - a hollow and optically active seta-like structure located near the base of the dorsum of tarsus I or II in acariform mites, often recessed; designation = ϵ (epsilon).

fastigals (*ft*) - the most basal pair of dorsal tarsal setae on the tarsi of acariform mites (see whorl).

femur (pl. femora) - major leg segment between trochanter and genu; often subdivided into a basifemur and a telofemur.

filiform - thread-like; long and narrow.

fissure - a narrow slit of soft cuticle or line of juncture in a sclerotized shield or leg segment.

fixed digit - the distal extension of the middle article of the chelicera; usually bearing teeth and a distal hook and opposed to the movable digit in chelate-dentate forms, but often regressed; in Mesostigmata the fixed digit may bear the pilus dentilis.

foliose - leaf-like; usually describing flattened, oval to rectangular setae with or without other ornamentation.

fossa (pl. fossae) - a pit or recessed area in the integument (also see pedofossa).

fova pedales (pl. = foveae pedales) - a pedofossa, a pit in the cuticle into which the legs can be withdrawn in some Mesostigmata, especially Uropodidae.

fovea (pl. foveae) – a pit in the cuticle, usually relatively large.

foveate - ornamented with large circular depressions.

foveolate - ornamented with small circular depressions; approaching punctate.

fragmented - broken up, composed of several discrete parts rather than of a single unit.

ft - designation for the fastigials, the most basal pair of dorsal tarsal setae on the tarsi of acariform mites (see whorl).

fundamental (as in fundamental chaetome) - a seta or other structure present in the larval stage.

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g - a designation used for genital setae, e.g. g1.

gaster - the idiosomal venter.

gena – the part of the subcapitulum anterior to the mentum and that bears the rutella

genal notch – a notch in the lateral corner of the rostrum

genal tooth – a tooth-like region of the rostrum produced by the genal notch

geniculate - with an elbow- or knee-like bend.

genital acetabulum (pl. acetabula) - an invagination containing the genitalia.

genital aperture - the genital opening or acetabulum.

genital disc - see genital papillae.

genital papillae - 1-3 pairs of extrusible finger-like to button-like projections, usually retracted into in the genital vestibule of acariform mites; sometimes formed as sessile disks around the genital opening; thought to be osmoregulatory structures; modified or multiplied and dispersed over the body in many freshwater mites. Genital papillae are absent in the larva, but may be added ontogenetically: protonymphs have one pair, deutonymphs two pairs, and tritonymphs (and adults) three pairs. The tritonymphal pair of papillae is often lost. The serially homologous Claparède's organ is usually present in the larvae (and prelarvae) of mites exhibiting genital papillae in nymphs and adults (Oudemans's Rule).

genital seta - a seta on a genital shield or valve.

genital shield - a shield or shields covering the genital opening [[Back to Top](#)]

genital valves - sclerites covering the genital opening; usually referring to small sclerites (larger ones are usually called 'shields' or 'plates').

genital vestibule - the ventral chamber containing the genital papillae and genital opening and closed by a pair of genital valves.

genu (pl. genua) (= patella) - the 4th leg segment, between the femur and tibia.

gestalt - the overall form or concept; the whole animal, habitus; usually used to describe how one knows the identity of a mite even if they can't specify the diagnostic characters (German = ge'-shtailt).

gland - usually referring to a glandular opening in the cuticle such as the lateral opisthonotal glands in the Sarcoptiformes, hypertrophied openings that produce defensive secretions.

globose - spherical.

gnathosoma (= capitulum) - - the anteriormost part of a mite or ricinuleid, composed of the cheliceral and pedipalpal segments and separated from the body (idiosoma) by a ring of soft cuticle.



Gr - abbreviation used for 'Greek' in this Glossary.

Grandjean chaetotaxy systems - systems for the designation of setae in the Acariformes. In the holotrichous condition there are 16 pairs of hysterosoma setae assigned designations based on their hypothesized segments (anterior to posterior: C, D, E, F, H, PS [pseudanal], AD [adanal], AN [anal] and PA [peranal]; 'G' is not used to avoid confusion with the genital segment, which is treated separately). Setae are designated from the midline to the sides from 1-x, e.g. *c1*, *c2*, *c3*, *c4* (also *cp*). When one or more of the setae were absent and homologies for some of the dorsa and lateral setae were ambiguous, Grandjean devised two alternative systems of chaetotaxy: the unideficient (maximum of 15 pairs setae) and the multideficient (10 pairs of setae or less) systems. In current usage, the multideficient system is discouraged. Below is one hypothesis about the unideficient system (modified from Weigmann 2006).

Holotrichous (16 pairs)	'Unideficient' (≤15 pairs)	Multideficient (≤10 pairs)
<i>c1</i>	<i>c1</i>	
<i>c2</i>	<i>c2</i>	<i>ta (c)</i>
<i>c3</i>	<i>c3</i>	
<i>cp (c4, d3)</i>	<i>la</i>	<i>te</i>
<i>d1</i>	<i>da</i>	
<i>d2</i>	<i>dm</i>	
<i>e1</i>	<i>dp</i>	
<i>e2</i>	<i>lm</i>	<i>ti</i>
<i>f1</i>	-	
<i>f2</i>	<i>lp</i>	<i>ms</i>
<i>h1</i>	<i>h1</i>	<i>r1</i>
<i>h2</i>	<i>h2</i>	<i>r2</i>
<i>h3</i>	<i>h3</i>	<i>r3</i>
<i>p1 (ps1)</i>	<i>p1 (ps1)</i>	<i>p1</i>
<i>p2 (ps2)</i>	<i>p2 (ps2)</i>	<i>p2</i>
<i>p3 (ps1)</i>	<i>p3 (ps1)</i>	<i>p3</i>

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h - a designation used for setae on segment H in the Acariformes, e.g. *h1-3* (see Grandjean system).

