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**Summary**

The genus *Ornithocheyletia* Volgin, 1964 is revised. If the three species described below are included the number of known species in this genus is now 22. These species live on or in the skin of birds and produce mange. The holotypes of all these species have been examined except those of *O. pinguis* (Berlese) and of *O. dubinini* Volgin which were not available. Three new species and one new subspecies are described: *O. geopeliae* sp. nov. from *Geopelia striata*, *O. lepidus* sp. nov. from *Garrulax leucolophus bicolor*, *O. eulabes* from *Eulabes javana* and *O. psittaci poicephali* ssp. nov. from *Poicephalus senegalus*. *O. similis* Fain, 1972 is placed as a subspecies of *O. hallae* Smiley, 1970. The genus *Ornithocheyletia* is redefined and a key to the species is provided. The following stages have been observed in the life cycle: egg — prelarva — larva — protonymph — tritonymph — adults. A prelarva is observed for the first time: it is represented by a small ecdysis organ consisting of two small bifid sclerites serving for the rupture of the eggshell. The adult female develops into a tritonymph, the adult male into a protonymph. The males are either homeomorphic or heteromorphic; the latter are characterized by the hypertrophy and modification of the gnathosoma, especially the palps.

**Introduction**

The genus *Ornithocheyletia* Volgin, 1964 is a cosmopolitan group of mites, all parasitic on or in the skin

of birds and producing mange. If the three new species described herein are included the number of known species is now 22. Of these, 12 live on Passeriformes, five on Psittaciformes, two on Columbiformes, two on Piciformes and one on Galliformes.

Most of these species have been briefly described, without figures, and their identification is therefore difficult. The purpose of this paper is to complete these descriptions and to give the first figures. In addition, three new species and one new subspecies are described and a new definition of the genus *Ornithocheyletia* is given. Keys for females and males of all the known species are provided. Among the described species, *O. similis* Fain, 1972 is placed here as a subspecies of *O. hallae* Smiley, 1970.

For this study, the holotypes of all the described species, except those of *O. pinguis* (Berlese) and of *O. dubinini* Volgin, which were not available, were examined.

In these descriptions, the nomenclature of the idiosomal setae proposed recently (Fain, 1979) is used. The body setae are either smooth or barbed with thin distinct barbs or serrate with very small and poorly distinct denticulations.

The length of the dorsal plates and the gnathosoma is taken in the midline; the width of the body and of the plates is the maximum width. The total length of the body includes the gnathosoma in the midline.

Abbreviations of the Institutions where the types have been deposited are: ABF = Acarotheca of Berlese, Firenze; ASL = Academy of Sciences, Leningrad; IAC = Institute of Acarology, Colum-

bus, USA; IRSNB = Institut royal des Sciences naturelles de Belgique; MCZ = Museum of Comparative Zoology, Harvard; MRAC = Musée royal de l'Afrique Centrale, Tervuren; SAIMR = South African Institute for Medical Research; USNM = United States National Museum, Washington.

**Genus *Ornithocheyletia* Volgin, 1964**

*Definition*

*Female:* Body short and wide. Cuticle striated, except in the median area of dorsum which bears three sclerotized plates: two large, anterior (propodonal) or median (hysteronotal), and a much smaller subterminal (pygidial). In some species these plates are very poorly or not sclerotized and bear very fine striations. Ventral surface striated. The coxae are sclerotized and in some species their internal part is striated. Vulva subtermino-ventral. Anus generally terminal. Gnathosoma small with relatively long palps; palpfemur long; palptibia short ending in a curved spine (sometimes called "claw"); palptarsus without combs. Peritremes short, with three or four pairs of segments. Legs well developed. Coxae forming two groups separated by striated cuticle, an anterior with coxae I-II and a posterior smaller with coxae III-IV. Tarsi with a dorsal preapical protuberance and ending in paired claws and a multi-rayed empodium.

*Male:* Dorsum either with two sclerotized median plates (propodonal and hysteronotal) or striated without these plates. Genital orifice situated in posterior region of dorsum, not far from posterior extremity. Ventral surface either striated as in female or bearing two median punctate plates. The penis is tubular. The males are either homeomorphic or heteromorphic. In the heteromorphic males the gnathosoma and the palps are larger and modified in shape.

*Chaetotaxy and solenidiotaxy* (see Fain, 1979): the setae are either bare or barbed or serrate.

*Female* with the following setae: *v i*, *v e*, *sc i*, *sc e*, *h*, *d 1*, *l 1*, *l 2*, *l 3*, *l 4*, *l 5*, *ic 1*, *ic 3*, *ic 4*, *g 1*, *g 2*, *g 3*, *g 4*, *g 5*, *a 1*, *a 2*, *a 3*. Setae *g 4* and *g 5* are barbed. Setae *l 2* are lacking in one species. *Legs:* coxae 2-1-2-1 except in (?) *O. pinguis* where these setae are 1-1-0-0;

trochanters 1-1-0-0; femora 2-2-1-1; genua 2-2-2-1; tibiae 4-4-4-4 or 4-4-3-3; tarsi 10-7-7-7. In the *male* the *l 5*, *g 1*, *g 2* and *g 3* are lacking, the *g 4*, *g 5*, *g 6* and *g 7* are small or very small and situated close to the genital orifice. *Solenidiotaxy:* tarsi 1-1-0-0; tibiae and genua I with one solenidion.

*Chaetotaxy in the immatures:* In the tritonymph the number of setae is the same as in the female but the *g 4* and *g 5* are absent and there are only nine setae on tarsus I; the setae are shorter. The protonymph has the same chaetotaxy as the tritonymph but the setae are shorter, the *g 1*, *g 2*, *g 3*, coxal IV, trochanters I-II and genual IV are lacking and the tarsi IV bear only five setae. Larval chaetotaxy as in the protonymph but the *ic 4* and the coxals II and III are lacking, the coxa I bears only one seta (the anterior), the genua I-III bear one seta and the tarsi bear 8-5-5 setae. It is to be noted that the pygidial plate is lacking in the immatures.

**Type species:** *Ornithocheyletia dubinini* Volgin, 1964.

*Postembryonic development in Ornithocheyletia*

The following stages have been observed: egg — prelarva — larva — protonymph — tritonymph — adult. The female develops into a tritonymph, the male into a protonymph. We have not observed deutonymphs. The prelarva is represented by a membranous sac bearing two bifid sclerotized structures serving for the rupture of the eggshell (fig. 10-10b).

**Key to the Species**

*Females*

1. Coxal setae 1-1-0-0. All dorsal setae smooth. Setae *sc e*, *h* and *l 1* long, subequal. Setae *l 5* situated off the pygidial plate and very long (about 220 μ) (From the drawings of Berlese) ..... *O. pinguis* (Berlese, 1889)
- Coxal setae 2-1-2-1. Setae *l 5* shorter. Other characters variable ..... 2
2. Setae *l 2* lacking. Setae *l 5* long, off the pygidial plate. Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* barbed; other dorsal setae smooth ..... *O. volgini* Smiley, 1970

- Setae *l 2* present. Other characters variable ..... 3
3. Coxae III-IV with spurs. All dorsal setae smooth. Setae *l 5* off the pygidial plate. Tibiae III-IV with 3 setae ..... *O. lawrenceae*  
Smiley, 1970  
Coxae III-IV without spurs. Other characters variable ..... 4
4. Tibiae III-IV with 4 setae. Setae *l 5* thin and short (25-30  $\mu$ ) ..... 5  
Tibiae III-IV with 3 setae. Setae *l 5* 110-180  $\mu$  long except in *O. francolini* where they are only 16  $\mu$  long ..... 6
5. Pygidial plate very small (15  $\mu$  long and 28  $\mu$  wide). Setae *l 5* situated relatively far from the pygidial plate. Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* are 36-40  $\mu$  long ..... *O. smileyi*  
Fain, 1972  
Pygidial plate larger (36  $\mu$  long and 68  $\mu$  wide). Setae *l 5* on soft cuticle very close to the pygidial plate. Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* are 54-69  $\mu$  long ..... *O. argentinensis*  
Fain, 1972
6. All dorsal setae thick, rod-like and finely serrate except *h* and *l 5* which are smooth. Setae *l 5* on the pygidial plate and 32-36  $\mu$  apart. Setae *sc i* and *v e* subequal ..... 7  
Dorsal setae attenuated apically and either barbed or smooth. Setae *l 5* either on or off the pygidial plate; in the species where *l 5* are on this plate the *sc i* setae are at least twice as long as *v e* ..... 8
7. Total length 365 to 405  $\mu$ . Pygidial plate 50  $\mu$  wide. Length of dorsal setae: *v i* 70  $\mu$ ; *v e* 78  $\mu$ ; *sc i* 75  $\mu$ ; *sc e* 93  $\mu$ ; *d 1* 105  $\mu$ ; *h* 150  $\mu$ ; *l 1* 90  $\mu$ ; *l 2* 85  $\mu$ ; *l 3* 75  $\mu$ ; *l 4* 48  $\mu$  and *l 5* 160  $\mu$  ..... *O. psittaci psittaci*  
Fain, 1972  
Total length 405  $\mu$ . Pygidial plate 40  $\mu$  wide. Length of setae: *v i* 57  $\mu$ ; *v e* and *sc i* 60  $\mu$ ; *sc e* 78  $\mu$ ; *d 1* 81  $\mu$ ; *h* 120  $\mu$ ; *l 1* 75  $\mu$ ; *l 2* 66  $\mu$ ; *l 3* 51  $\mu$ ; *l 4* 36  $\mu$  and *l 5* 110  $\mu$  ..... *O. psittaci poicephali*  
ssp. nov.
8. Setae *l 5* always situated on the pygidial plate and 25-36  $\mu$  apart. Setae *sc i* smooth and 2.5 to 6 times as long as *v i* setae, the latter and *v e* being barbed except in *O. psittaculae* where they are smooth ..... 9  
Setae *l 5* off the pygidial plate and at least 48  $\mu$  apart. Setae *sc i* barbed and less than 1.5 times as long as *v i*, the latter and *v e* are barbed ..... 13
9. All dorsal setae smooth. Setae *sc i* as long as *l 1* (150  $\mu$ ) ..... *O. psittaculae*  
Fain, 1972  
Setae *v i*, *v e*, *sc e* and *l 1* barbed. Setae *sc i* 2.5 to 6 times as long as *l 1* ..... 10
10. Setae *l 5* very short (16  $\mu$ ). Setae *sc i* and *d 1* about 2.5 times as long (72-80  $\mu$ ) as *l 1*. Setae *l 2* and *l 3* slightly serrate. (On Galliformes) ..... *O. francolini*  
Fain, 1972  
Setae *l 5* from 150 to 180  $\mu$  long. Setae *sc i* and *d 1* from 3 to 6 times as long as *l 1* (130-180  $\mu$ ) (On Columbiformes) ..... 11
11. Setae *sc i* about 6 times as long as (130  $\mu$ ) as *v i* and *v e* (20  $\mu$ ) ..... *O. geopeliae*  
n. sp.  
Setae *sc i* from 3 to 3.5 times as long as (180  $\mu$ ) as *v i* and *v e* (45-50  $\mu$ ) ..... 12
12. Setae *sc i*, *h*, *d 1* and *l 5* 180  $\mu$  long. Pygidial plate 45  $\mu$  wide ..... *O. hallae hallae*  
Smiley, 1970  
Setae *sc i*, *h*, *d 1* and *l 5* 140-150  $\mu$  long. Pygidial plate 32  $\mu$  wide ..... *Ol hallae similis*  
Fain, 1972
13. Setae *sc e* and *l 1* smooth and more than twice as long (105  $\mu$ ) as *v i*, *v e* and *sc i*. Setae *l 5* very long (180  $\mu$ ) ..... *O. eulabes*  
sp. nov.  
Setae *sc e* and *l 1* barbed, shorter and subequal to *v i*, *v e* and *sc i* ..... 14
14. The two main dorsal plates poorly or not sclerotized and completely striated. Base of coxa I-II striated ..... 15  
The two main dorsal plates are sclerotized without distinct striation. Striations on coxae I-II variable ..... 17
15. Setae *h*, *l 4* and *l 5* smooth and subequal (150  $\mu$ ). Dorsal plates covered with longitudinal very thin lines except pygidial plate which is punctate without lines. (On Piciformes) ..... *O. gersoni*  
Smiley, 1970

