

# Collembola of Ohio & Hocking County



Yvette Phillips, Thomas Weicht and  
Deborah Neher  
University of Toledo



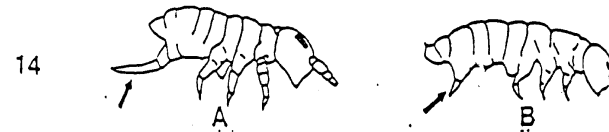
# Prior Ohio Records: 123 Records of 60 species

County	Habitat	Date	Microhabitat	Genus	Subgenus	Species	Identifier
ADAMS	CAVE	25-Jun-80		<i>Isotoma</i>	<i>Desoria</i>	<i>notabilis</i>	Christiansen
LUCAS	DECIDUOUS FOREST	1-May-98	LITTER	<i>Blissia</i>		<i>glabra</i>	Neher
HARRISON	MINE	1-Apr-79	LITTER	<i>Bourletiella</i>	<i>Bourletiella</i>	<i>hortensis</i>	Christiansen
HARRISON	MINE	1-May-78	LITTER	<i>Bourletiella</i>	<i>Bourletiella</i>	<i>hortensis</i>	Christiansen
HARRISON	GRASSLAND	1-May-79	LITTER	<i>Bourletiella</i>	<i>Deuterosminthurus</i>	<i>russata</i>	Christiansen
	DECIDUOUS FORES	26-Jul-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobrya</i>	<i>assuta</i>	Christiansen
	DECIDUOUS FORES	26-Jul-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobrya</i>	<i>clitellaria</i>	Christiansen
LOGAN	DECIDUOUS FORES	26-Jul-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobrya</i>	<i>nivalis</i>	Christiansen
LOGAN	DECIDUOUS FORES	26-Jul-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobrya</i>	<i>nivalis</i>	Christiansen
ERIE	DECIDUOUS FORES	1-Jun-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobrya</i>	<i>triangularis</i>	Christiansen
DELAWARE	DECIDUOUS FORES	26-Jul-55	DEBRIS, ANT NEST	<i>Entomobrya</i>	<i>Entomobryoides</i>	<i>dissimilis</i>	Christiansen
LOGAN	DECIDUOUS FORES	26-Jul-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobryoides</i>	<i>purpurascens</i>	Christiansen
ERIE	DECIDUOUS FORES	1-Jun-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobryoides</i>	<i>purpurascens</i>	Christiansen
	DECIDUOUS FORES	26-Jul-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobryoides</i>	<i>purpurascens</i>	Christiansen
LOGAN	DECIDUOUS FORES	26-Jul-55	UNDER BARK	<i>Entomobrya</i>	<i>Entomobryoides</i>	<i>purpurascens</i>	Christiansen
HARRISON	MINE	1-May-78	LITTER	<i>Entomobrya</i>		<i>multifasciata</i>	Christiansen
LUCAS	DECIDUOUS FOREST	1-May-98	LITTER	<i>Folsomia</i>		<i>candida (Form A)</i>	Neher
LORAIN	DECIDUOUS FORES	1-Jun-55	UNDER BARK	<i>Folsomia</i>		<i>hoffi</i>	Christiansen
SENECA	CAVE	28-Jul-94		<i>Folsomia</i>		<i>stella</i>	Christiansen
HARRISON	MINE	1-May-78	LITTER	<i>Folsomia</i>		<i>candida</i>	Christiansen
ADAMS	CAVE	12-Jun-80		<i>Folsomia</i>		<i>candida</i>	Christiansen
HARRISON	GRASSLAND	1-Apr-79	LITTER	<i>Folsomia</i>		<i>decaxiophthalma</i>	Christiansen
HARRISON	GRASSLAND	1-Apr-79	LITTER	<i>Folsomia</i>		<i>nivalis</i>	Christiansen
LUCAS	OAK SAVANNAH	1-Sep-98	SOIL	<i>Folsomia</i>		<i>onychiurina</i>	Neher
ROSS	CAVE	21-Jul-80		<i>Hypogastrura</i>	<i>Ceratophysella</i>	<i>denticulata</i>	Christiansen
HARRISON	MINE	1-May-78	LITTER	<i>Hypogastrura</i>	<i>Hypogastrura</i>	<i>pannosa</i>	Christiansen
HARRISON	MINE	1-May-78	LEAF MOLD	<i>Hypogastrura</i>	<i>Schoettella</i>	<i>ununguiculatus</i>	Christiansen
HARRISON	MINE	1-Apr-78	LITTER	<i>Hypogastrura</i>	<i>Shoettella</i>	<i>ununguiculatus</i>	Christiansen
			ROTTING PERSIMMON FRUIT				
WAYNE		10-Oct-89	FRUIT	<i>Hypogastrura</i>	<i>Hypogastrura</i>	<i>pannosa</i>	Purington

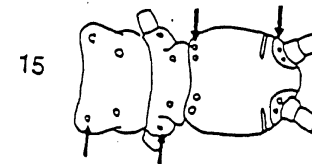
# Keys of Christiansen & Bellinger, 1998

- Set of Standard Dichotomous Keys
- Other Keys:
  - [www.geocities.com/~fransjanssens/](http://www.geocities.com/~fransjanssens/)
    - Bellinger, Janssens & Christiansen
  - [www.ent.orst.edu/comtesa/](http://www.ent.orst.edu/comtesa/)
    - Moldenke
  - DELTA program to *Pseudosinella* sp. through [ac.grin.edu](http://ac.grin.edu)