H - a designation used for the fifth region (apparent segment) of the hysterosoma in Acariformes. (NB - H comes after F and before PS, 'G' is not used to avoid confusion with the genital region). (See Grandjean system.)

habitus - a view of the entire animal.

hair - usually referring to a seta; considered an imprecise and misleading term for seta.

hemispherical - roughly half a sphere; used to describe the habitus of some mites.

heterodactyly - having claws of different size or form.

heteromorphic - having different morphological forms.

hexapod - with three pairs of legs (i.e. 6 legs), as in the larvae of mites or the larviform stages of others.

holoid - lacking flexible cuticle between legs II-III.

holotrichous - adjectival form of holotrichy.

holotrichy - having the complete complement of setae thought to have been present in the ancestor of a group (Gr holos = entire + trich = hair); opposed to neotrichy (new hairs) or hypertichy (too many hairs).

horn - any horn-like process.

humeral enantiophysis – tubercles on the bothridial wall and the humeral region of the notogaster that span the sejugal furrow

humeral process (projection) - any fixed projection in the humeral region; sometimes confused with pteromorphs in oribatid mites.

humeral seta - a seta in the humeral ('shoulder') region, often projecting at a more or less right angle to the body; usually seta r3 (rarely r4) in Mesostigmata and H or c3 (rarely c4 = cp) in Acariformes.

hyaline - transparent, membranous, e.g. a hyaline sheath.

hyperphoresy - a phoretic mite transported on another phoretic organism.

hypertrichous - having more than the number of setae normally found in a group (Gr hyper = above + trich = hair); a more neutral term than neotrichy, which implies that the additional hairs have been added during the evolution of the group. (see also hypotrichous, holotrichous).

hypertrichy - the condition of being hypertrichous.

hypotrichous - having fewer than the number of setae normally found in a group (Gr hypo = below + trich = hair), e.g. phytoseiid mites (Mesostigmata) have 20 or fewer pairs of dorsal setae. (see also hypertrichous, holotrichous).

hysterosoma - idiosoma behind the sejugal furrow (plane) between legs II-III; opposed to the proterosoma.

hysterosomal (hysterosomatic) - adjectival form of hysterosoma. [[Back to Top](#)]

hysterosomatic (hysterosomal) - adjectival form of hysterosoma.

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ia - designation for the anteriormost pair of cupules in acariform mites; typically lateral and associated with the border of segments C-D.

iad - designation for the posteriormost pair of cupules in acariform mites; typically ventral and associated with segment AD.

idionotal - on the dorsum of the body (idiosoma).

idionymic - structures or stages that differ in discontinuous surface characters.

idiosoma - (Gr idios = distinct + soma = body) the main body tagma of mites, containing the opisthosoma and part of the prosoma.

idiosomal (idiosomatic) - adjectival form of idiosoma.

idiosomatic (idiosomal) - adjectival form of idiosoma.

ih - designation for a pair of cupules in acariform mites; typically lateral and associated with segment H.

im - designation for second anteriormost pair of cupules in acariform mites; typically lateral and associated with segment E.

in – the interlamellar seta

incised - cut into, e.g. a dorsal shield composed of podonotal and opisthonotal shields fused medially but free laterally.

infracapitulum - the capitulum or gnathosoma (sometimes used to indicate only the subcapitulum).

infundibulum - a depression in the cuticle associated with the opening of a gland.

instar - (L = form) - an immature mite or other arthropod between molts (or from apolysis to apolysis for some authors), or between egg hatching and the first molt. Mites mostly have determinate growth and do not molt after reaching the adult stage; therefore, the adult is not considered an instar.

ip - designation for a pair of cupules in acariform mites; typically lateral and associated with segment F.

ips - designation for the penultimate pair of cupules in acariform mites; typically lateral and associated with segment PS.

iterals (it) - a pair of dorsal tarsal setae between the prorals and the tectals on the tarsi of acariform mites (see whorl).

intercoxal - between the coxae. In Oribatida, no sternal region is present and the coxae of the legs are fused to the venter and usually meet medially; genital openings are postcoxal.