- Setae *l 4* one fifth to one fourth the length of *h*.  
The three dorsal plates with thin lines. (On Passeriformes) ..... 16
16. All dorsal plates with longitudinal striations. Solenidion of the tibia I curved, inflated in apical half and 4,8  $\mu$  long. Solenidion of genu I narrow. Setae *sc e* 30  $\mu$  long, setae *d 1* 80  $\mu$ . Total length of body 305  $\mu$  ..... *O. lukoschusi* Smiley, 1970
- Propodonal and hysteronotal plates with longitudinal striations, pygidial plate with transverse striations. Solenidion of tibia I narrow, attenuated apically and 13  $\mu$  long. Solenidion of genu I globular. Setae *sc e* 50-55  $\mu$  long, setae *d 1* 120  $\mu$ . Total length of body 310-330  $\mu$  ..... *O. leiothrix* Fain, 1972
17. Setae *l 2* and *l 3* shortly barbed (according to the original drawings). Setae *l 5* 60  $\mu$  apart and situated off the pygidial plate, they are twice as long (150  $\mu$ ) as the *l 4* setae (from examination of the holotype) ..... *O. canadensis* (Banks, 1909)
- Setae *l 2* and *l 3* smooth. Other characters variable ..... 18
18. Setae *l 4* 110-130  $\mu$  long. Internal part of coxae I-II not striated. Propodonal plate 200-220  $\mu$  wide. (On *Sturnus vulgaris*) ..... 19
- Setae *l 4* 15-63  $\mu$  long. Internal part of coxae I-II with fine longitudinal or oblique striations. Propodonal plate 102-150  $\mu$  wide ..... 20
19. Propodonal and hysteronotal plates contiguous, not separated by striated cuticle ..... *O. dubinini* Volgin, 1964
- Propodonal and hysteronotal plates separated by 3 or 4 cuticular striations ..... *O. barri* Smiley, 1977
20. Setae *d 1* short (33  $\mu$ ) and serrate ..... *O. garrulax* Fain, 1972
- Setae *d 1* long (100-150  $\mu$ ) and smooth .... 21
21. Setae *l 4* 15  $\mu$ , *h* 175  $\mu$ . Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* 25  $\mu$  ..... *O. lepidus* sp.nov.
- Setae *l 4* 35-63  $\mu$ , *h* 135-150  $\mu$ . Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* 38-48  $\mu$  ..... 22
22. Solenidion of tibia I curved, 6  $\mu$  long; solenidion of genu I subcylindrical, thin and 3,2 to 3,6  $\mu$  long. Setae *d 1* 96  $\mu$  apart; distance *sc i-sc e* 30  $\mu$ ; setae *l 4* 35  $\mu$ . Idiosoma 282  $\mu$  long ..... *O. aitkeni* Fain, 1972
- Solenidion of tibia I variable; solenidion of genu I ovoid and 2,5  $\mu$  long. Setae *d 1* 60-80  $\mu$  apart; distance *sc i-sc e* 36-50  $\mu$ , setae *l 4* 42-63  $\mu$ . Idiosoma 339-390  $\mu$  long ..... 23
23. Solenidion of tibia I either straight or slightly curved and 12  $\mu$  long. Setae *d 1* 60  $\mu$  apart; distance *sc i-sc e* 50  $\mu$ ; setae *l 4* 42  $\mu$  ..... *O. granatina* Fain, 1972
- Solenidion of tibia I curved and 5  $\mu$  long. Setae *d 1* 80  $\mu$  apart; distance *sc i-sc e* 36  $\mu$ ; setae *l 4* 63  $\mu$  ..... *O. lamprocolius* Fain, 1972

#### Males

- (N.B. (i) The males of *O. pinguis*, *O. lamprocolius*, *O. eulabes*, *O. lepidus* and *O. barri* are unknown. (ii) The species are represented either by homeomorphic, by heteromorphic or by both types of males)

- Ventral surface of idiosoma with two large median punctate and not striated plates, one between the anterior coxae I-II, the other between the posterior coxae III-IV ..... 2
- Ventral surface of idiosoma between coxae completely striated without median punctate plates. In one species (*O. psittaci*) however the median striations of the venter are very thin and poorly marked and striations are lacking in the anterior part of the venter ..... 4
- Tibiae III-IV with 4 setae. Setae *sc i* barbed and as long as the *v i* and *v e* ..... *O. argentinensis* Fain, 1970
- Tibiae III-IV with 3 setae. Setae *sc i* smooth and much longer than the *v i* and *v e* ..... 3
- Both homeomorphic and heteromorphic males with a relatively short palpfemur. In heteromorphic male the palpfemur bears a strong conical apico-internal process. Setae *l 4* and *l 3*

- subequal. Setae *v i*, *v e*, *sc e* barbed ..... *O. hallae*  
Smiley, 1970 and 1977
- Heteromorphic male with a long palpfemur bearing a small conical interno-ventral process. Setae *l 4* about 3 times as long (32  $\mu$ ) as *l 3*. Setae *v i*, *v e*, *sc e* and *l 1* slightly serrate ..... *O. geopeliae*  
sp. nov.
4. Dorsal surface of idiosoma with two median plates completely striated and very poorly or not sclerotized ..... 5  
Dorsal surface of idiosoma with two median sclerotized plates without striations ..... 9
5. All dorsal setae relatively long and barbed except *l 2* which is very short and smooth. Ventrally all the coxals are barbed except anterocoxal I which is very small and smooth. Setae *ic 1* thick, barbed and 3 times as long as *ic 3* which is smooth ..... *O. lawrenceae*  
Smiley, 1970  
Setae *h*, *d 1*, *l 3*, *l 4*, *ic 1*, *ic 4*, coxals II and IV, posterior coxal I and internal coxal III are smooth. Setae *ic 1* and *ic 3* subequal ..... 6
6. Setae *l 4* about 3 times as long (55-60  $\mu$ ) as *l 3* (15-18  $\mu$ ). Palps very long. Anteromedian part of gnathosoma ventrally with 2 strong lateral incisions. Striations of median part of ventral surface of idiosoma distinctly punctate. Solenidion of tibia I straight, 12  $\mu$  long. (Heteromorphic males) ..... *O. leiiothrix*  
Fain, 1972  
Setae *l 4* slightly shorter (18-25  $\mu$ ) than *l 3*. Gnathosoma and palps as in the female, normal. Striations of venter not punctate. Solenidion of the tibia I 4-5  $\mu$  long (Homeomorphic males) ..... 7
7. Setae *v i*, *v e*, *sc i*, *sc e*, and *l 1* thin, very shortly barbed and 25-30  $\mu$  long. Other setae smooth. Setae *g 7* short with a thick base ..... *O. gersoni*  
Smiley, 1970  
Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* distinctly barbed. Other characters variable ..... 8
8. Setae *l 2*, *l 3* and *l 4* smooth with a short spindle-shaped swelling at 2  $\mu$  from their base ..... *O. volgini*  
Smiley, 1970  
Setae *l 2*, *l 3* and *l 4* without such swellings ..... *O. lukoschusi*  
Smiley, 1970
9. Setae *v i*, *v e*, *sc i*, *l 1* and *d 1* short (18 to 27  $\mu$ ) and barbed ..... *O. garrulax*  
Fain, 1972  
Setae *d 1* smooth and long; the *v i*, *v e*, *sc i* and *l 1* either barbed or smooth ..... 10
10. All dorsal setae are either smooth or serrate ..... 11  
Setae *v i*, *v e*, *sc i* and *sc e* distinctly barbed ..... 12
11. All dorsal setae cylindrical and serrate except the *l 3* and the genitals which are very thin, short and smooth. Anterior part of venter without striations ..... *O. psittaci*  
Fain, 1972  
Dorsal setae thin, piliform and smooth except *v i* and *v e* which may present very poorly distinct and short barbs ..... *O. psittaculæ*  
Fain, 1972
12. Setae *l 1* smooth (from original drawing) ..... *O. dubinini*  
Volgin, 1964  
Setae *l 1* barbed ..... 13
13. Setae *l 4* approximately as long as setae *h* (130-140  $\mu$ ) (From the type male) ..... *O. canadensis*  
(Banks, 1909)  
Setae *l 4* much shorter (15-45  $\mu$  long) than setae *h* (104 to 150  $\mu$ ) ..... 14
14. Tibiae III-IV with 4 setae. Setae *l 4* 15  $\mu$  long ..... *O. smileyi*  
Fain, 1972  
Tibiae III-IV with 3 setae. Setae *l 4* 25-45  $\mu$  long ..... 15
15. Setae *ic 1* stronger and twice longer (66  $\mu$ ) than *ic 3*. Setae *l 2*, *l 3*, *l 4* serrate. Anterior margin of gnathosomal base strongly concave dorsally (heteromorphic male) ..... *O. francolini*  
Fain, 1972  
Setae *ic 1* thin and not longer than *ic 3*. Setae *l 2*, *l 3*, *l 4* smooth. Anterior margin of gnathosomal base rounded dorsally ..... 16

16. Gnathosoma small, normal in shape. Penis 50  $\mu$  long. Setae *l 4* 50  $\mu$  long and 60  $\mu$  apart. Solenidion of tibia I curved 4,2  $\mu$  long .....  
 ..... *O. aitkeni*  
 Fain, 1972
- Gnathosoma modified, large and with very long and strong palps. Penis 35  $\mu$  long. Setae *l 4* 33  $\mu$  long and 36  $\mu$  apart. Solenidion of tibia I straight, cylindrico-conical and 12  $\mu$  long .....  
 ..... *O. granatina*  
 Fain, 1972

## Study of the Species

### 1. *Ornithocheyletia pinguis* (Berlese, 1889)

- Cheyletiella pinguis* Berlese, 1889, 56, p. 3 (Fig. 2)  
*Cheyletiella pinguis*, Oudemans, 1906, p. 213;  
 Womersley, 1941, p. 59 (Fig. 6)  
*Neochyletiella pinguis*, Baker, 1949, p. 275  
*Ornithocheyletia pinguis*, Volgin, 1964, pp. 34-36  
 (Fig. 1); 1969, p. 396 (Figs. 495-498); Smiley,  
 1970, p. 1065; 1977, p. 229.

I have not seen specimens of *O. pinguis* but this species should be easily recognized from the original figures by its coxal chaetotaxy which is 1-1-0-0 instead of 2-1-2-1 as in all the other species in the genus. However, owing to the great stability of the coxal setae in the Cheyletidae I surmise that the missing setae were overlooked by Berlese and, therefore, that a re-examination of the type is needed before the exact status of this species can be established.

*Host and locality:* *Turdus merula* (L.), Firenze, Italy. Holotype female in ABF. Womersley (1941) recorded the presence of *O. pinguis* from an Australian parrot *Platycercus elegans*, in Victoria, Australia. According to Dr. S. Thewke who examined these specimens in 1977, they belong in fact to *O. lawrenceae* (Mr. D.C. Lee, personal communication).

### 2. *Ornithocheyletia canadensis* (Banks, 1909)

- Cheyletiella canadensis* Banks, 1909, p. 133  
*Neochyletiella canadensis*, Baker, 1949, p. 272  
 (Figs. 4,5)  
*Ornithocheyletia canadensis*, Volgin, 1964, pp.

- 32-34 (Figs. 4-6); 1969, p. 393 (Figs. 491-494);  
 Smiley, 1970, p. 1065; 1977, pp. 228-229.

I have re-examined the type slide preparation containing a female and a heteromorphic male. These specimens are mounted in Canada balsam and are strongly retracted and very difficult to study. I give here the characters that could be observed. They correspond with the original drawings of the species.

*Female:* Dorsum with two sclerotized, unstriated and well separated plates. Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* barbed and 60 to 70  $\mu$  long, they are situated on the striated cuticle off the plates. Setae *d 1*, *h*, *l 4* and *l 5* smooth and 120  $\mu$ , 150  $\mu$ , 70  $\mu$  and 150  $\mu$  long respectively. The *l 2* and *l 3* are very thin and short (15 and 20-25  $\mu$  respectively) and, according to the original drawing, they have short barbs. These could not be seen, probably because the opacity of the specimen. Setae *l 5* situated off the pygidial plate and 60  $\mu$  apart. Pygidial plate 50  $\mu$  wide. Legs strongly retracted ventrally so that the tibial setae are not observable. Solenidion of tibia I thin, cylindrical and relatively long.

*Heteromorphic male:* Venter completely striated without median punctate plates. Dorsum with two large unstriated plates. Setae *d 1*, *h* and *l 4* 120  $\mu$ , 140  $\mu$  and 130  $\mu$  long respectively. Base of gnathosoma 57  $\mu$  wide, total length of gnathosoma 72  $\mu$ , palps long and strong, the palpfemur without conical processes.