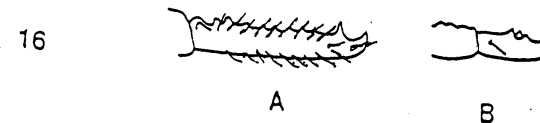
- 3) Dentes more than 3 times as long as manubrium, with distal rings of granules (Figure 14A).....Poduridae  
 3') Dentes absent or relatively shorter and not ringed (Figure 14B)..... 4



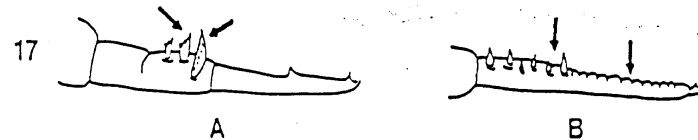
- 4) Pseudocelli present, at least on antennal base (Figure 15) or dorsum of fifth abdominal segment..... Onychiuridae  
 4') Pseudocelli absent..... Hypogastruridae<sup>1</sup>



- 5) Mucro hairy (Figure 16A); fourth antennal segment shorter than third; body scaled.....Tomoceridae<sup>2</sup>  
 5') Mucro with at most 1-2 setae (Figure 16B); fourth antennal segment at least as long as third; scales present or absent..... 6



- 6) Dentes with dentate spines (Figure 17A); mucro subequal in length to dens or longer..... Oncopoduridae  
 6') Dental spines simple (rarely) (Figure 17B) or absent; mucro usually much shorter than dens..... 7



<sup>1</sup> *Sensiphorura* (Onychiuridae) will run here; see key to genera of Hypogastrurinae

<sup>2</sup> First instar specimens of many species of *Tomocerus* lack both these features and will key out to Isotomidae.

# Not All the Keys Work

- However, character tables are included

Characteristics of Nearctic Species of Sminthurides s.str.

1207

TABLE XLI

Species	Ant. IV Subsegments	Tenacular Setae	Ventral Tube Lobes (L) or Papillae (P)	Hind Unguis Fore Unguis	Dental VeC	Setae VeB	Micronal Setae Mucro
<u>annulicornis</u>	7-8	?	3+3 P	?	?	?	.25
<u>aquaticus</u>	3-6	3-4	0	.62 - .72	8-10	10-12	.13 - .18
<u>aureolus</u>	3	3	4+4 (3+3) P	.85 - .95	4	8	.23
<u>bifidus</u>	6-7	3	0	.55 - .75	8-10	11-12	.17 - .28
<u>globocerus</u>	0	3	3+3 P 4+4	.85 - .95	4(5)	8(9)	.20 - .30
<u>hyogramme</u>	4	2	0	.85 - .95	4	8	.20 - .28
<u>lepus</u>	5-6	3	0	.75 - .90	(3)4	(7)8	.25 - .35
<u>macnamarai</u>	4(5)	3	4+4 P	.80 - .90	4	(7)8	.24 - .32
<u>malmgreni</u>	0	3	0	.55 - .80	5-10	9-12	.20 - .30
<u>occultus</u>	4	2	2+2 L	.81 - .95	4	8	.33 - .38
<u>plicatus</u>	5	2	0	.70 - .80	4	7	.25 - .28
<u>terrestris</u>	5	3	0	.86 - .95	4	8	.25 - .33
<u>weichseli</u>	0	3	1+1 L	.75 - .90	4	8(9)	.20 - .27

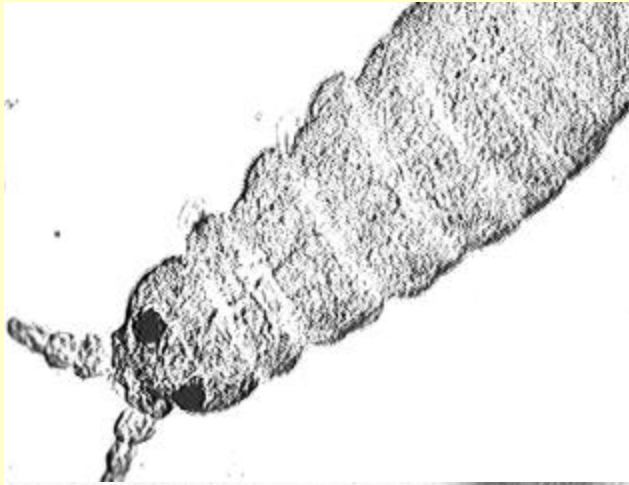
Numbers in parentheses represent exceptional conditions.