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L - abbreviation used for 'Latin' in this Glossary

La – anterior lateral enantiophysis

la – anterior lateral notogastral seta in unidificient system

labiogenal articulation - a flexible juncture on the venter of the subcapitulum that allows the paired anterior sections (genae) to articulate with the base (mentum); see anarthric, stenarthric, diarthric.

labium - the sternal plate of the third body segment (tritosternum); the term is not generally used in acarology (see mentum).

labrum - an unpaired membranous and denticulate process thought to be an extension of the dorsal pharyngeal wall that lies above and between the chelicerae.

lamella (pl. lamellae) - a longitudinal projection on the prodorsum of many oribatid mites that protects legs I when they are retracted; lamellae usually arise near the base of the bothridia and terminate with a projecting lamellar seta (often on a free cusp). Lamellae may be connected by a translamella.

lamellar cusp - the projecting anterior portion of some lamellae.

lanceolate - shaped like the head of a lance; suboval and coming to a point at one end.

larva - the second instar in acariform mites having a complete ontogenetic sequence, but the first instar in mites lacking a prelarva; hexapod (unless adults have less than 6 legs, as in Eriophyoidea) and usually active; may be feeding or non-feeding.

laterad - to the side (do not use with the preposition 'to' since this is part of the meaning of the word) (L *latus* = side + *ad* = toward. [Back to Top])

lateral - referring to the side or away from the midline.

lateral enantiophysis (La, Lp) – tubercles that span the sejugal furrow laterally

lateral opisthonotal (opisthosomatic) glands (also lateral abdominal glands, oil glands) - in Sarcoptiformes, a pair of glands with large openings (solenostomes) on the opisthosoma that are often surrounded by a purple, red, brownish or yellow color if the cuticle is lightly sclerotized.

le – the lamellar seta

lenticulus (pl. lenticuli) - an unpaired light receptive structure (often with a lens) at the median anterior margin of the notogaster of some oribatid mites.

linea (pl. lineae) - a line, a line-like ornamentation on a shield, usually caused by a ridge.

lm (= *e2*?) – middle lateral notogastral seta in the unidificient system

Lp – posterior lateral enantiophysis

lp (= *f2*?) – posterior lateral notogastral seta in unidificient system

lyrifissure - a cuticular proprioceptor (deformation sensing) structure; under light microscopy these structures may look like slits or compressed-T's in hardened cuticle, or a round pit (cupule) in soft cuticle.

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macropyline - having separate adgenital and aggenital (adanal) plates and genital and anal shields such that most of the post-coxal venter is occupied by the two paired series of shields; usage usually reserved to traditional oribatid mites (see brachypyline).

median - the midline of the body or towards the midline a comparison, e.g. 'the j-series is median to the z-series'.

mental tectum - a projection of the mentum on some oribatid mites with diarthric subcapitula.

mentum (pl. menta) - the basal section of the subcapitulum in oribatid mites with a labiogenal articulation; probably homologous with the labium of other arachnids.

microarthropod - a minute arthropod, typically used to refer to soil-inhabiting arthropods with bodies under some arbitrary length (e.g. 1 cm, 5 mm, or 0.3 mm). [Back to Top]

microtrichia (pl. microtrichiae) - small hair- or tooth-like processes.

microtubercle - a minute tubercle or tooth-like process.

middle article - the middle of the maximum of three segments of the chelicera; often the basal segment in Acariformes.

midline - a hypothetical line running down the middle of a bilateral animal.

monobasic (=monotypic) - a taxon based on a single representative, e.g. a genus with only one known species.

monotypic (=monobasic) - a taxon based on a single representative or type, e.g. a genus with only one known species.

movable digit - the most distal article of the chelicera, the cheliceral apotele; usually bearing teeth and a distal hook and opposed to the fixed digit in chelate-dentate forms, but when the fixed digit is regressed, the movable digit may be saw-like, knife-like or needle-like to stylet-like.

ms (= *lp*, *f2*?) – the median notogastral seta in the multideficient system

mucro - a small spine or spur; in Mesostigmata, a spine-like process on the venter of the movable digit, e.g. in Proctolaelaps.

mucronate - coming to a point, with a distal mucro or spine.

multideficient system – see Grandjean chaetotaxy systems

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NA – the anterior notogastral plate in Enarthronotina

naso - a unpaired, nose-like protrusion of the idiosomal in the rostral region that projects over the chelicerae in early derivative Acariformes and may bear a pair of setae (ro) dorsally and some times a median eye(s) ventrally; possibly homologous to the rostral tectum.

neck (neck-like) - a narrow constricted region joining the capitulum to the idiosoma.

neotrichous - having setae not present in the ancestral condition, 'new setae'; often a highly subjective assessment.

NM – the median notogastral plate in Enarthronotina with 2 scissures

notch - a subrectangular to v-shape incision or similar form on the margin of a sclerite.

notogaster - the dorsal hysterosoma, or in a more specific sense, the shield covering the dorso-lateral aspects of the hysterosoma in many oribatid mites.

notogastral - referring to the notogaster. [Back to Top]

notum - the dorsal idiosoma.

nr. - near, for uncertain species designations (e.g. *Cosmolaelaps nr vacua* (Michael)), meaning 'similar to', and implying that the specimen referred to may represent a new species (see cf., sp. nr., and aff.).

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ocellus (pl. ocelli) - a simple eye.

octotaxic system - the set of four pairs of porose or sacculate dermal glands on the notogaster of pronotic brachypyline oribatid mites.

oil glands - usually referring to the lateral opisthotal glands of sarcoptiform mites. These often have large openings (solenostomes) surrounded by a purple, red, brownish or yellow color if the cuticle is lightly sclerotized.