*Host and locality:* From a blue-bird *Picus viridis* (L.), Canada. Types in MCZ.

### 3. *Ornithocheyletia dubinini* Volgin, 1964

- Ornithocheyletia dubinini* Volgin, 1964: 28-36  
 (Figs. 1-3); 1969 : 390 (Figs. 487-490); Smiley,  
 1970 : 1065; 1977 : 229.

I have not been able to examine the holotype of this species but have seen several specimens from the type host, *Sturnus vulgaris*, from the Netherlands, which correspond with the description and the figures given by Volgin. In a female the setae *v i*, *v e*, *sc i*, *sc e* and *l 1* are barbed and 55 to 75  $\mu$  long. Other setae smooth, *h* 150  $\mu$ , *l 4* 110  $\mu$ , *l 5* 180  $\mu$ , *d 1* 105  $\mu$ . The setae *l 5* are 60  $\mu$  apart and off the pygidial plate. Propodotal and hysteronotal

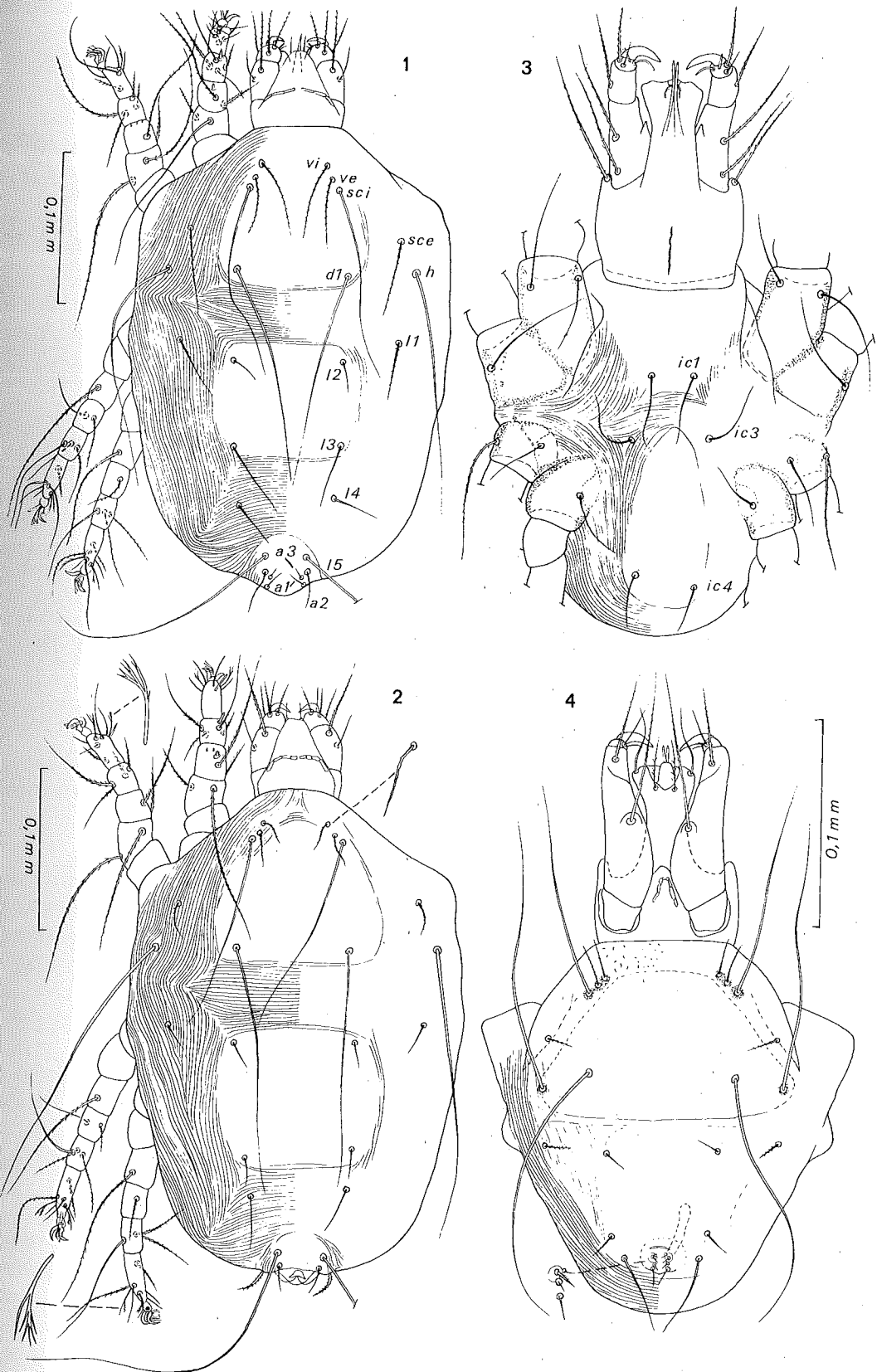
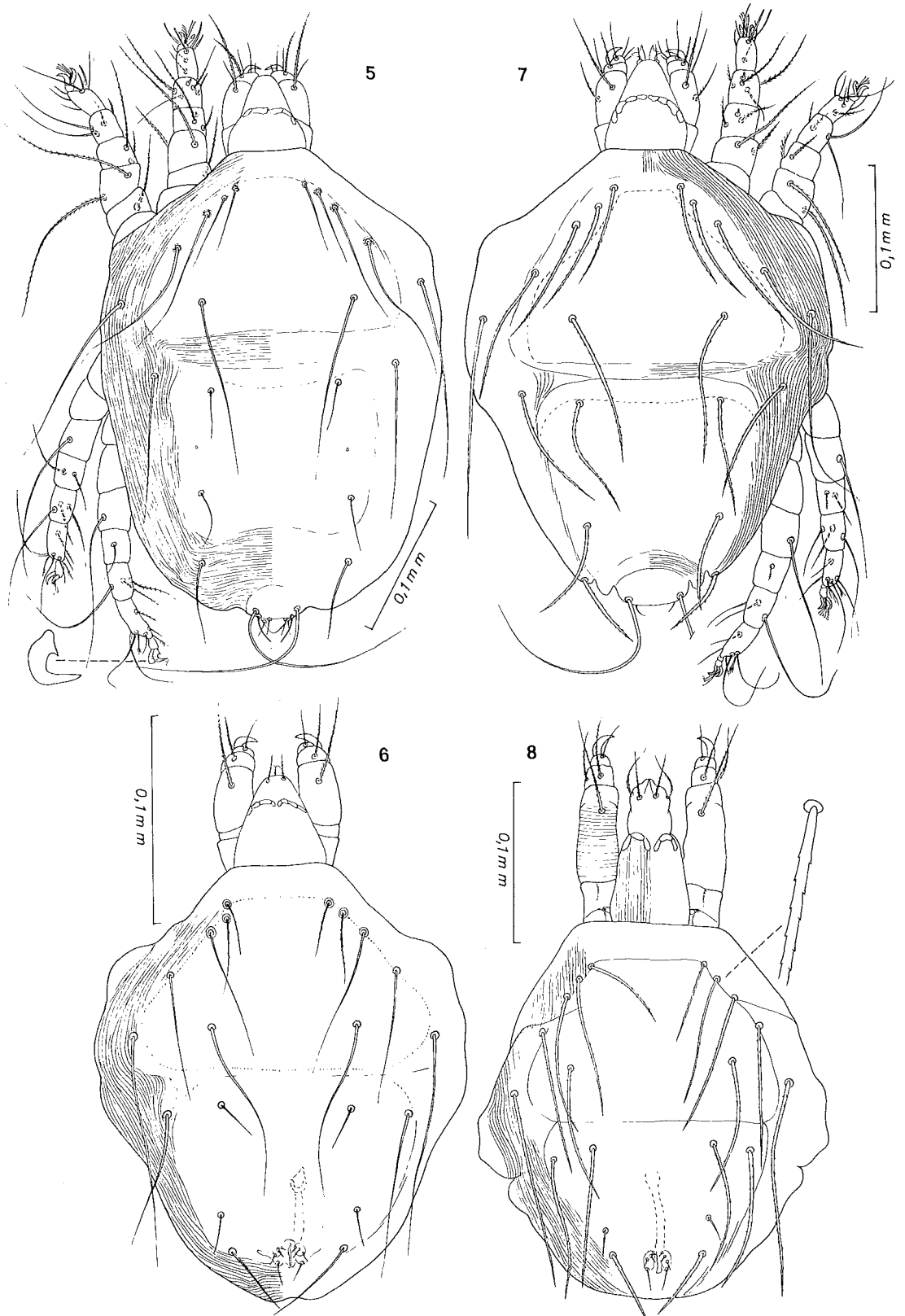


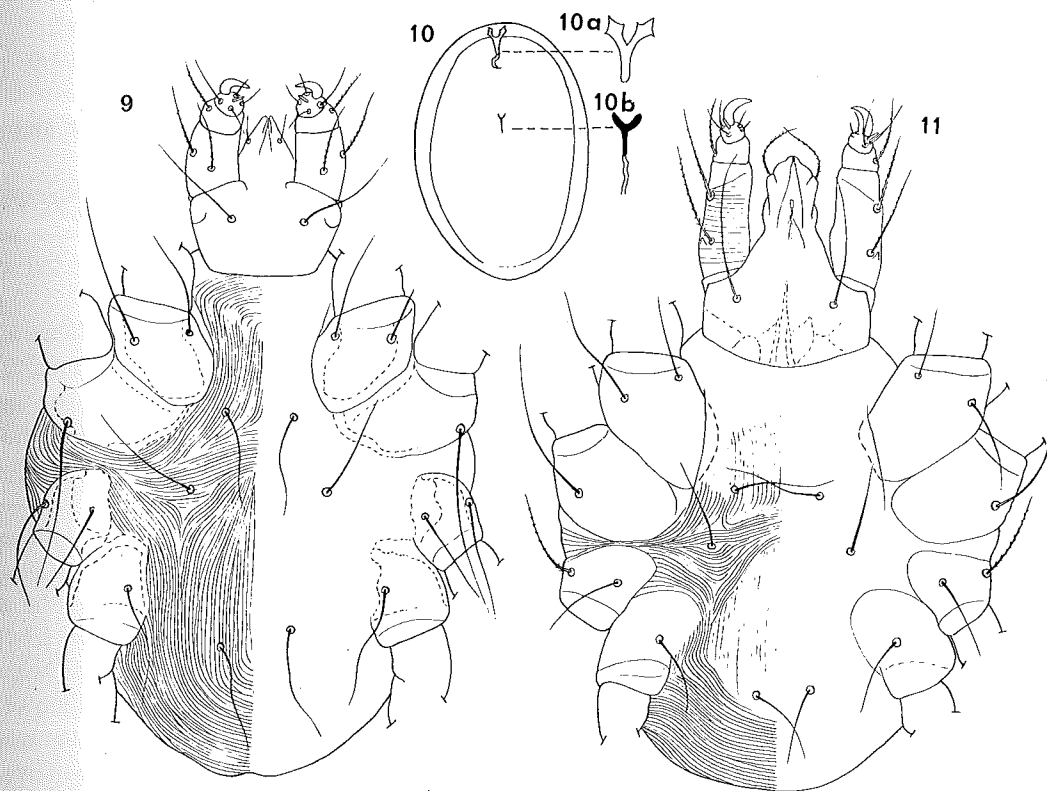
Fig. 1. *Ornithocheyletia hallae similis* Fain, 1972, female, dorsal view.

Figs. 2-4. *Ornithocheyletia geopeliae* sp. nov. (2) Female, dorsal view; (3) Male, ventral view; (4) Male, dorsal view.



Figs. 5, 6. *Ornithocheyletia psittaculæ* Fain, 1972. (5) Female, dorsal view; (6) Male, dorsal view.  
Figs. 7, 8. *Ornithocheyletia psittaci psittaci* Fain, 1972 (7) Female, dorsal view; (8) Male, dorsal view.





Figs. 9, 10. *Ornithocheyletia psittaculæ* Fain, 1972. (9) Male, ventral view; (10, 10a, 10b) Egg with prelarva. Fig. 11. *Ornithocheyletia psittaci psittaci* Fain, 1972, male, ventral view.

plates are punctate without lines and are contiguous, 220 and 170  $\mu$  wide respectively. Tibiae III-IV with three setae. Solenidion of tibia I cylindrico-conical 8-9  $\mu$  long (Fig. 42)

*Homeomorphic male:* With two large punctate dorsal shields. Venter striated without punctate plates. Setae *l 4* 120  $\mu$  long. Setae *l 1* distinctly barbed (these setae are smooth in the original description).