# Hocking County Project

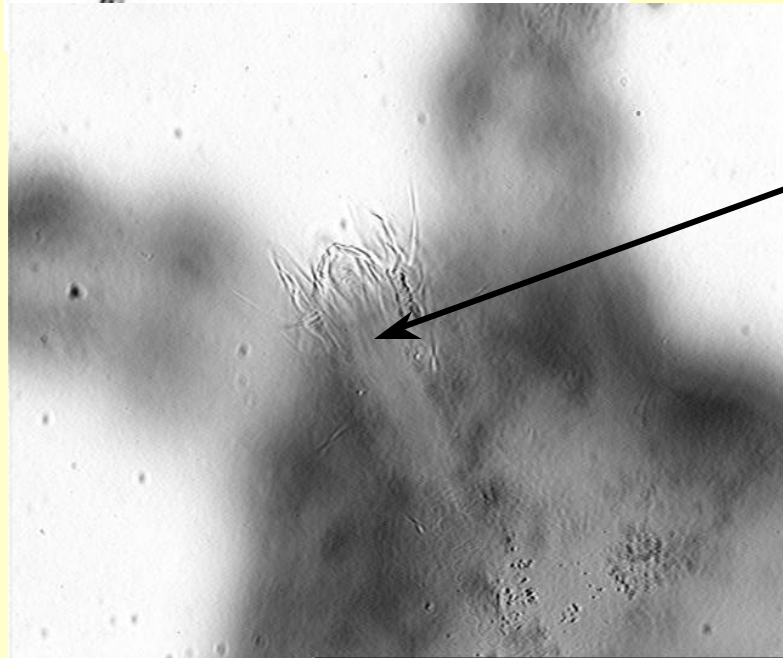
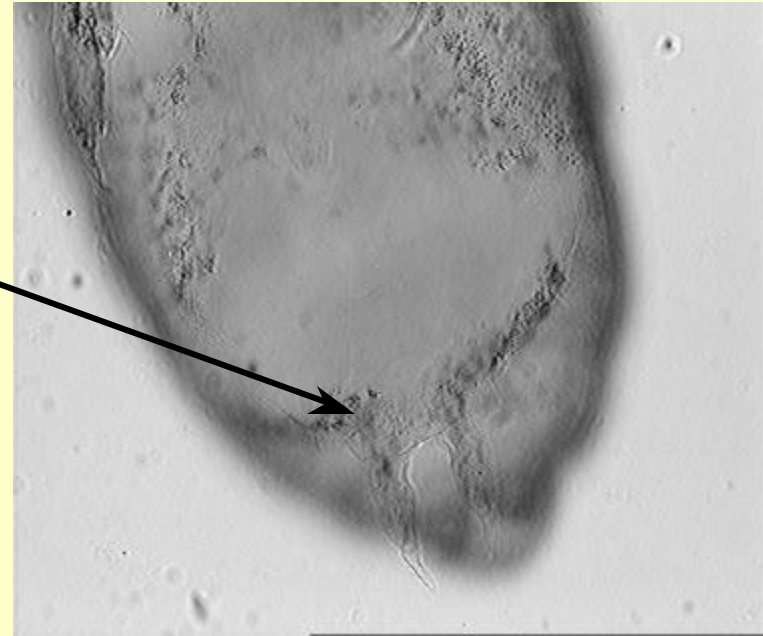
- Hypogasturidae
  - Neanurinae
    - *Pseudochorutes corticicolus*\*
- Onychiuridae
  - *Onychiurus subtenuis* complex
    - need males to finish species ID
- Tomoceridae
  - *Tomocerus elongatus*\*
  - *T. dubius*
  - *T. flavescens*
  - *T. lamelliferus*\*
- Entomobryidae
  - *Entomobrya sinelloides*\*
  - *Pseudosinella collina*
- Isotomidae
  - *Folsomia picea*\*
  - *F. prima*\*
  - *F. stella*
  - *Isotoma carpenteri*

\*: new species records in Ohio

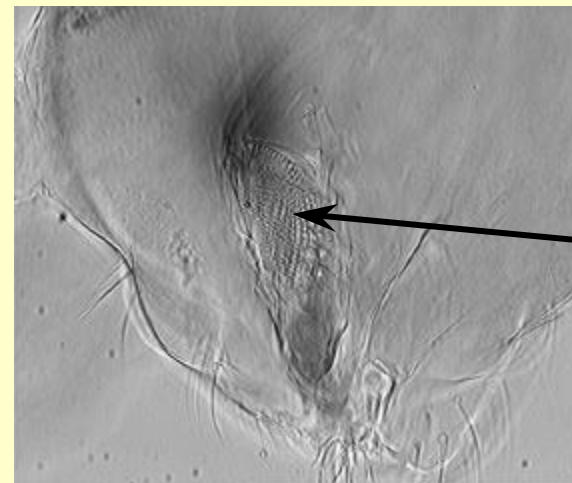
***Pseudochorutes (Pseudochorutes)  
corticicolus* (Shaffer), 1869**