ω (omega) - designation for solenidia on the tarsus of acariform mites (ϕ (phi) on the tibia, and ζ (sigma) on the genu, theta (θ) on the femur).

opisthotal - dorsal opisthosoma.

opisthototal glands - see oil glands

opisthotal shield - the posterior shield in mesostigmatans with divided dorsal shields.

opisthosoma (= abdomen) - the posterior body division in arachnids; usually not distinct in mites because of the fusion of the opisthosoma with part of the prosoma to form the idiosoma.

opisthosomal (opisthosomatic) - adjectival form of opisthosoma.

opisthosomal glands - see oil glands. [Back to Top]

opisthosomatic (opisthosomal) - adjectival form of opisthosoma.

oribatid (+ mite) - a member of the sarcoptiform suborder Oribatida (=Cryptostigmata, Oribatei); some academics consider the use of 'oribatid' as a noun to be low class, but others consider that attitude pedantic.

Oribatei - an obsolete name for the paraphyletic concept of Oribatida.

Oribatida - (origin obscure, but possibly from the Greek mountain [oreo] and I tread [bat]) in a monophyletic sense, the suborder of Sarcoptiformes that includes the traditional oribatid mites and the cohort Astigmatina; more commonly used in a paraphyletic sense that excludes the Astigmatina. See also Cryptostigmata.

oviparity - laying eggs.

ovipositor - an extrusible organ for laying eggs. Female oribatids have a well developed ovipositor that ends in three finger-like projections. Ovipositors are less well developed or absent in other mites.

ovoviviparity - laying eggs in an advanced state of development such that hatching occurs soon after laying or within the mother's body (see also viviparity).

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p - a proral seta (see whorl).

p1-3 – the setae of the pseudanal segment; also *ps1-3*

pa - designation for setae on the peranal segment in acariform mites (see Grandjean system) or for the paranal setae in Mesostigmata.

PA - peranal segment in acariform mites; added on the tritonymph, see anamorphosis. (See Grandjean system.)

palp (= pedipalp) - the second pair of limbs in arachnids, used in feeding and originating on either side of the chelicerae. In mites, the palps may be vestigial, with only a few segments, or have a maximum of 5 freely articulating segments (rarely the femur is subdivided) and a distal or subdistal apotele.

pantelebasic rutellum - large rutellum with the apex toothed and meeting medially as in many Brachypylina.

parabolic ventral suture - the converging ventral suture characteristic of adults of species of Eulohmannia (Oribatida).

paraxial - against the axis of the body (also adaxial), e.g. the inner face of the chelicera.

PD – the prodorsum

pectinate - a seta or other process having comb-like teeth on one side (see bipectinate).

pedipalp (= palp, which see) - the second pair of limbs in arachnids.

pedofossa (pl. pedofossae) (= fossae pedales, foveae pedales) - recesses into which the legs can be withdrawn.

pedotectum (pl. pedotecta) - a scale-like tectum arising around the insertion of legs I or II in some armored oribatid mites that covers the insertion of the leg and sometimes forms a protected space into which the legs can be withdrawn; not to be confused with the pedofossae. (Also tectopedium).

penicillate - resembling a brush or a bundle of long, slender processes.

peritreme - a modification of the surface that connects to a stigmatal opening.

peritrematal (peritrematic) - of or referring to the peritreme; adjectival form of peritreme.

peritrematic (peritrematal) - of or referring to the peritreme; adjectival form of peritreme.

pharate - a mite or other arthropod between apolysis and ecdysis; the fully formed instar before it breaks through the previous cuticle.

φ (phi) - designation for solenidion the tibia of acariform mites, ω (omega) on the tarsus; σ (sigma) on the genu, θ (theta) on the femur).

phoresy - a type of migration where mites board larger animals (usually insects or other arthropods) and cease or otherwise alter normal behaviors (e.g. feeding, reproduction,

movement) until some cue elicits the departure from the animal and the resumption of normal behavior. Phoresy usually results in the dispersal of populations, but may result in reaggregation, especially for mites using highly specialized habitats (e.g. pitcher plants and other phytotelmata).

pilose - with a covering of hairs or hair-like processes.

plastron-like – cuticular modifications that serve as an incompressible plastron from mites living in wet habitats. [Back to Top]

platytracheae – large, flat lamelliform and porose pouch-like invaginations in the cuticle of some oribatid mites.

pleurophragmata – the more lateral of the two pairs of apodemes on which the cheliceral muscles insert in the Brachypylna

plicate - with a pattern of raised, narrowly aligned ridges like a fingerprint; used to describe the soft cuticle of many mites.

plications - the fingerprint-like pattern of raised ridges that often ornaments the soft cuticle of mites.

podocephalic canals - a pair of gutters to tubular ducts on the anterior margin of acariform mites, typically running from between the chelicerae posteriorly above the insertion of the legs; often confused with tracheae.

podomere - one of the segments of a leg or palp.

podo-opisthosomatic articulation - the well developed postpedal furrow in some oribatid mites (e.g. *Elliptochthonius*). (See *trichoidy*.)

podosoma - region of the idiosoma bearing the legs (body segments III-VI); according to currently accepted theory, in acariform mites the dorsal portion of this division has regressed and only the leg bases are included.

pore - a pore-like opening or structure in the cuticle.

postcoxal - posterior to the coxae.

posteriad - to the rear (do not use with the preposition 'to' since this is part of the meaning of the word), e.g. 'setae le are usually inserted posteriad setae ro'.

posterior - the back part of the body or towards that region in comparison, e.g. 'posterior to'.

postpedal furrow (constriction, suture) - a constriction or articulation of the idiosoma behind legs IV. (See *podo-opisthosomatic articulation*).

prelarva (also deutovum, prolarva) - the first instar in acariform mites having a complete ontogenetic sequence, often retained within the egg shell or just extruding from it, and usually inactive; hexapod or apodous.

pregenital - in front of (anterior to) the genital opening.

primilaterals (pv) - the most basal pair of ventral (ventrolateral) setae on the tarsi of acariform mites (see *whorl*). On the ventral tarsus behind the unguinals is the seta (s), followed by the anterolaterals (a), primiventrals (pv), and primilaterals (pl).