*Host:* Host of the holotype *Sturnus vulgaris*, Moldavia, SSSR. Type in Academy of Sciences SSSR.

#### 4. *Ornithocheyletia barri* Smiley, 1977

*Ornithocheyletia barri* Smiley, 1977: 234 (fig. 16-20)

This species is known only from the female and the holotype female of this species has been examined

for this study. It resembles very closely the description and the figures of *O. dubinini* given by Volgin, except that the two main dorsal plates are clearly separated from each other by four striations of the soft cuticle, whereas in *O. dubinini* these plates are contiguous and not separated by cuticular striations (Fig. 43).

This species was collected from the same host species (*Sturnus vulgaris*) as *O. dubinini*, but in North America. The holotype is in the USNM.

#### 5. *Ornithocheyletia lawrenceae* Smiley, 1970

*Ornithocheyletia lawrenceae* Smiley, 1970, p. 1065 (Figs. 22-25)

*Cheyletiella pinguis* Womersley, 1941, p. 59 (Fig. 6) (non *Cheyletiella pinguis* Berlese, 1889)

I have examined the holotype female and a paratype male of this species, which are in the USNM

Washington. They correspond with the description by Smiley.

*Female* (holotype) (Fig. 45): Total length 327  $\mu$ . The coxae III and IV bear conical or rounded spurs on their posterior margins. The tibiae III-IV bear three setae. All the dorsal setae are smooth. The setae *d 5* are situated off the pygidial plate and are 51  $\mu$  apart. The *sc i* much longer (110  $\mu$ ) than *ve* (63  $\mu$ ). The *l 4* is 60  $\mu$ . Solenidion of tibia I cylindrico-conical, straight, 6  $\mu$  long. The *male* corresponds with the description by Smiley.

*Host and locality*: (i) On Parakeet, San Antonio, Texas, 16 October 1952. Holotype No. 3344, in USNM. (ii) According to Dr. S. Thewke, the specimens recorded by Womersley (1941) as *Chelietiella pinguis* Berlese from *Platycercus elegans*, Australia, belong in fact to *O. lawrenceae* (Mr. D.C. Lee, personal communication). Through the courtesy of Mr. Lee I was able to examine some of these specimens and I can confirm that this identification is correct.

6. *Ornithocheyletia volgini* Smiley, 1970

*Ornithocheyletia volgini* Smiley, 1970, p. 1069 (Figs. 28-31)

I have examined the holotype female and a paratype male.

*Female* (holotype) (Fig. 55): It corresponds to the description and figures given by Smiley, except that there is a pair of setae *sc e*. Setae *vi*, *ve*, *sc i*, *sc e* and *l 1* barbed and 54  $\mu$ , 52  $\mu$ , 50  $\mu$ , 45  $\mu$  and 50  $\mu$  long respectively. Other dorsal setae smooth: *h* 125  $\mu$ , *d 1* 100  $\mu$ , *l 5* 125  $\mu$ . The *l 2* are absent. The *l 5* are 65  $\mu$  apart. Dorsal plates with poorly distinct longitudinal striations. Hysteronotal plate wider (80  $\mu$ ) than long (63  $\mu$ ). Pygidial plate 23  $\mu$  wide. Solenidion of tibia I 4.8  $\mu$  long, slightly curved near the base, and inflated in apical half. Body, including gnathosoma, 350  $\mu$  long.

*Male homeomorphic* (paratype): Dorsal plates covered with very thin longitudinal striations. Chaetotaxy as in the figures given by Smiley. Tibiae III-IV with three setae. Solenidion of tibia I as in the female.

*Host*: *Petrochelidon pyrrhonota*, in Wayne County, Ohio, USA. Holotype in IAC.

7. *Ornithocheyletia gersoni* Smiley, 1970

*Ornithocheyletia gersoni* Smiley, 1970, p. 1065 (Figs. 18-21)

I have examined the holotype female and a paratype male.

*Female* (holotype) (Fig. 40): I can confirm the description by Smiley, except that the *h* setae are not barbed, as depicted by Smiley, but smooth. Setae *vi*, *ve*, *sc i*, *sc e* and *l 1* barbed and 90  $\mu$ , 75  $\mu$ , 93  $\mu$ , 96  $\mu$  and 90  $\mu$  long respectively. Setae *h*, *l 4* and *l 5* smooth and 150  $\mu$  long, the *d 1* smooth, 120  $\mu$  long. The *l 5* are off the pygidial plate and 57  $\mu$  apart. Pygidial plate 33  $\mu$  wide. Propodonal and hysteronotal plates wider than long, the former is 93  $\mu$  long and 112  $\mu$  wide, the latter 78  $\mu$  long and 120  $\mu$  wide. Both plates are covered with very thin but distinct longitudinal lines. Pygidial plate without lines. Coxae III with two setae, the external barbed, the internal smooth. Tibiae III-IV with three setae. Basal half of coxae I-II with longitudinal or oblique striations. Solenidion of tibia I cylindrico-conical, straight, 9-10  $\mu$  long; solenidion of genu I short, with apical half in broad oval. Total length, gnathosoma included, 300  $\mu$ , maximum width 195  $\mu$ .

*Male homeomorphic* (paratype): dorsal plates completely striated. Setae *vi*, *ve*, *sc i*, *sc e* and *l 1* very shortly barbed. Other characters as described and depicted by Smiley. The solenidion of tibia I is much shorter (3.6  $\mu$  long) than in the female and inflated apically. Tibiae III-IV with three setae.

*Host*: *Dendrocopos pubescens*, Wooster, USA. Holotype in IAC.

8. *Ornithocheyletia hallae hallae* Smiley, 1970

*Ornithocheyletia hallae* Smiley, 1970: 1068 (fig. 26-27); 1977: 229 (fig. 1-15)

I have seen the holotype female of this species and can confirm the original description. Total length 342  $\mu$ . The pygidial plate is 45  $\mu$  wide. Setae *sc i*, *h*, *l 5* and *d 1* smooth and 180  $\mu$  long. Setae *vi*, *ve*, *sc e*, *l 1* barbed and 45-60  $\mu$  long. Setae *l 5* 33  $\mu$  apart. Tibiae III-IV with 3 setae. Solenidion of tibia I inflated in its middle part and about 5  $\mu$  long (Fig. 48).

There are two different types of males in this

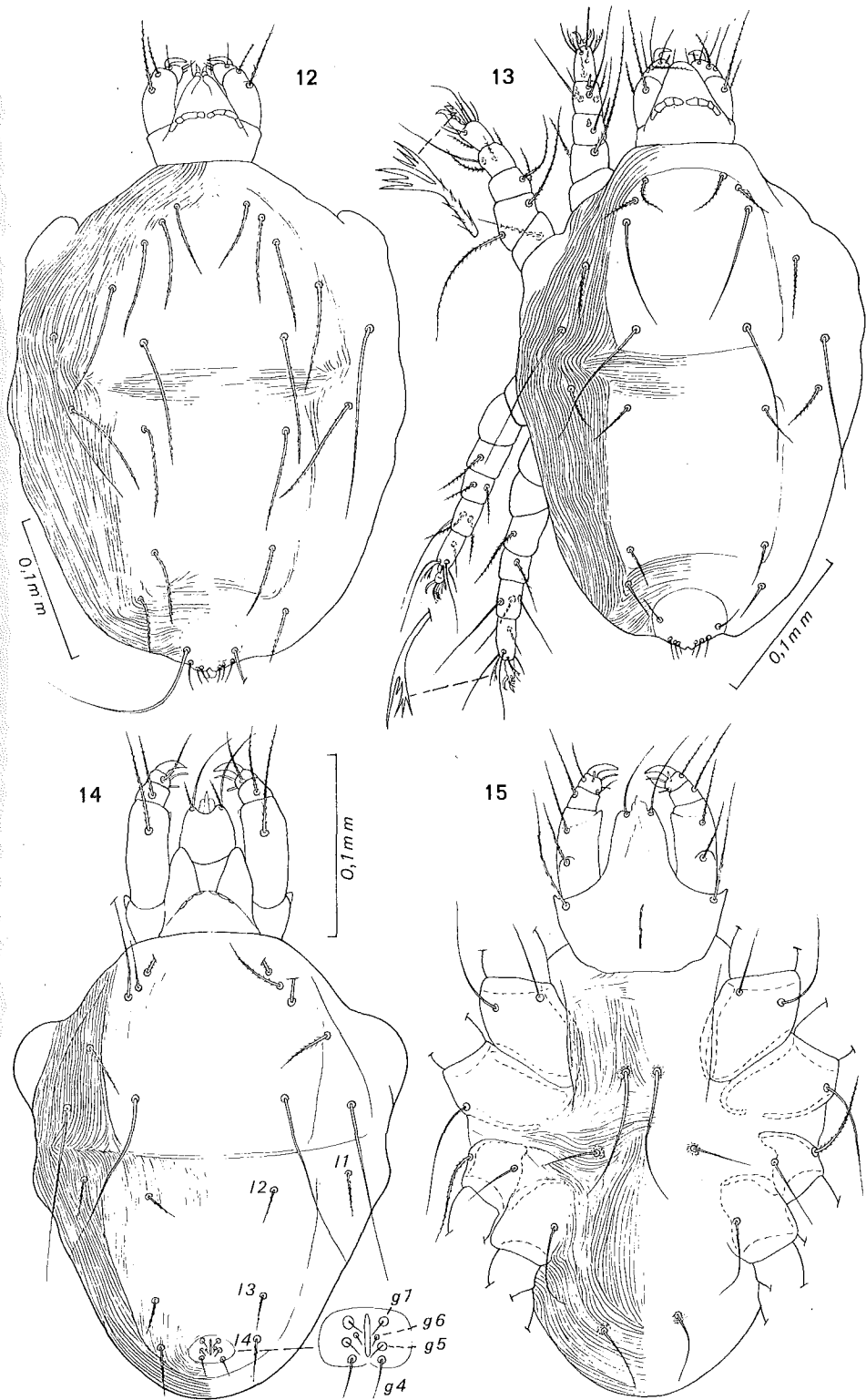


Fig. 12. *Ornithocheyletia psittaci poicephali* ssp. nov., female, dorsal view.

Figs. 13-15. *Ornithocheyletia francolini* Fain, 1972. (13) Male, dorsal view; (14) Male, dorsal view; (15) Male, ventral view.

species, one normal, the other heteromorphic. In both males the ventral surface bears two median unstriated plates (Smiley, 1977).

*Host and locality:* Type series from a pigeon, Brownville, Texas, 15.VI.1962. Holotype, No. 3343 in USNM. Other specimens from barnyard pigeons, California. The species has also been recorded from Europe (Smiley, 1977). I have seen specimens from domestic pigeons from South Africa.

*Ornithocheyletia hallae similis* Fain, 1972 nov. stat.

*Ornithocheyletia similis* Fain, p. 44

The comparison of *O. similis* with the type of *O. hallae* has shown that the former is merely a subspecies of the latter. The description of this form is completed below.

*Female* (fig. 1; 46): Idiosoma in holotype 340  $\mu$  long, 240  $\mu$  wide. Total length 385  $\mu$ . Size of dorsal plates: propodonal 100  $\mu$  wide, hysteronotal 72  $\mu$  long and 100  $\mu$  wide, pygidial 26  $\mu$  long and 32  $\mu$  wide. Setae *vi*, *ve*, *sc e* and *l 1* barbed and 40-50  $\mu$  long. All other setae smooth: *sc i* 140-150  $\mu$ , *h*, *d 1*, *l 5* 150  $\mu$ . The *l 5* are situated on the pygidial plate and are 25  $\mu$  apart. Ventral setae thin, smooth, except the external seta of coxa III which is barbed and much longer (100  $\mu$ ) than the other coxals. Tibiae III-IV with 3 setae. Solenidion of tibia I straight 4,5  $\mu$  long; solenidion of genu I very small ovoidal.

*Male:* unknown.

*Host and locality:* On *Chalcophas indica*. This bird died in the Antwerp Zoo, a few days after its importation from Asia, 3.IX.1965. Holotype in IRSNB.

*Remark:* *O. hallae similis* differs from the typical form by the greater size of the body, the narrower shape of the pygidial plate and the shorter length of some dorsal setae.