furcula

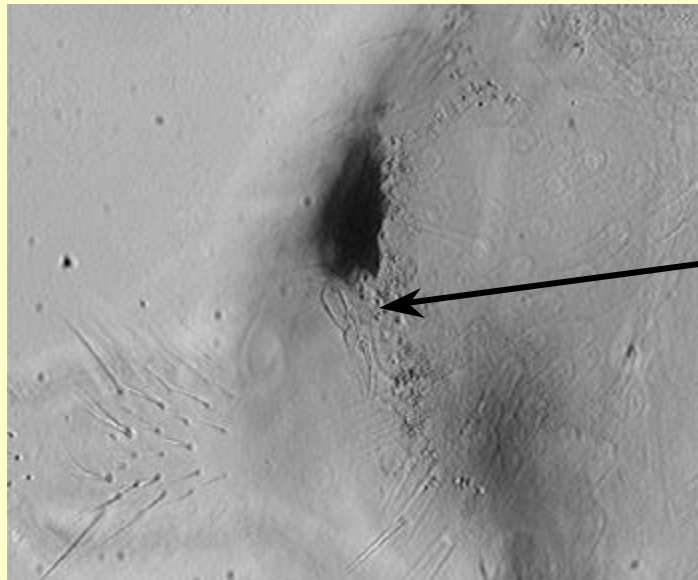


mandible  
without  
molar  
plate

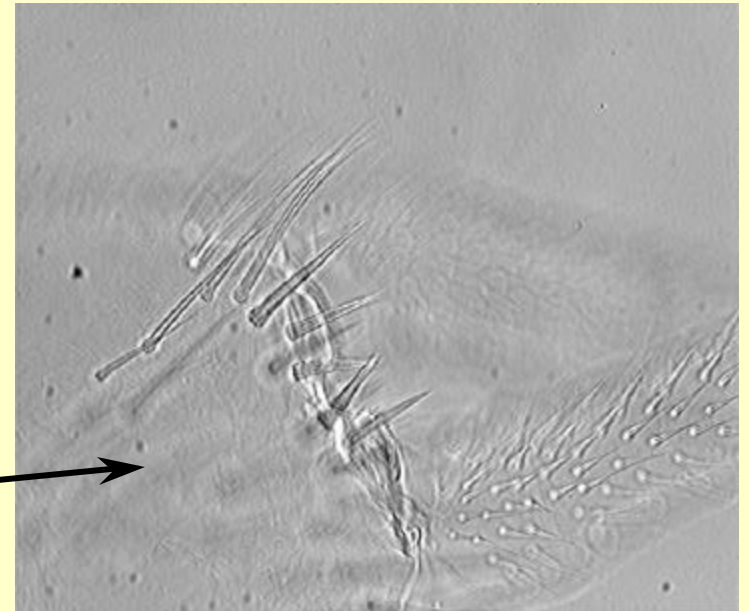


molar  
plate

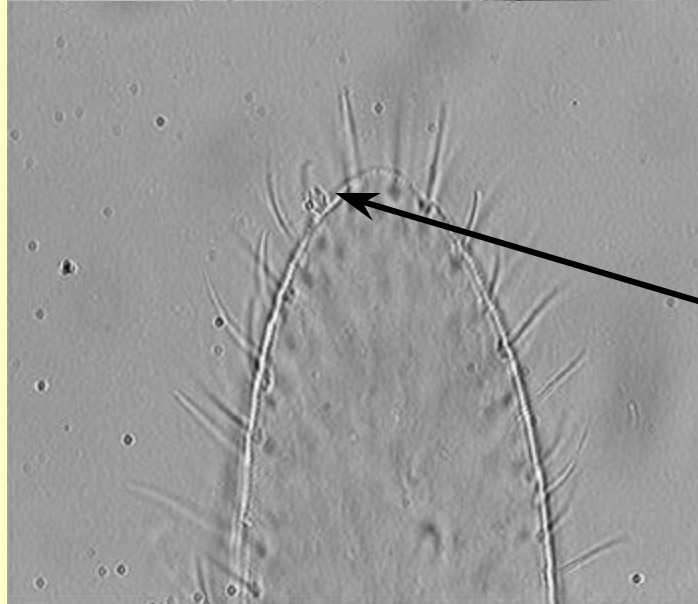
***Isotoma (Isotoma) carpenteri*** Borner, 1909