- primiventrals (pv) - a pair of ventral setae between the anterolaterals and the primilaterals on the tarsi of acariform mites (see whorl).
- procurved - a curved suture or line of dehiscence that arches anteriorly; opposed to recurved.
- prodorsal enantiophysis - (Aa, Ap) spans a transverse or paired groove at midlength of the prodorsum.
- prodorsal setae - the setae on the prodorsum of acariform mites.
- prodorsal shield - a shield on the anterior dorsal surface of acariform mites.
- prodorsum - the dorsal surface of the propodosoma.
- progenital valves - the genital valves in acariform mites.
- prolamellar - a narrow ridge running from the anterior terminus of the lamella towards the margin of the rostrum
- prorals (p) - the most distal pair (at base of ambulacrum) of dorsal setae on the tarsus of acariform mites (see whorl).
- propodosoma - a subdivision of the podosoma bearing legs I-II.
- prosoma (= cephalothorax) - the anterior body region in arachnids; usually not distinct in mites.
- proterosoma - the body anterior to the sejugal plane (suture); complementary to the hysterosoma and only used in Acariformes.
- protero-hysterosomatic articulation (furrow) - a flexible juncture between legs II-III in some acariform mites. (See dichoidy, trichoidy).
- protonymph - the first nymphal stage or instar, usually octopod.
- proximad - towards the base of a structure. [Back to Top]
- proximal - towards the base of a structure; on a limb, towards the insertion on the body; sometimes also = approximate.
- ps* - designation used for the setae in the PS region, e.g. *ps*1-2. (See Grandjean system); *pI*-3 is now preferred.
- PS - pseudanal segment in acariform mites; 'anal' segment in the larva, see anamorphosis. (See Grandjean system.)
- pseudacanthoides – eupathidia.
- pseudanal - referring to the setae or other structures on segment PS in acariform mites.
- pseudostigmatic organ - an obsolete term for the bothridial sensillum or trichobothrium, especially in oribatid mites.
- pteromorph - wing-like to shelf-like lateral extensions of the body in oribatid and tarsonemid mites.
- ptychoidy - the ability of some oribatid mites to withdraw the legs between two body regions like a penknife being closed or a box being closed (hence box mites), and resulting in a seed-like appearance. A derived form of dichoidy.
- pubescent - covered with fine hairs; mossy.

PY – the pygidial plate in Enarthronotina that bears the *f* and posterior rows of notogastral setae
 pulvillus - a membranous, pad-like structure associated with the claws.

punctate - usually referring to ornamentation on shields resembling a dense array of needle punctures; with a granular appearance.

pusticulate - ornamented with small mound-like structures; covered with pustules.

pustule - a raised mound-like structure.

pygidial - the back end of the idiosoma.

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quiescent - at rest, usually referring to an inactive developmental stage, e.g. the inactive immatures of acariform mites during the intermolt period.

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r1-3 (=h1-3) – designations for the *h*-series of notogastral setae in the unidifferent system.

rake-like - a limb with more or less parallel projecting setae or spines resembling the tines of a rake.

ramus - a branch of a structure

RAN – Roy a. Norton

recurved - a curved suture or line of dehiscence that arches posteriorly; opposed to procurved.

reflexed - recurved, curved back on.

regressed - reduce from normal.

reticulate - having a net-like structure; usually referring to ornamentation on shields composed of irregular, angular cells.

reticulate-foveate - having a net-like ornamentation composed of irregular, rounded cells.

retorse teeth or denticles - backwardly directed tooth-like projections.

ro - the rostral seta, the most anterior seta on the prodorsum of acariform mites, usually inserted on the side of the rostrum, but sometimes dorsal and on a naso in some early derivative oribatids; may be geeniculate.

Rostral-lamellar system - a system of designations for the prodorsal setae in Acariformes based on Grandjean's system as applied to the Oribatida. These setae are not added ontogenetically; therefore, homologies are based on position and subject to various interpretations. Each pair of setae may represent one of the 6 presumed prosomal segments; however, Grandjean believed that the dorsal prodorsal setae and their setae were lost in acariform mites, in which case the prodorsal setae would derive from only cheliceral and pedipalpal segments. The designations are: rostral (*ro*), lamellar (*le*), bothridial (*bo* or *ss*), interlamellar (*in*), and a pair of exobothridial setae variously designated *exa/ exp*, *ex1/ ex2*, *xs/ xi*, *xa/ xp*, or if only one seta is present, *ex*. Two pairs of exobothridial setae are present only in some of the lower oribatids: Nothrina and Brachypylina lack one pair or both pairs. When present, setae *bo* are usually expressed as trichobothria, but exceptions occur.

rostral seta (*ro*) - the anteriormost pair of prodorsal setae; when a naso is present, it often carries the rostral setae; sometimes geniculate in form (i.e. bent).

rostral tectum (also rostrum) - a prodorsal tectum that projects over at least the base of the chelicerae in acariform mites, often covering most of the capitulum.

rostrum - In the Oribatida, the anteriormost dorsal portion of the idiosoma, especially when it projects over the bases of the chelicerae (L rostrum = beak).

rutellum (pl. rutella) - In Sarcoptiformes, the hypertrophied setae on the hypostome, often toothed; not to be confused with a corniculus (although possibly a homologue). Various forms of rutella are recognized, including the atelebasic and pantelebasic.