#### 9. *Ornithocheyletia geopeliae* sp.nov.

*Female* (Fig. 2; 47): Idiosoma in holotype 305  $\mu$  long and 218  $\mu$  wide. Total length in holotype 355  $\mu$ , in two paratypes 348  $\mu$  and 328  $\mu$ . *Dorsum:* size of plates: propodonal 95  $\mu$  wide, hysteronotal 83  $\mu$  long and 103  $\mu$  wide, pygidial 36  $\mu$  wide. Setae *vi*,

*ve*, *sc e* and *l 1* barbed and 18-20  $\mu$  long. Other dorsal setae smooth, the *sc i*, *d 1*, *h*, and *l 5* are 130  $\mu$ , 140  $\mu$ , 145  $\mu$  and 180  $\mu$  long respectively, and the *l 2*, *l 3* and *l 4* 15  $\mu$ , 15  $\mu$  and 27  $\mu$  long respectively. Setae *l 5* are on the pygidial plate and 27  $\mu$  apart. *Venter:* Setae *ic 1*, *ic 3* and *ic 4* thin, smooth, subequal. Coxal setae smooth except the external of coxa III slightly barbed. Gnathosoma 52  $\mu$  wide at base. Legs slender, tibiae III-IV with three setae. Solenidion of tibia I straight, 4,5-5  $\mu$  long; that of genu I very small, subglobular.

*Heteromorphic male* (Figs. 3, 4): Idiosoma 178  $\mu$  long, 160  $\mu$  wide. Dorsum with two large, median, sclerotized and unstriated plates. Setae *vi*, *ve*, *sc e* and *l 1* very thin, with very short barbs and 12 to 18  $\mu$  long. Other dorsal setae smooth: *sc i* 90  $\mu$ , *h* 150  $\mu$ , *d 1* 140  $\mu$ , *l 2* 10  $\mu$ , *l 3* 12  $\mu$ , *l 4* 32-36  $\mu$ . The genital setae are smooth and thin, except *g 6* which is thick and barbed. *Venter:* with two median sclerotized and unstriated plates. Ventral setae as in the female but the *ic 1* are slightly thicker than *ic 3* and thicker and longer than *ic 4*. Gnathosoma very large (base 63  $\mu$  wide). Palps very strong, the palpfemur is enlarged dorsally in its middle part. Legs as in the female.

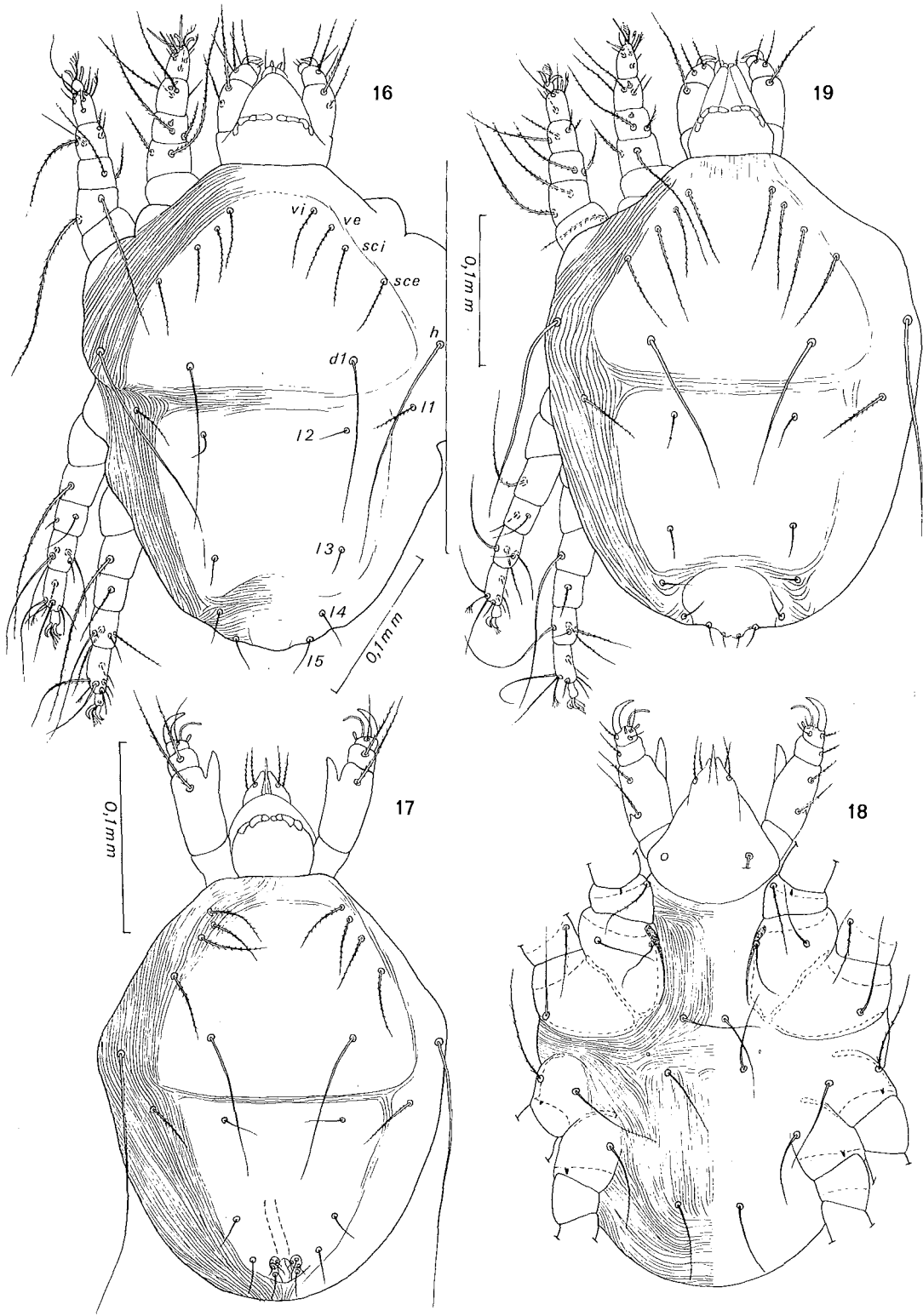
*Host and locality:* From *Geopelia striata*, 6.V. 1964. This bird died in Antwerp Zoo soon after its introduction. Holotype and four paratypes female, allotype and one paratype male. Holotype in IRSNB.

*Remarks:* This species presents, as *O. hallae* Smiley, very long and smooth *sc i* setae contrasting with the barbed and much shorter aspect of the *vi*, *ve*, *sc e* and *l 1* setae. It differs from the latter in the female by the much greater relative length of the *sc i* setae which are about six times as long as *vi*, *ve*, *sc e* and *l 1* and the much shorter length of the latter. The male differs by the very different shape of the gnathosoma and the relatively greater length of *l 4* setae compared to *l 3*.

#### 10. *Ornithocheyletia psittaculae* Fain, 1972

*Ornithocheyletia psittaculae* Fain, 1972, p. 44

*Female* (Figs. 5, 54): Idiosoma in holotype 330  $\mu$  long and 250  $\mu$  wide. Total length 390  $\mu$ . A paratype is 363  $\mu$  long (total length) and 246  $\mu$  wide. *Dorsum:*



Figs. 16-18. *Ornithocheyletia smileyi* Fain, 1972. (16) Female, dorsal view; (17) Male, dorsal view; (18) Male, ventral view.  
 Fig. 19. *Ornithocheyletia argentinensis* Fain, 1972, female, dorsal view.

propodonal plate 190  $\mu$  wide; hysteronotal plate 114  $\mu$  long and 150  $\mu$  wide; pygidial plate 45  $\mu$  wide. All the dorsal setae are smooth; the *vi*, *ve*, *sci*, *sce*, *d1* and *h* are 39  $\mu$ , 54  $\mu$ , 105 $\mu$ , 110 $\mu$ , 120  $\mu$  and 140  $\mu$  long respectively. The *l1*, *l4* and *l5* are 105  $\mu$ , 63  $\mu$ , and 140-150  $\mu$  long. The *l5* are situated on the pygidial plate, they are 30  $\mu$  apart. *Venter*: coxae small; *ic* setae subequal, thin. All coxal setae are thin and smooth. Base of gnathosoma 36  $\mu$  wide. Tibiae III-IV with three setae. Most of the leg setae are smooth or very shortly barbed. Solenidion of tibia I very short (4  $\mu$ ) and slightly curved; solenidion of genu I very small with apical part globular.

*Male* (Fig. 6, 9): This male is slightly heteromorphic. Idiosoma in allotype 225  $\mu$  long and 180  $\mu$  wide. Total length 270  $\mu$ . *Dorsum* with two large plates. All setae smooth except *vi* and *ve* shortly barbed; propodosomal *h* and *l1* setae as in female. The *l4* are 50  $\mu$  long. *Venter*: without median plates, the cuticle is striated; ventral and coxal setae as in the female. Gnathosoma relatively large, its base is 69  $\mu$  wide; palps strong. Legs: Tibiae III-IV with 3 setae. Solenidions as in female.

*Egg* (Fig. 10): Some eggs contain a prelarva. It consists of a membranous envelope bearing two sclerotized bifid ecdysing organs serving for the rupture of the eggshell.

*Host and locality*: From *Psittacula krameri*. This bird died in Antwerp Zoo a few days after its arrival, 2.VII.1963. Holotype female and 14 paratypes female; allotype and one paratype male, protonymphs and tritonymphs.

*Remarks*: *O. psittaculæ* belongs with a group of five species presenting the *l5* setae on the pygidial shield. *O. psittaculæ* is distinguished from the five other species of this group by the smooth aspect of all the dorsal setae.

#### 11. *Ornithocheyletia psittaci psittaci* Fain, 1972

*Ornithocheyletia psittaci* Fain, 1972, p. 43

*Female* (Figs. 7, 53): Idiosoma in holotype 308  $\mu$  long and 260  $\mu$  wide. Total length 365  $\mu$ . In two paratypes the total length is 405  $\mu$  and 390  $\mu$ . *Dorsum*: propodonal plate 180  $\mu$  wide; hysteronotal plate 115  $\mu$  long and 150  $\mu$  wide; pygidial plate 50  $\mu$  wide. All dorsal setae are cylindrical,

thick and finely serrate except *h* and *l5* which are smooth. Length of setae: *vi* 70  $\mu$ ; *ve* 78  $\mu$ ; *sci* 75  $\mu$ , *sce* 93  $\mu$ ; *h* 150  $\mu$ ; *d1* 105  $\mu$ ; *l1* 90  $\mu$ ; *l2* 85  $\mu$ ; *l3* 75  $\mu$ ; *l4* 48  $\mu$ ; *l5* 160  $\mu$ . The *l5* are situated on the pygidial shield, they are 36  $\mu$  apart. The *ic1*, *ic3* and *ic4* and the coxal setae are smooth, except the external of coxa III which is finely barbed. Base of gnathosoma 68  $\mu$  wide. Tibiae III-IV with three setae. Some of the long setae of legs are thick. Solenidion of tibia I straight, 5  $\mu$  long.