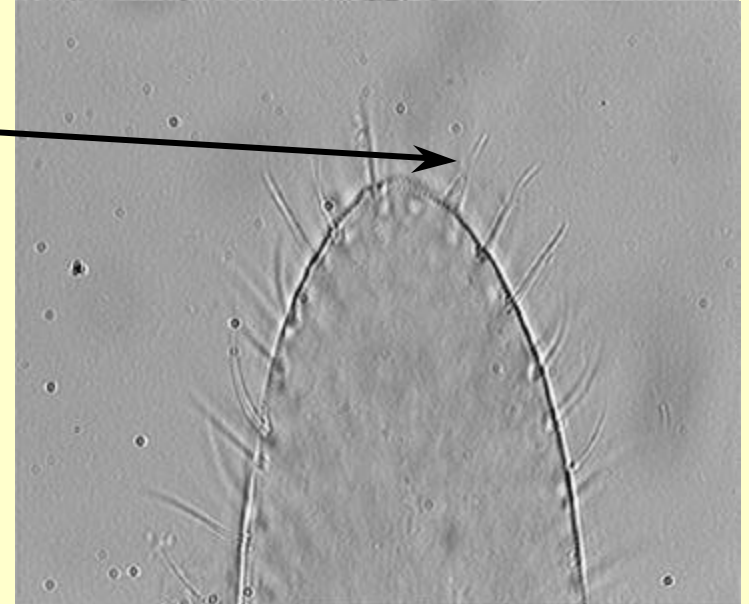
post  
antennal  
organ



manubrium

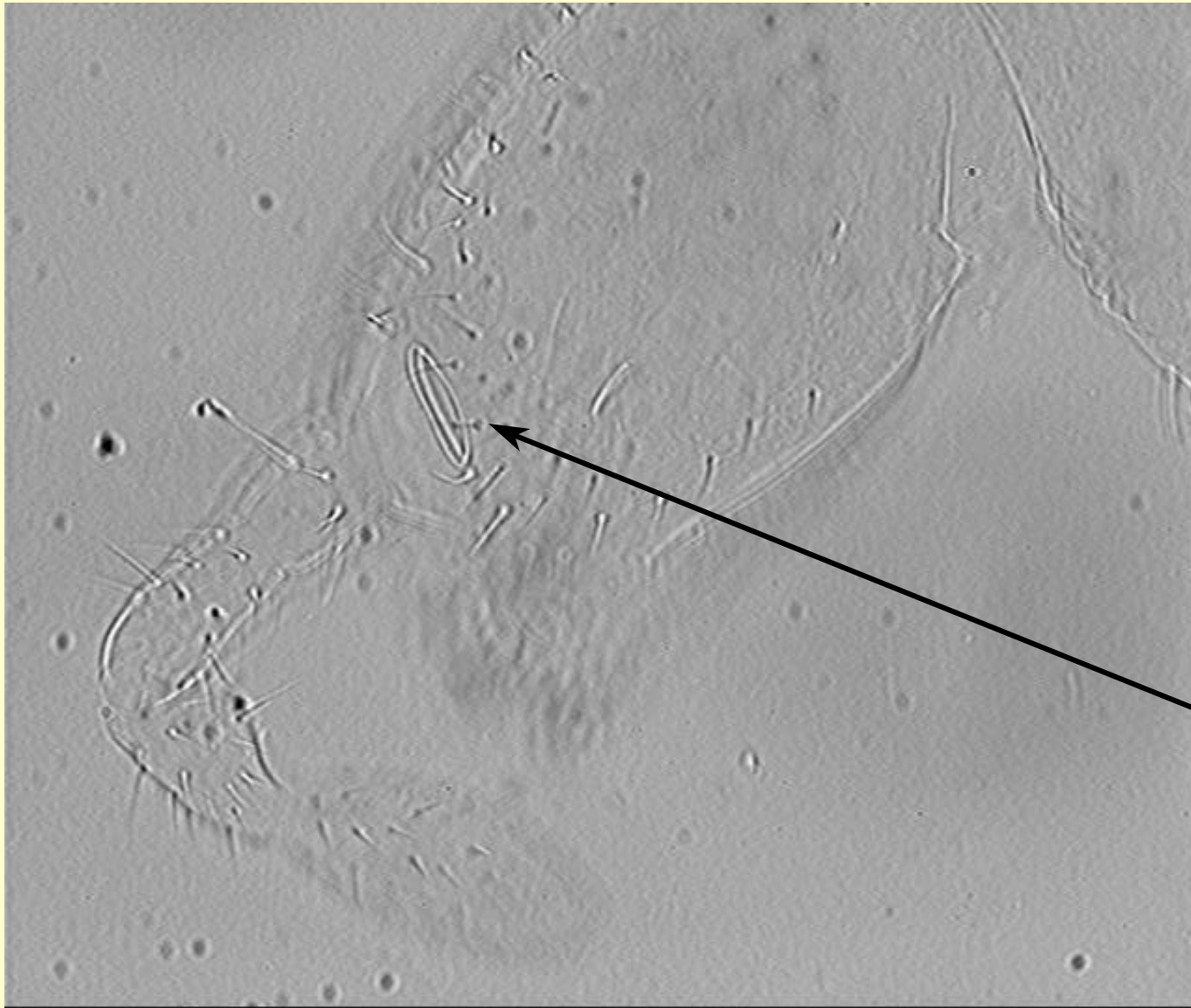


subapical  
organ



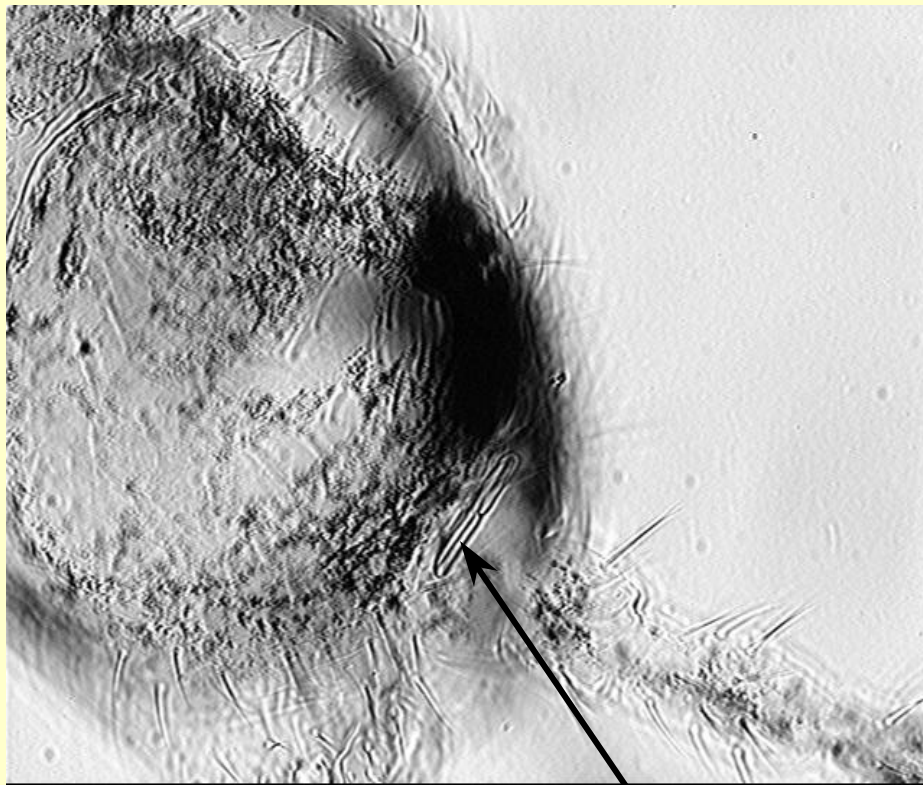
pin seta