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saccule (sacculus) - invaginated porose organs resembling small sacks and opening to the surface by a small pore (see octotaxic system).

scalps - notogastral portions of exuviae retained by some oribatid mites, often as a pagoda-like pile of larval through tritonymphal exuviae, although one or more of these may fall off during handling of specimens. Scalp is also used to indicate the macerated cuticle of a mite that has been cleared and mounted on a microscope slide.

scissure – an band of soft cuticle separating two or more plates, e.g. the circumgastric scissure separates the notogaster from ventral plates. The notogaster may have three types of transverse scissures: a simple band of soft cuticle (Type E), two bands of soft cuticle that demarcate an intercalary sclerite bearing setae (Type S), and a band of soft cuticle covered by a tectum (Type L).

scutella (pl scutellae) - small shields or platelets.

scutum (pl. scuta) - the podonotal shield in ticks (Ixodida).

segmentation - in mites distinct external segments have been lost but remnants of segmentation may be represented by hysterosomal folds or transverse arrays of setae and other cuticular sense organs. In theory, all chelicerates have a prosoma composed of 6 segments (cheliceral, pedipalpal, and four leg-bearing segments = body segments I-VI). Ventrally the positions of the prosomal segments can be identified by the insertions of their appendages, but dorsally they are obscured. The opisthosoma is thought to comprise an additional 12-13 segments (body segments VII-XVIII or XIX), but appears to be somewhat too much reduced in most mites, except possibly Opilioacarida. In early derivative Acariformes (e.g. many Endeostigmata), hysterosomal folds are thought to represent segmentation and in the Grandjean system are designated (from the sejugal furrow to the anus): C, D, E, F, H, PS AD, AN, PA. There is disagreement in the literature over the origin of 'segments' C and D. Adherents of Grandjean consider them to be opisthosomatic (with C probably representing a fusion of the pregenital [body segment VII] and genital [VIII] segments). Others believe that C and D are the dorsal regions of the last two prosomal segments that bear legs III and IV (i.e. body segments V & VI).

sejugal suture (or plane) - a division cutting the acariform mite idiosoma between legs II-III.

sensillum (pl. sensilla) (also sensilla, sensillae; 'sensillus' is incorrect) - a sensory structure; sensilla is often used for the bothridial seta in Acariformes.

sensillus – the bothridial sensillum, *bo*, *ss*

serrate - with closely set teeth that resemble the cutting edge of a saw.

seta (pl. setae, from L. = bristle) - cuticular process composed of a hollow shaft (sometimes filled with a refractive material) produced from a membranous socket (the alveolus); the hair-like, spine-like, branched or variously expanded structures on the surfaces of the legs and body. Most setae function as mechanoreceptors, but others (e.g. solenidia) are chemoreceptors or have unknown or ambiguous functions.

setal - of or pertaining to a seta.

setule - a small, seta-like cuticular process, typically on the pretarsal empodia or claws.

sigilla - muscle insertions ('scars'), usually visible as depressed and / or striate regions ("scars") on plates, oval or irregular in shape and often in clusters.

sigillotaxy - the use of cuticular muscle insertions as taxonomic characters (designation = sg).

sigla - designations for setae.

ς (sigma) - designation for solenidion the genu of acariform mites, φ (phi) on the tibia; ω (omega) on the tarsus, θ (theta) on the femur).

simple - unadorned; simple setae are needle-like and without hairs or pectins.

sinuate - with a winding, snake-like, or wave-like form.

slit sense organ - a lyrifissure; a stretch receptor.

soil-encrusted - mites with an adherent layer of soil particles; probably a tactile camouflage.

soil mite - any mite found in the soil-litter or decomposition subsystem.

solenidion (pl. solenidia) - a hollow, optically inactive chemosensory seta on the limbs of acariform mites appearing to have transverse rows of minute pores (actually pore canals) under light microscopy, (the transverse pattern is often not apparent in SEM); often bulbous or otherwise modified; sometimes associated with a companion seta. Solenidia are designated with Greek letters by leg segment: ω (omega) on the tarsus, φ (phi) on the tibia, and ς (sigma) on the genu.

solenostome - the external opening of a gland or gland-like internal structure (e.g. the sperm induction pore in sperm access systems).

spathulate - (L. spatula = spoon) flat at the base and enlarged at the apex; spathulate and spatulate are often used interchangeably. [Back to Top]

spatulate - (L. spatula = spoon) spatula-shaped; variously interpreted, but usually referring to setae that are flattened and somewhat expanded distally.

spermatophore - any structure that carries a packet of sperm, including complex stalks deposited on substrate by male acariform mites and flask-like structures carried on the chelicerae of male mesostigmatans.

spinae adnatae - a pair of tooth-like projections on the anterior margin of the notogaster of damaeid oribatids.

spine-like - a seta or other structure that resembles a thorn or spine; spiniform.

spiniform - with the form of a tapering, spine-like process, tubercle or seta.