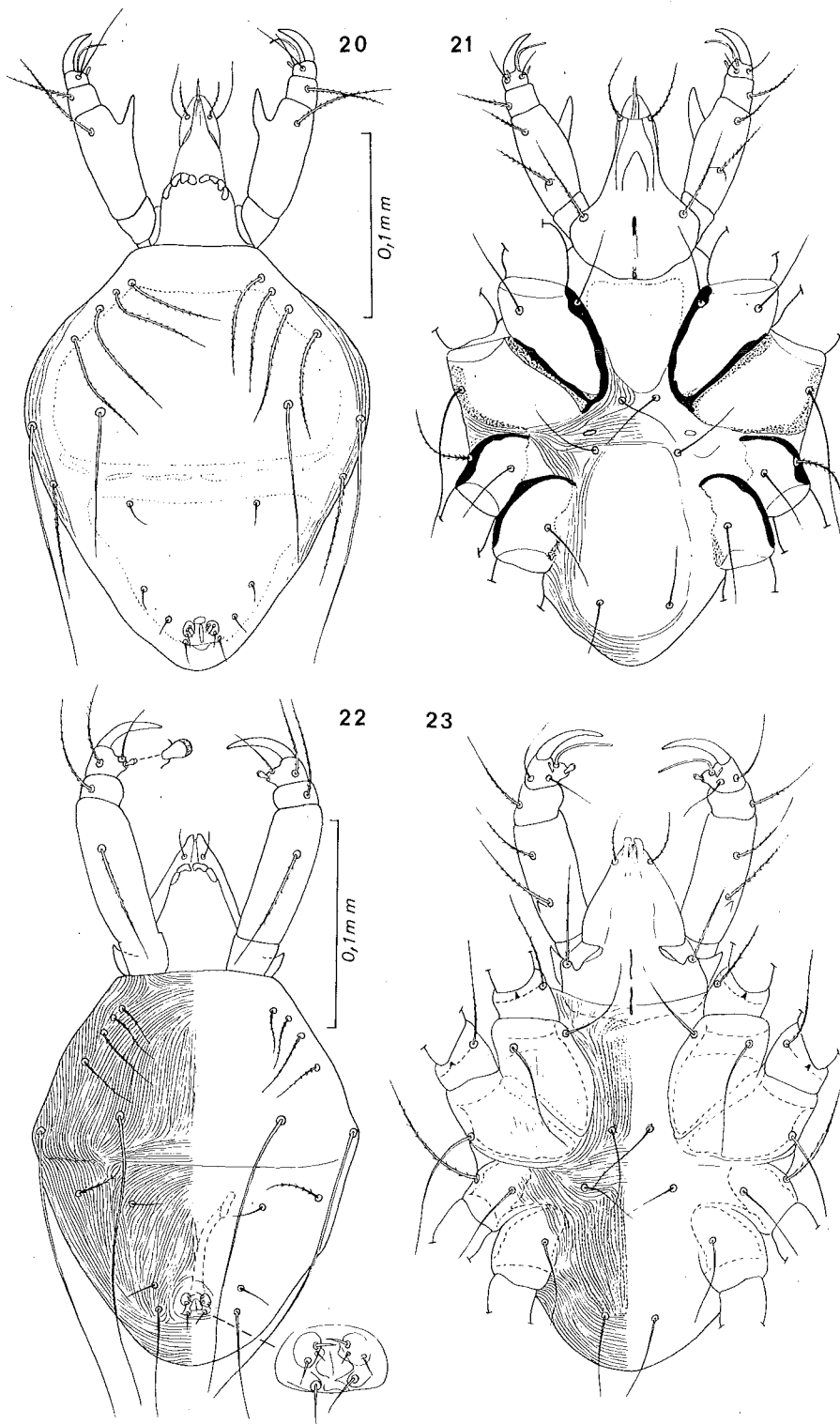
*Heteromorphic male* (Figs. 8, 11): Idiosoma in allotype 235  $\mu$  long and 220  $\mu$  wide. *Dorsum*: the two large plates are punctate and they bear very thin striations very poorly marked. Dorsal setae as in the female but the *l3* are thin and short (15  $\mu$ ). *Venter*: coxae large. Median region between coxae striated without plates. Setae *ic* and coxal setae as in the female. Gnathosoma large, with base 93  $\mu$  wide and with long palps. The palpfemur is devoid of processes. Legs strong with the same chaetotaxy and solenidiotaxy as in female. Penis 63  $\mu$  long.

*Host and locality*: From *Psittacus erithacus* imported from Central Africa and which died in the Antwerp Zoo, 19.VI.1967. Holotype and two paratypes female; allotype and one paratype male; two protonymphs containing males, three protonymphs, one tritonymph, one larva, all paratypes. From the same host and place but on 6.VIII.1963 and 14.XII.1965: six females and three tritonymphs, all paratypes. Holotype in MRAC.

*Remarks*: (i) The mites were found in extensive mange lesions on the body of the birds. (ii) *O. psittaci* belongs to a group of five species which present the *l5* setae on the pygidial plate. It differs from the other species of this group by the aspect of most of the dorsal setae which are thick, cylindrical and serrate.

#### *Ornithocheyletia psittaci* ssp. *poicephali* ssp. nov.

*Female* (Fig. 12): Idiosoma in the holotype 340  $\mu$  long and 260  $\mu$  wide. Total length 405  $\mu$  long. *Dorsum*: propodonal plate 180  $\mu$  wide; hysteronotal plate 118  $\mu$  long and 144  $\mu$  wide; pygidial plate 40  $\mu$  wide. All the dorsal setae are cylindrical and serrate except *h* and *l5* which are smooth. Length of setae: *vi* 57  $\mu$ ; *ve* and *sci* 60  $\mu$ ; *sce* 78  $\mu$ ; *h*



Figs. 20, 21. *Ornithocheyletia argentinensis* Fain, 1972. (20) Male, dorsal view; (21) Male, ventral view.  
Figs. 22-23. *Ornithocheyletia leiothrix* Fain, 1972. (22) Male, dorsal view; (23) Male, ventral view.

120  $\mu$ ; *d* 181  $\mu$ ; *l* 175  $\mu$ ; *l* 266  $\mu$ ; *l* 351  $\mu$ ; *l* 436  $\mu$ ; *l* 5105-115  $\mu$ . Setae *l* 5 situated on the pygidial plate and 32  $\mu$  apart. Venter: setae *ic* 1, *ic* 3 and *ic* 4 very thin, smooth and subequal. Coxal setae smooth except external coxal III very finely serrate. Base of gnathosoma 75  $\mu$  wide. Legs and leg chaetotaxy as in *O. psittaci*. Solenidion tibial I thick and curved, 5  $\mu$  long; solenidion genual  $\pm$  3-3,5  $\mu$  long, ovoidal with a narrow base. Claws thick.

*Male*: unknown.

*Host and locality*: From *Poicephalus senegalus* (Psittacidae), from Western Africa, 25.III.1966. Holotype female and only known specimen in MRAC.

*Remark*: This subspecies differs from the typical form by the distinctly shorter length of the dorsal setae, the body-length being equal or larger.

12. *Ornithocheyletia francolini* Fain, 1972

*Ornithocheyletia francolini* Fain, 1972 p. 44

*Female* (Figs. 13, 44): Idiosoma in the holotype 304  $\mu$  long and 195  $\mu$  wide. Total length 360  $\mu$ . In two paratypes these measurements (total length  $\times$  width) are 340  $\mu \times$  185  $\mu$  and 344  $\mu \times$  200  $\mu$ . *Dorsum*: propodonal plate 108  $\mu$  wide; hyster-onotal plate 98  $\mu$  long and 110  $\mu$  wide; pygidial plate 48  $\mu$  wide. Anterior and lateral parts of the two anterior plates with some very thin and indistinct striations. Setae *v* 1, *v* e, *sc* e and *l* 1 barbed, 28-30  $\mu$  long. Other dorsal setae smooth. Setae *sc* i, *d* 1, *h* 72  $\mu$ , 80  $\mu$  and 100  $\mu$  long respectively. Setae *l* 2, *l* 3 and *l* 4 subequal 21-25  $\mu$  long, the *l* 2 and *l* 3 are very slightly serrate; *l* 5 very thin 16  $\mu$  long, situated on pygidial plate and 36  $\mu$  apart. *Venter*: setae *ic* 1 distinctly thicker and longer (75  $\mu$ ) than *ic* 3 and *ic* 4 (38-45  $\mu$ ). Coxal setae smooth except external seta of coxa III which is barbed. Base of gnathosoma 69  $\mu$  wide. Legs: tibiae III-IV with three setae. Solenidion of tibia I straight, cylindrical, 7  $\mu$  long; solenidion of genu I very small (4  $\mu$  long) and with apical half ovoid.

*Heteromorphic male* (Figs. 14, 15): Idiosoma in allotype 255  $\mu$  long and 195  $\mu$  wide. *Dorsum* with two large plates bearing in their lateral parts numerous very faint striations. Setae as in the female, but the setae *l* 4 are slightly serrate. *Venter*

completely striate, except the coxae. Setae *ic* and coxals as in the female. Gnathosoma very large, its base measured ventrally, is 90  $\mu$  wide. Palps very strong and long; palpfemur with a small apico-internal process. Leg chaetotaxy as in female.

*Host and locality*: From *Francolinus natalensis*, Waterpoort, N. Transvaal, South Africa, 14.VI.1970 (Coll. F. Zumpt). Holotype and three paratypes female, allotype male. Holotype and allotype in MRAC; one paratype female in SAIMR; one paratype in the collection of the author.

*Remark*: The female of this species presents the *l* 5 setae situated on the pygidial plate as five other species in the genus. It differs from these species by the very short *l* 5 setae and the *ic* 1 being twice as long as the *ic* 3 - *ic* 4.

13. *Ornithocheyletia smileyi* Fain, 1972

*Ornithocheyletia smileyi* Fain, 1972, p. 45

*Female* (Figs. 16, 51): Idiosoma in holotype 315  $\mu$  long, 235  $\mu$  wide. Total length 360  $\mu$ . *Dorsum*: the plates are well sclerotized and not striated, propodosomal plate 120  $\mu$  long and 180  $\mu$  wide; hyster-onosomal plate 105  $\mu$  long and 150  $\mu$  wide; pygidial plate 15  $\mu$  long and 30  $\mu$  wide and without setae. Setae *v* 1, *v* e, *sc* i, *sc* e and *l* 1 barbed and 40  $\mu$ , 36  $\mu$ , 38  $\mu$  and 39  $\mu$  long respectively; other setae smooth. Length of other setae: *h* 160  $\mu$ ; *d* 1 100  $\mu$ ; *l* 2, *l* 3 and *l* 4 18  $\mu$ ; *l* 5 30  $\mu$ . Setae *l* 5 are 48  $\mu$  apart and situated on soft cuticle off the pygidial plate. *Venter* striated; coxae without striations. All the coxal setae are smooth. Setae *ic* 1, *ic* 3, *ic* 4 smooth, subequal. Base of gnathosoma 75  $\mu$  wide. Palpfemur and palpgenu with only barbed setae. Legs well developed. Trochanters I-II with an anteroventral rounded and flattened process. Leg chaetotaxy as described for genus but tibiae III and IV bear four setae. Solenidion of tibia I 5-6  $\mu$  long.

*Heteromorphic male* (Figs. 17, 18): Idiosoma 225  $\mu$  long and 180  $\mu$  wide; total length 270  $\mu$ . *Dorsum* with two large unstriated plates; setae *v* 1, *v* e, *sc* i, *sc* e and *l* 1 barbed, and 30  $\mu$ , 30  $\mu$ , 30  $\mu$ , 34  $\mu$  and 30  $\mu$  long. Other setae smooth: *h* 150  $\mu$ ; *d* 1 82  $\mu$ ; the *l* 2, *l* 3 and *l* 4 are 15-18  $\mu$  and very thin. *Venter* striated without median plates. All the coxal setae are smooth except external coxal III which is



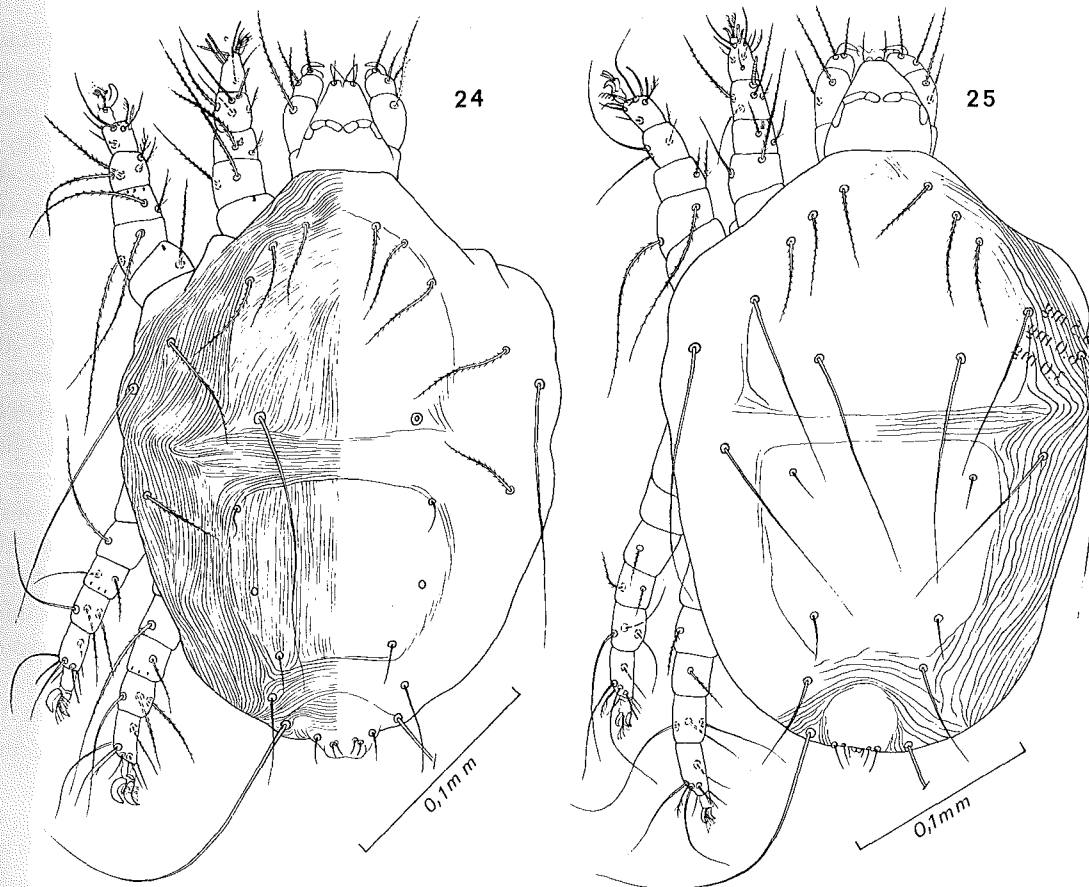


Fig. 24. *Ornithocheyletia leiothrix* Fain, 1972, female, dorsal view.  
 Fig. 25. *Ornithocheyletia eulabes* sp.nov., female, dorsal view.

barbed. Gnathosoma much stronger than in female with longer and stronger palp; palpfemur with a strong apico-internal conical process. Base of gnathosoma  $72 \mu$  wide. Chaetotaxy of legs as in female.