***Folsomia stella*** Christiansen and Tucker, 1977

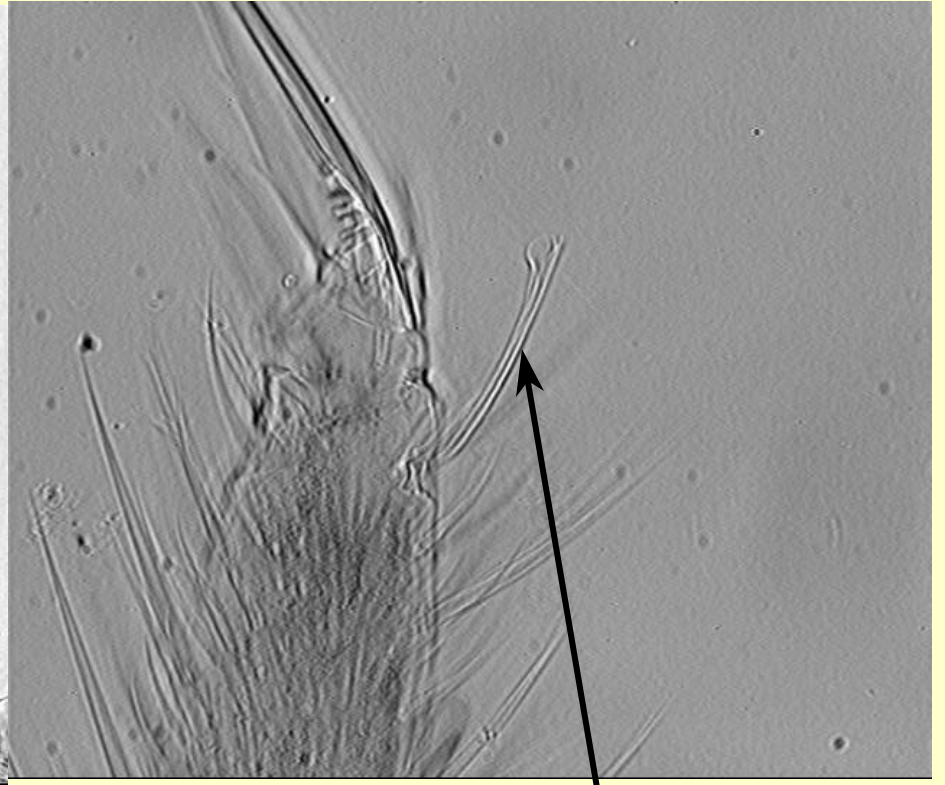


post  
antennal  
organ

***Folsomia prima*** Mills, 1931



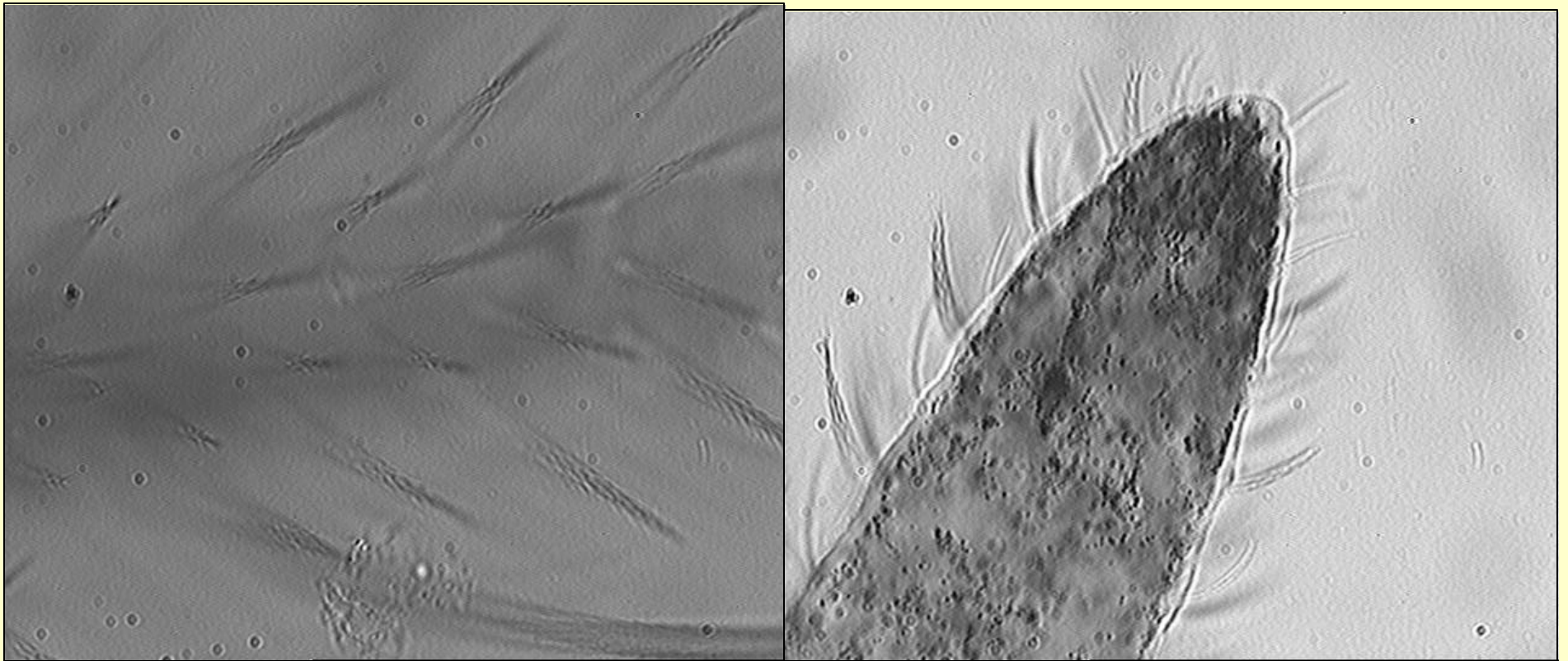
post  
antennal  
organ