spinule - a small, spine-like cuticular process.

sp. nr. - species near, used for uncertain species designations (e.g. *Cosmolaelaps* sp. nr. *vacua* (Michael)), implying that the specimen referred to may represent a new species (see aff., nr., and cf.); a less nebulous use of this formation is 'n. sp. nr.', i.e. new species near, and indicates that the taxonomist is convinced that the specimen represents an undescribed species related to the attributed species.

spur - a projection, usually tooth- or spine-like, from the body or limbs.

ss – the bothridial seta; also *bo*

stage - a distinct developmental form, e.g. the egg, larval, nymphal and adult stages. Since mite instars are usually morphologically distinct, they are also stages (and see stage). Some authors, however, insist that instar should be apolysis to apolysis and stage ecdysis to ecdysis. Since apolysis can be a discontinuous process and, in any case, is difficult to determine, in practice the difference between a stage and an instar is abstract and of importance only if you have a contentious referee.

stalked - raised up or otherwise produced on a stalk.

stase - one of the successive, morphologically distinguishable forms exhibited by a mite during development. A stase is equivalent to an instar in mites; but theoretically, if no setal or other morphological changes occur across a molt, then several instars may occur in one stase. Mostly used by Grandjean and his followers as a theoretical concept.

stegasime - having the chelicerae protected dorsally by a rostral tectum (see astegasime), as in most oribatid mites.

stellate - star-like.

stenarthric - a subcapitulum with a triangular mentum and oblique labiogenal sutures; probable primitive condition in Acariformes.

stenoxenic (-ous) - using a narrow range (e.g. of habitats or hosts); more or less host specific, habitat specific, etc.

stigma - the opening to the tracheal system.

striae - the raised, narrowly aligned cuticular ridges, often like a fingerprint or plicate pattern; striations.

striations - a pattern of raised, narrowly aligned cuticular ridges, often like a fingerprint or plicate pattern.

stylet (L. stylus = pricker) - a narrow, pointed structure, typically referring to a mouthpart in the Acari.

stylet-like - referring to chelicerae or movable digits that are slender, elongate, and usually acuminate.

stylettiform - stylet-like.

styliform - stylet-like.

sub- - as prefix used to indicate (1) under (see subcapitulum) or (2) not quite, e.g. subrectangular = not quite rectangular; subtriangular = not cleanly triangular.

subcapitular plate - an apodeme that supports the chelicerae ventrally and to which the muscles of the labrum are attached.

subcapitulum (also infracapitulum) - the venter of the capitulum; the ventral faces of the fused palps; apparently formed independently in the two superorders of mites.

subcheliceral plate - the internal sclerotized plate on which the chelicerae rest.

subtriangular - more or less triangular.

subunguinal seta (s) - an unpaired seta between the unguinal and anterolateral pairs on the tarsi of acariform mites (see whorl).

suctorial - in reference to mouthparts that appear to be used to suck-up fluids, although in most cases this has not been demonstrated and may not be true. Typically the chelicerae are stylet-like and the subcapitulum is modified anteriorly into a tube that supports the stylets, e.g. in the oribatid family Suctobelbidae.

supercohort - a taxon above cohort, usually consisting of two or more cohorts.

supernumerary - more than there are supposed to be; stages or structures thought to have been added to the basic number.

supracoxal seta - an often inflated or otherwise elaborated dorsal coxal seta in astigmatans associated with the supracoxal gland opening; minute peg-like seta (ep) on the dorsal palp coxa or coxa of legs I in acariform mites.

suture - an inflexible juncture between two body parts; line of fusion between two formerly separate body parts or regions. This term is often misused for flexible articulations.

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tapering - drawn out or with margins converging.

tarsal apotele (= pretarsus) - the most distal segments of legs and palps bearing the claws and empodium. also pretarsus.

tarsal appendages - the tarsal apotele.

tarsus (pl. tarsi) - the subdistal leg segment between the tibia and the pretarsus (apotele).

tectals (tc) - a pair of dorsal tarsal setae between the iterals and the fastigals on the tarsi of acariform mites (see whorl).

tectomentum – the collar-like rim of the ventral plate that protects the base of the mentum in some oribatid mites.

tectopedium (pl. tectopedia) - shelf of cuticle protecting the base of the leg of an oribatid mite (see pedotectum)

tectum (pl. tecta) - any shelf-like projection of the cuticle. In oribatid mites these tecta often project over and protect areas of soft cuticle, such as the articulation between two plates. See also anterior notogastral tectum, posterior notogastral tectum, mentotectum, and tectomentum.



telofemur (pl. telofemora) - a distal division of the femur.

tenent hair - a seta or seta-like process with a flattened tip that resembles the head of a nail; usually used for hair-like processes on the claws or empodium of acariform mites, but at least some oribatid mites have true tenent hairs, i.e. modified setae.

terete - having the form of a smoothly tapering cylinder. [Back to Top]

thanatosis - playing dead; usually involves pulling in the legs and palps against the body and avoiding movement for extended periods.

thelytokous - exhibiting all female parthenogenesis (thelytoky).

thelytoky - all-female parthenogenesis.