*Host and locality*: Holotype female and allotype heteromorphic male, from *Myiopsitta monachus*, which died in Antwerp Zoo after a short captivity, 19.IV.1967. Holotype in IRSNB.

*Remarks*: (i) This species is clearly distinguished from the other species in the genus by the presence of four setae on tibiae III-IV, instead of three setae in all the other species. (ii) These mites were found in mange-like lesions on the wings.

#### 14. *Ornithocheyletia argentinensis* Fain, 1972

*Ornithocheyletia argentinensis* Fain, 1972, p. 45

*Female* (Figs. 19, 49) : Idiosoma in holotype  $296 \mu$  long and  $225 \mu$  wide. Total length  $360 \mu$ . Total length  $\times$  width in two paratypes:  $378 \mu \times 250 \mu$ ;  $385 \mu \times 246 \mu$ . *Dorsum*: the three plates are punctate and not striate. Propodonal plate  $140 \mu$  long and  $195 \mu$  wide; hysteronotal plate  $105 \mu$  long and  $150 \mu$  wide; pygidial plate  $36 \mu$  long,  $68 \mu$  wide. The setae *vi*, *ve*, *sci*, *sce* and *l1* have short barbs and are  $60 \mu$ ,  $60 \mu$ ,  $69 \mu$ ,  $54 \mu$  and  $69 \mu$  long respectively. The other setae are smooth except *l2*, *l3* which are very slightly serrate, their lengths are: *h*  $150 \mu$ , *l2*  $24 \mu$ , *l3* and *l4*  $15 \mu$ , *l5*  $25 \mu$ , *d1*  $105 \mu$ . The *l5* are  $66 \mu$  apart, they are situated off the

pygidial plate but very close to its. *Venter* : setae *ic 1*, *ic 3*, *ic 4* subequal, thin and smooth. Base of gnathosoma 68  $\mu$  wide. Leg chaetotaxy : tibiae I-IV with 4-4-4-4 setae. Other segments as mentioned in definition of genus. The trochanters I-II bear a rounded anteroventral process as in *O. smileyi*.

*Heteromorphic male* (Figs. 20-21) : The two males were collected from *Forpus passerinus*. Idiosoma in the allotype 225  $\mu$  long and 170  $\mu$  wide. These males are heteromorphic with long and strong palps and a broad gnathosomal base. The two dorsal shields are very large covering almost completely the dorsum. Setae *vi*, *ve*, *sci*, *sc e* and *l1* with short barbs and 55  $\mu$ , 60  $\mu$ , 70  $\mu$ , 66  $\mu$ , 60  $\mu$  and 60  $\mu$  long respectively; *d1* 90  $\mu$ ; *h* 145  $\mu$ ; *l2*, *l3*, *l4* very thin and short (12  $\mu$ ). *Venter* with two large median plates without striations. Coxae with thick apodemes. The *ic* setae are thin, subequal and smooth. Base of gnathosoma : 69  $\mu$  wide, its total length is 100  $\mu$ . Palps very long, the palpfemur with a strong internal conical process in its apical half.

*Host and locality*: (i) Holotype and two female paratypes from *Nandays nanday*, 8.IX.1964. This bird died in the Antwerp Zoo, a few days after its importation from South America. (ii) Allotype and two paratypes male, three paratypes female from *Forpus passerinus*, 26.VI.1965. This bird died in Antwerp soon after its importation. Types in IRSNB.

*Remark*: This species presents four setae on tibiae III-IV as in *O. smileyi*. It is distinguished from this species in the female by the much greater size of the pygidial plate, the greater length of most of the dorsal setae, and the much greater distance between *l5* setae. The male differs from that of *O. smileyi* by the presence on the venter of two large median unstriated plates and by the different shape of the gnathosoma.

15. *Ornithocheyletia lukoschusi* Smiley, 1970

*Ornithocheyletia lukoschusi* Smiley, 1970, p. 1069 (Figs. 32-35)

I have examined the holotype female and a paratype male. The *holotype* is 305  $\mu$  long (total length) and 180  $\mu$  wide (Smiley gives a total length of 253  $\mu$ ). The three dorsal plates are striated longitudinally.

Propodonal plate 90  $\mu$  wide, hysteronotal plate 70  $\mu$  long and 81  $\mu$  wide, pygidial plate 27  $\mu$  wide. Setae *vi*, *ve*, *sci*, *sc e* and *l1* barbed and 36  $\mu$ , 35  $\mu$ , 35  $\mu$ , 30  $\mu$  and 30  $\mu$  long respectively. Other dorsal setae smooth. Setae *h* 120  $\mu$ , *d1* 80  $\mu$ . The *l5* are broken at 65  $\mu$  from the base but owing to their thickness they are probably longer than the *h*. The *l5* are 58  $\mu$  apart and are off the pygidial plate. Setae *l2*, *l3* and *l4* thin and 15  $\mu$ , 18  $\mu$  and 25  $\mu$  long respectively. *Venter* : coxae I-IV striated in their basal two-thirds. Tibiae III-IV with 3 setae. Solenidion of tibia I curved, 4,8  $\mu$  long and inflated in its distal half, solenidion of genu I 3  $\mu$  long, narrowly ovoid in its apical half.

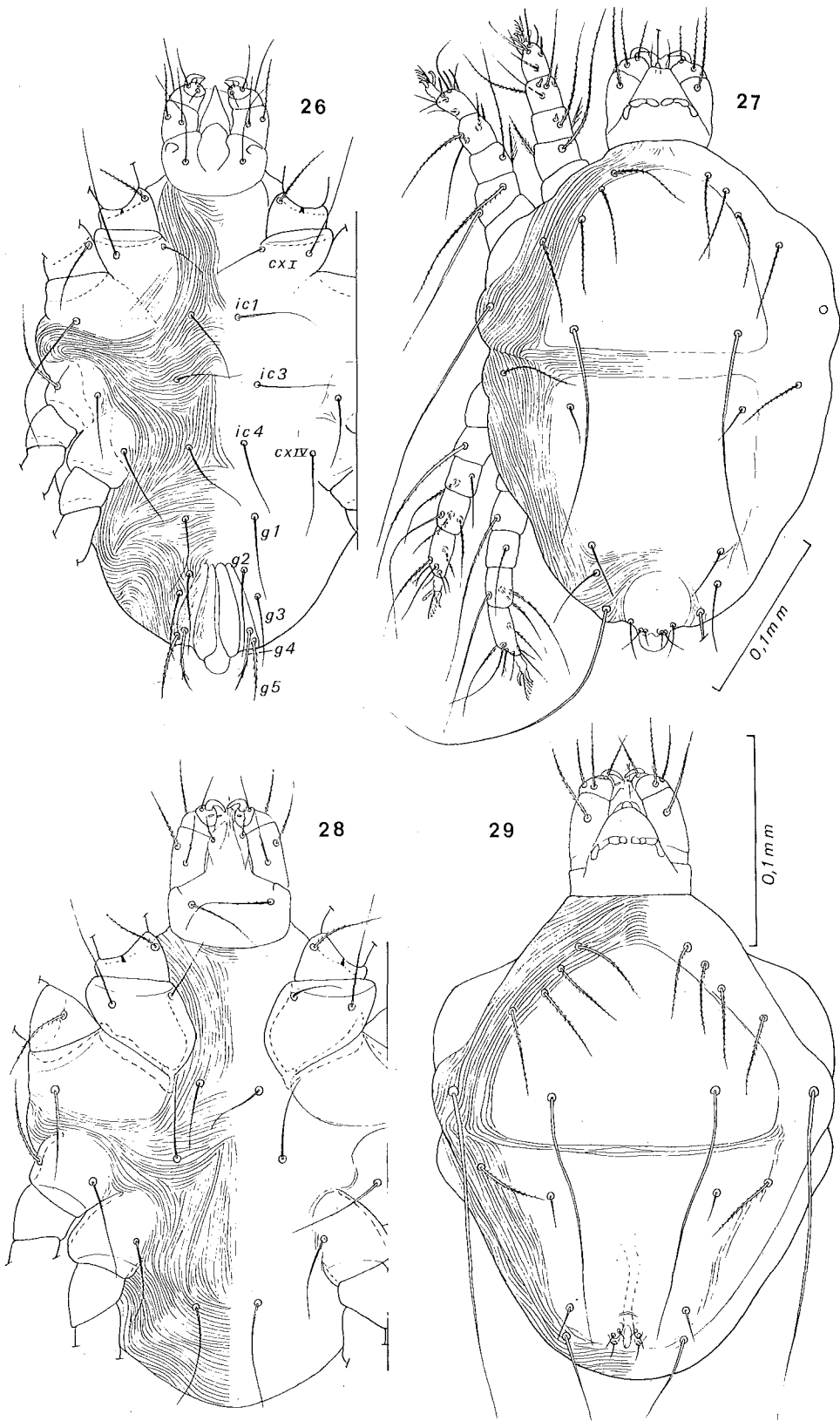
The *male* is homeomorphic. It is 246  $\mu$  long and 149  $\mu$  wide. Dorsal plates completely striated. Dorsal setae as in the female, except that *l5* is lacking. The *l3* and *l4* are thin and 12  $\mu$  and 25  $\mu$  long. Coxae striated as in female. Solenidions of tibia and genu I as in the female.

*Host and locality*: From *Hirundo rustica*, Nijmegen, Nederland. Holotype and paratype male in Natural Museum of Leiden, Nederland.

16. *Ornithocheyletia leiothrix* Fain, 1972

*Ornithocheyletia leiothrix* Fain, 1972, p. 45

*Female* (Figs. 24, 36) : Idiosoma in holotype 270  $\mu$  long and 195  $\mu$  wide. Total length 308  $\mu$ . Total length and width in four paratypes : 330  $\mu$   $\times$  198  $\mu$ ; 328  $\mu$  + 215  $\mu$ ; 318  $\mu$   $\times$  196  $\mu$  and 310  $\mu$   $\times$  205  $\mu$ . *Dorsum*: Propodonal plate 102  $\mu$  wide; hysteronotal plate 80  $\mu$  long and 96  $\mu$  wide; pygidial plate 30  $\mu$  wide. These three plates are completely striated, mostly longitudinally except in pygidial plate where the striations are transverse. Setae *vi*, *ve*, *sci*, *sc e* and *l1* barbed and 38  $\mu$ , 42  $\mu$ , 45  $\mu$ , 50-55  $\mu$  and 30  $\mu$  long respectively. Other setae smooth, the *d1*, *h* and *l5* are 120  $\mu$ , 135  $\mu$  and 150  $\mu$  long respectively, the *l4* are 39  $\mu$  long. The *l5* are situated off the pygidial plate and are 51  $\mu$  apart. *Venter* : Setae *ic 1*, *ic 3* and *ic 4* smooth, subequal; coxal setae smooth except lateral seta of coxa III which is barbed. Base of gnathosoma 51  $\mu$  wide. Legs : Tibiae III-IV with three setae. Solenidion of tibia I cylindrico-conical, slightly curved, and 13  $\mu$  long; solenidion of genu I very short with apical half globular. Claws thick.