clavate tenent hair

# ***Entomobrya (Entomobrya) sinelliodes***

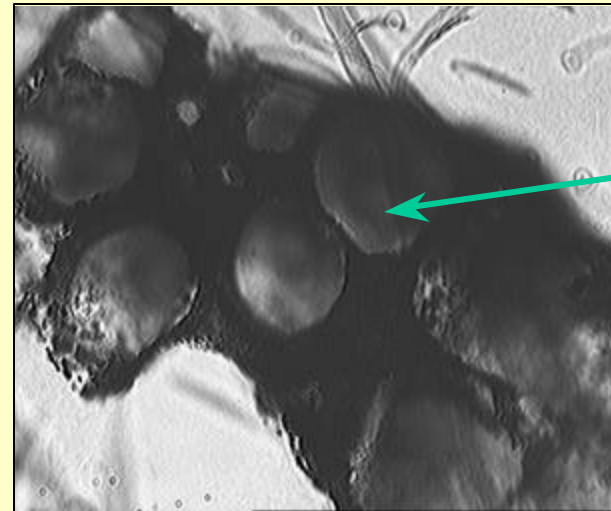
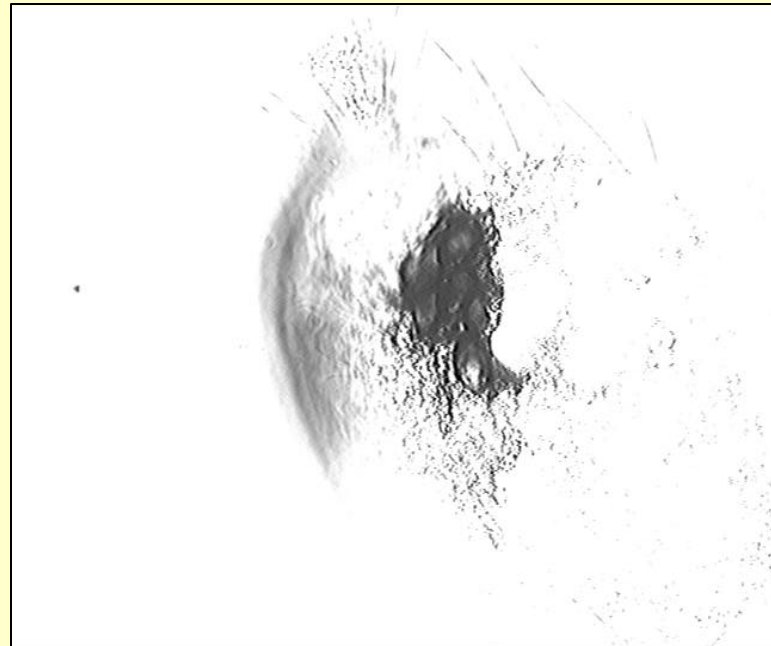
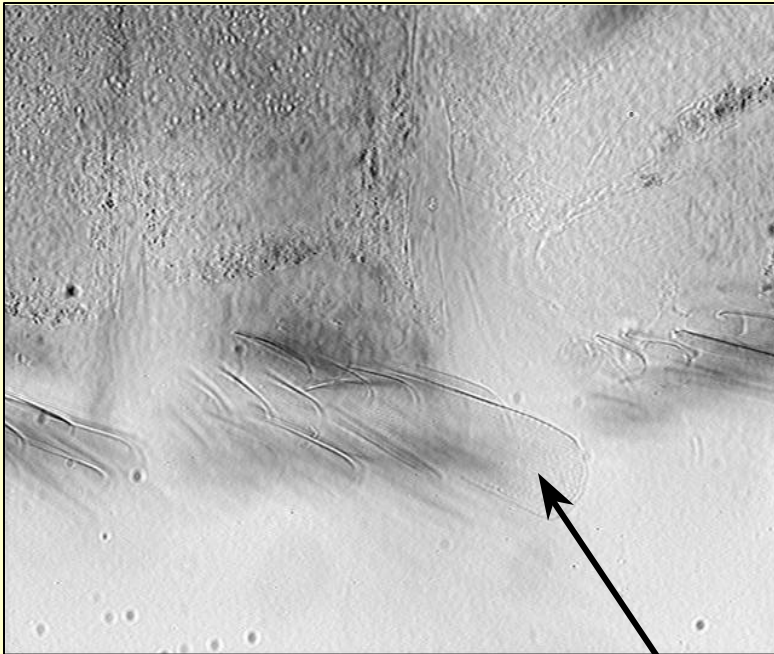
Christiansen, 1958