(θ) theta - designation for a solenidion on the femur of an acariform mite (ζ (sigma) on the genu, ϕ (phi) on the tibia; ω (omega) on the tarsus).

tibia (pl. tibiae) - the leg segment between the genu and the tarsus.

tong-like - resembling a pair of ice tongs; heliceræ that resemble opposed hooks, usually edentate or at most with small teeth.

tracheae - the long, filamentous tubes that ramify through the body of some mites for the exchange of gases.

Tragardh's organ - a flat, finger-like paraxial projection on the chelicerae of some oribatid mites; usually difficult to see unless the chelicerae are dissected out.

translamella - a transverse ridge or tectum joining the lamellae on the prodorsum of some oribatid mites.

tricarinate - having three longitudinal ridges.

trichoidy - having a body divided into three as in some lower Oribatida.

tricuspid - having three points or cusps, e.g. the gnathotectum of some Mesostigmata.

trifurcate - split into three distally.

trichobothrium (pl. trichobothria) (= bothridial sensillum) - an often elaborately modified seta set in a cup-like base; forms include filiform, ciliate, pectinate or variously thickened or clubbed (bat-like to globose or capitate).

trichoidy - acariform mites with the body divided into three regions by a protero-hysterosomatic and a podo-opisthosomatic articulation. (See dichoidy, ptychoidy.)

trichome - a seta.

tridactylous - having three claws.

trifurcate - a structure having three prongs or tines.

tritonymph - the third, and final, nymphal stage or instar present in Opilioacarida, Holothyrida, Argasidae, and many Acariformes.

trochanter - the leg segment between the coxa and the femur.

tuberculate - ornamented with raised processes; covered with tubercles.

tutorium (pl. tutoria) - a ridge on the lateral prodorsum of oribatid mites, ventral and more or less parallel to the lamella and protecting legs I when retracted; often with a free distal cusp.

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uncate - pincer-like; in water mites (Hydrachnida), uncate palps have a ventral palptibial process opposed to a dorsal movable palptarsus (opposed to chelate).

uncinate - hook-like

unguinals (u) - and the distalmost ventral pair of setae at the base of the ambulacrum on the tarsi of acariform mites (see whorl).

unideficient - lacking one seta from the assumed holotrichous condition.

unideficient system – see Grandjean chaetotaxy systems

uropore - anus.

urstigma (pl. urstigmata) - the presumed homologue of the genital papillae found between legs I-II in the prelarvae and larvae of many acariform mites; osmoregulatory organs (= Claparède's organ, also urpores, bruststiele).

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Van der Hammen's organ - a respiratory organ in some intertidal Oribatida (e.g. *Fortuynia* spp.) composed of cuticular tubercles and the overlying cerotegument.

VBP – Valerie Behan-Pelletier

ventral - relating to the lower or under side; opposed to dorsal.

ventral plate - a sclerotized plate covering the ventral region of the opisthosoma in brachypyline oribatid mites and separated from the notogaster by the circumgastric scissure; also any plate in the ventral region.

venter - the lower or under side; opposed to dorsum.

verruca (pl verrucae) - a wart-like process.

verrucate - ornamented with irregular raised tubercles; covered with wart-like structures.

vertex - an anterior extension of the idiosoma.

verticil - a whorl of setae around a region of a leg segment used in determining setal designations.

vesicle - a sack-like structure.

viviparity - live birth; emergence of prelarval (prelarviparity), larval (larviparity), nymphal or adult (see physogastry) mites from their mothers body after the internal hatching of the eggs (technically, most mites are actually ovoviviparous).

viviparous - exhibiting viviparity (live birth, rather than egg laying).

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ω (omega) - designation for solenidion the tarsus of acariform mites (ϕ (phi) on the tibia, and ζ (sigma) on the genu).

whip-like - long, slender and sinuous as in the posterior setae of some phytoseiid mites (Mesostigmata) or the stylets of spider mites and their relatives (Prostigmata: Tetranychosida).

whorl - one of the whorls or verticils of birefringent setae on the leg segments of acariform mites. Setae are named based on their segment, position on the segment, position relative to the body axis [' = paraxial; " = anti-axial], and relationship to other setae in the whorl, e.g. for the genua and tibiae of oribatid mites with 5 setae per whorl: dorsal (d), anterolateral (al'), anteroventral (v'), posteroventral (v") and posterolateral (pl'); 7 setae per whorl: dorsolateral (ls'), anterior ventrolateral (li'), anterior subtibial (st'), posterior subtibial (st"), posterior ventrolateral (li"). and posterior dorsolateral (ls"). The designations for tarsal setae are even more complex and have acquired names as well as designations. The two most distal pairs (at base of ambulacrum) are the dorsal prorals (p) and the ventral unguinals (u); On the dorsal tarsus behind the prorals moving basally are the iterals (it), tectals (tc), and fastigials (ft). On the ventral tarsus behind the unguinals is the subunguinal seta (s), followed by the anterolaterals (a), primiventrals (pv), and primilaterals (pl). Some of these setae may be modified into eupathidia (ζ). Various other designations occur in the Oribatida and Astigmata. Additionally, a hollow birefringent seta called the famulus [ϵ (epsilon)] may be present, as well as, optically inactive chemosensory solenidia.

wing-like - projecting from the body or other structures like the wings of insects.

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xylophage - feeding on wood. Some oribatid mites are xylophagous.

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Z [\[Back to Top\]](#)

ζ (zeta) - designation for eupathidia on the legs of acariform mites.

zoohria - the use of animals for migration (see phoresy).