tibiotarsus

IV antennal segment

# *Pseudosinella collina* Wray, 1952



scales

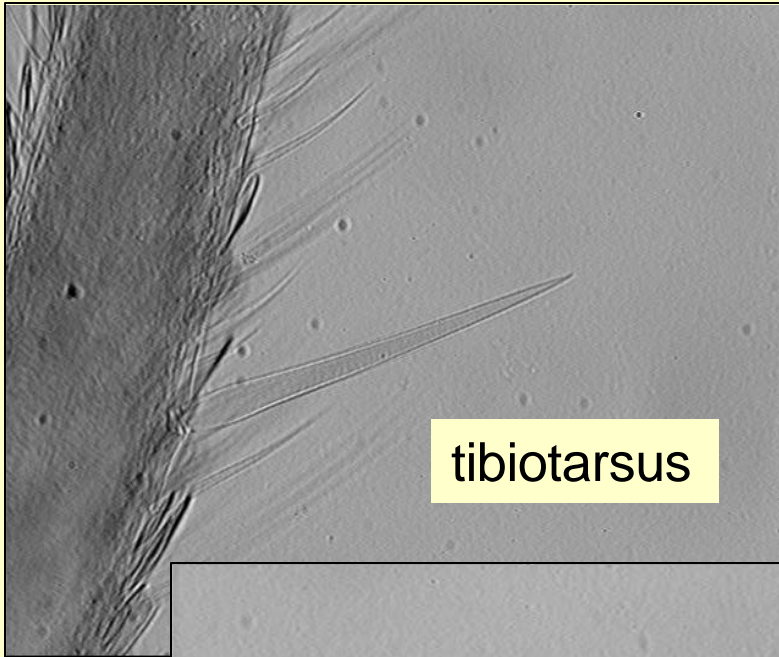
ocellus

***Tomocerus elongatus***

***T. dubius***

***T. flavescens***

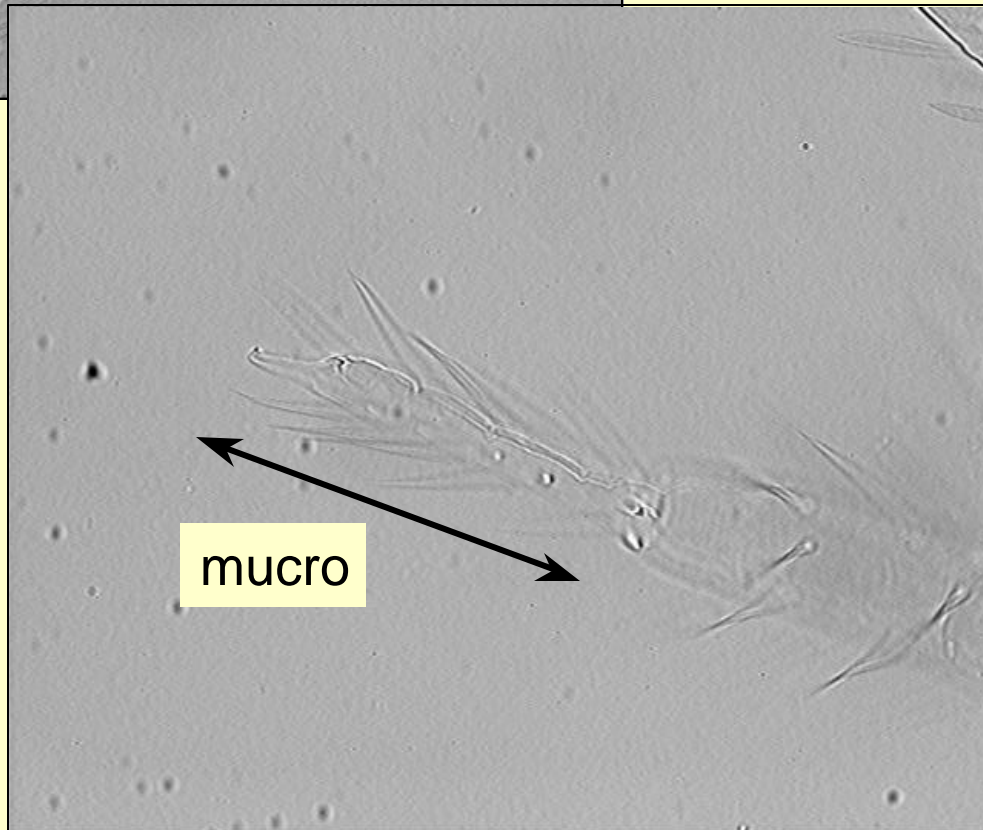
***T. lamelliferus***



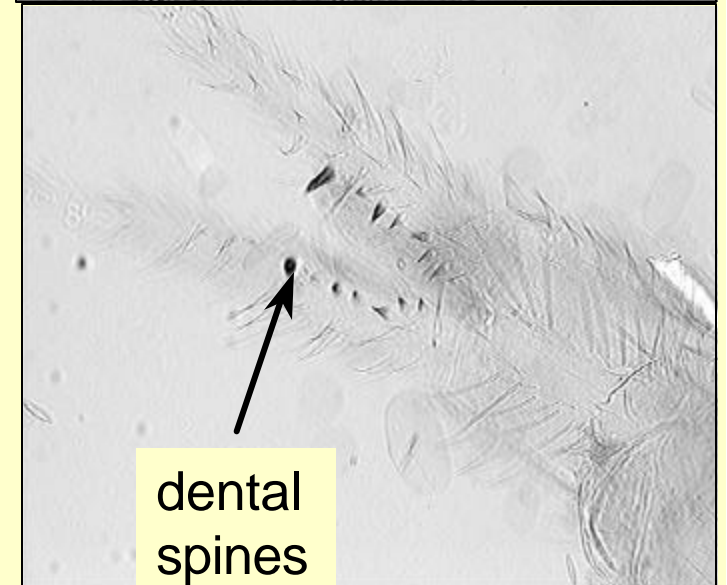
tibiotarsus



hind foot  
complex



mucro



dental  
spines