Figs. 26-29. *Ornithocheyletia aitkeni* Fain, 1972. (26) Female, ventral view; (27) Female, dorsal view; (28) Male, ventral view; (29) Male, dorsal view.

*Heteromorphic male* (Figs. 22, 23) : Idiosoma in allotype 186  $\mu$  long and 150  $\mu$  wide. *Dorsum* with two plates completely striate and very poorly sclerotized. Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* barbed and 20-36  $\mu$  long. Other setae smooth; the *d 1* and *h 120*  $\mu$  and 140  $\mu$  long; the *l 4* are 55-60  $\mu$  long. *Venter* as in female except that the striations in the median region are punctate. Base of gnathosoma 83  $\mu$  wide. Ventrally the gnathosoma is divided into two parts, a triangular anterior part approximately as wide as long and a rectangular posterior part, wider than long, the parts being separated by a deep incision. Palps very long, the palpfemur is 70  $\mu$  long and is devoid of processes; the palptarsus bears an apical modified spine thickened and curved apically; the palptibial apical spine (= palpal claw) is thin and 30  $\mu$  long. Legs, leg chaetotaxy and solenidiotaxy as in female. Three paratypes correspond with the allotype. In 11 other paratypes the gnathosoma is smaller (base 50-70  $\mu$  wide, palpfemur 45 to 55  $\mu$  long) but the other characters are the same as in the allotype, except in one specimen where the *d 1* setae are shorter (60  $\mu$ ). Homeomorphic males have not been observed.

*Host and locality*: From *Leiothrix lutea*, 19.VI. 1967. This bird died in the Antwerp Zoo soon after its importation from Eastern Asia. Holotype and three paratypes female, allotype and three paratypes male, immatures. From the same bird and origin on 3.XII.1962 (one female and 11 male, paratypes). Holotype and allotype in IRSNB.

*Remark*: This species presents, as in *O. lukoschusi*, the dorsal plates completely striate. It differs from the latter in the female by the greater length of setae *d 1* and *sc e*, the presence of transverse striations on the pygidial plate, the much longer solenidion of tibia I and the inflated aspect of solenidion of genu I. The male differs from that of *O. lukoschusi* by the greater length of *l 4* and *d 1*.

#### 17. *Ornithocheyletia eulabes* sp.nov.

*Female* (Figs. 25, 37) : Idiosoma 316  $\mu$  long and 228  $\mu$  wide. Total length 364  $\mu$ . *Dorsum* : Propodonal plate 150  $\mu$  wide; hysteronotal plate 110  $\mu$  long and 120  $\mu$  wide; pygidial plate 36  $\mu$  wide. Setae *v i*, *v e* and *sc i* barbed and 40 to 48  $\mu$  long. All the

other setae are smooth : *sc e* and *l 1* 105  $\mu$  long; *d 1* 120  $\mu$ ; *h 135*  $\mu$ ; *l 4* 50  $\mu$ ; *l 5* very long (180  $\mu$ ) and 51  $\mu$  apart. *Venter* : Setae *ic* and coxals thin and smooth except external coxal III which is barbed. Base of gnathosoma 63  $\mu$  wide. Leg with the usual number of setae, the tibiae III-IV bear three setae. Solenidion of tibia I straight, cylindrical, 14  $\mu$  long; solenidion of genu I with apical two thirds ovoid, total length 2,5  $\mu$ , maximum width 1,3  $\mu$ . Claws of legs relatively small.

*Male* : unknown.

*Host and locality*: From *Eulabes javana*. This bird died in the Antwerp Zoo, 13.III.1964, a few days after its importation from Asia. This species represented only by the holotype, which is in IRSNB.

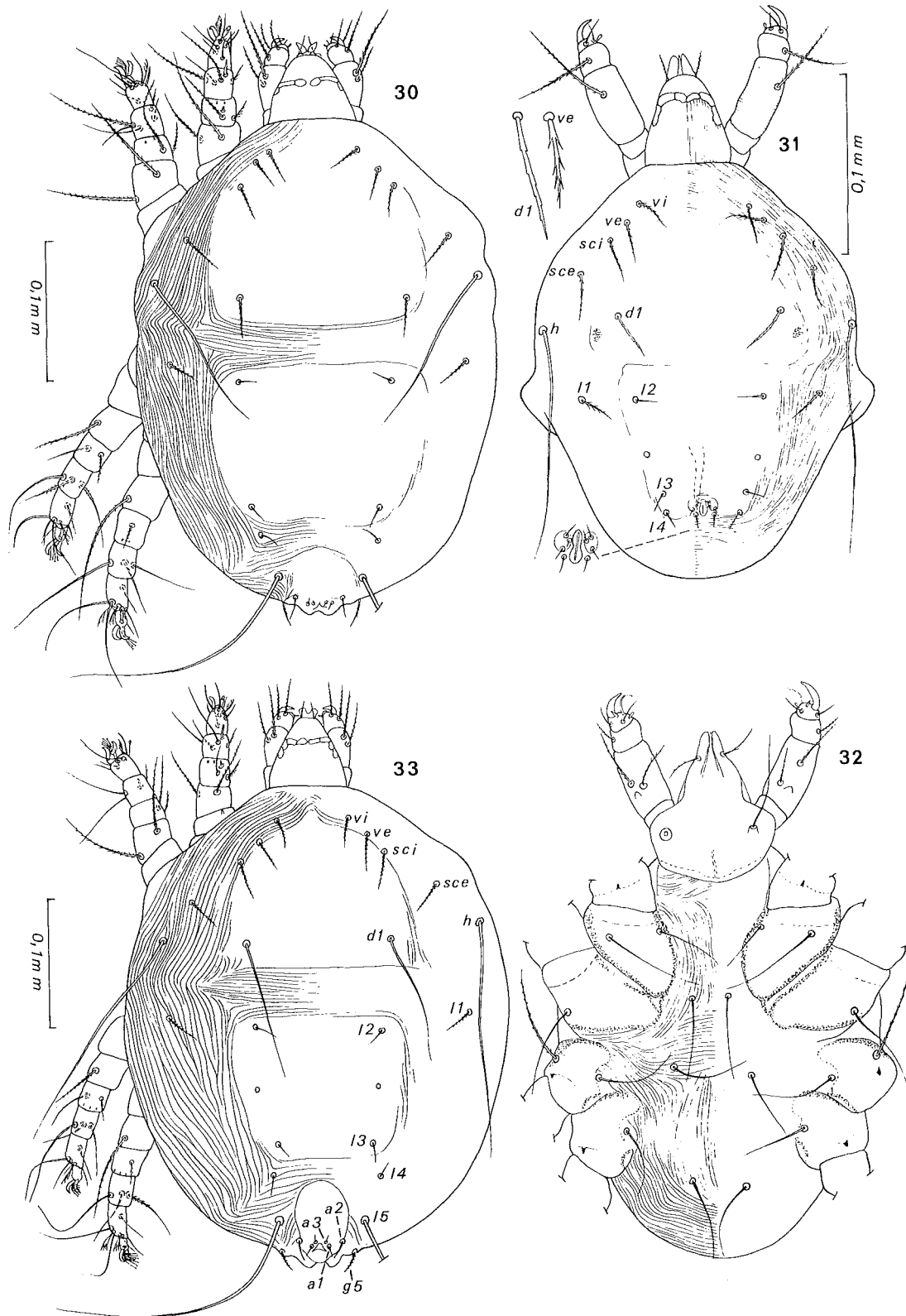
*Remark*: This species differs from all the other species in the genus by the shape of the *sc e* and *l 1* setae which are smooth and long compared with the setae *v i*, *v e* and *sc i* which are barbed and much shorter.

#### 18. *Ornithocheyletia aitkeni* Fain, 1972

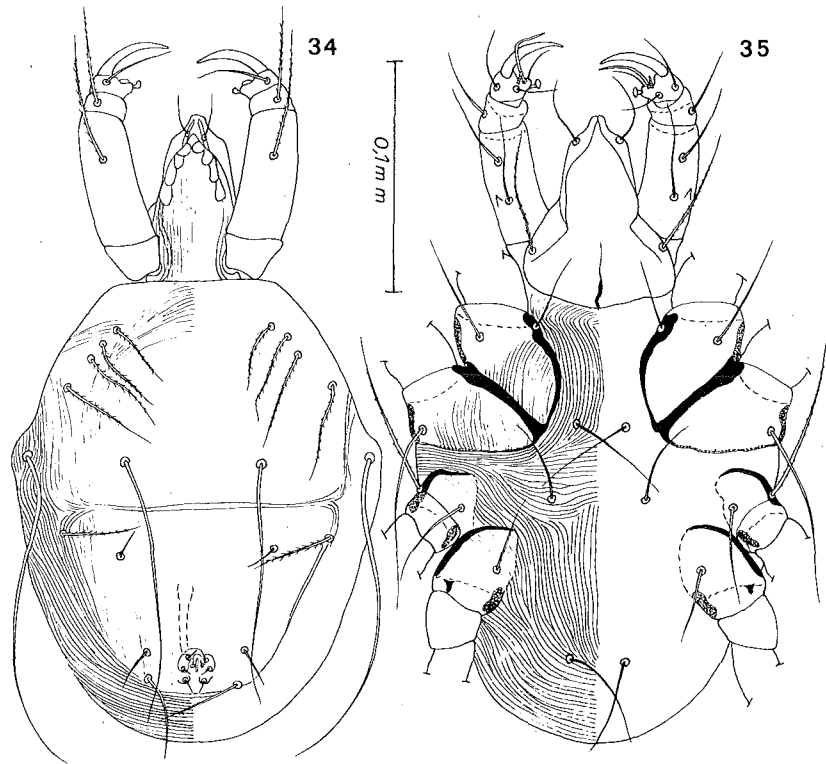
*Ornithocheyletia aitkeni* Fain, 1972, p. 46

*Female* (Figs. 26, 27, 52) : Idiosoma in the holotype 282  $\mu$  long and 212  $\mu$  wide. Total length 325  $\mu$ . Total length in 1 paratype 333  $\mu$ . *Dorsal plate* : propodonal 130  $\mu$  wide, hysteronotal 93  $\mu$  long and 120  $\mu$  wide, pygidial 36  $\mu$  wide. Setae *v i*, *v e*, *sc e* and *l 1* barbed and subequal (45-48  $\mu$ ). All other dorsal setae smooth : *d 1* 135  $\mu$ , *h 150*  $\mu$ , *l 2* 15  $\mu$ , *l 3* 25-35  $\mu$ , *l 4* 35  $\mu$  and *l 5* 165  $\mu$ . The *l 5* are situated off the pygidial plate and are 54  $\mu$  apart. *Venter* : setae *ic 1*, *ic 3* and *ic 4* subequal and very thin; coxal setae smooth except external seta of coxa III which is barbed. Base of gnathosoma 60  $\mu$  wide. Legs : The dorsal setae are long; tibiae III and IV with 3 setae. Solenidion of tibia I curved, 6  $\mu$  long; solenidion of genu I 3,2  $\mu$  to 3,6  $\mu$  long and subcylindrical.

*Homeomorphic male* (Figs. 28, 29) : Idiosoma in allotype 222  $\mu$  long and 181  $\mu$  wide. Another male, also homeomorphic, is 210  $\mu$  long and 170  $\mu$  wide. *Dorsum*: there are two large, unstriated plates. Setae shorter than in the female except *h*, *l 3*, and *l 4* which are the same length as in the female. *Venter* striated without median plates; coxals as in the



Figs. 30-32. *Ornithocheyletia garrulax* Fain, 1972. (30) Female, dorsal view; (31) Male, dorsal view; (32) Male, ventral view. Fig. 33. *Ornithocheyletia lepidus* sp. nov., female, dorsal view.



Figs. 34, 35. *Ornithocheyletia granatina* Fain, 1972. (34) Male, dorsal view; (35) Male, ventral view.

female. Gnathosoma as in the female, its base is 57  $\mu$  wide. Legs and solenidions as in the female. Penis 45-48  $\mu$  long.

*Host and locality*: On *Turdus fumigatus*, from Ecological Research of Guama, Brazil, 1969 (Coll. T.H.G. Aitken). Holotype and two paratypes female; allotype and four paratypes male; one protonymph. Holotype in the USNM.

*Remarks*: (i) The mites were recovered from filamentous material covering the skin of the body of the bird. (ii) This species is clearly distinguished from the other species by a combination of characters as mentioned in the key.

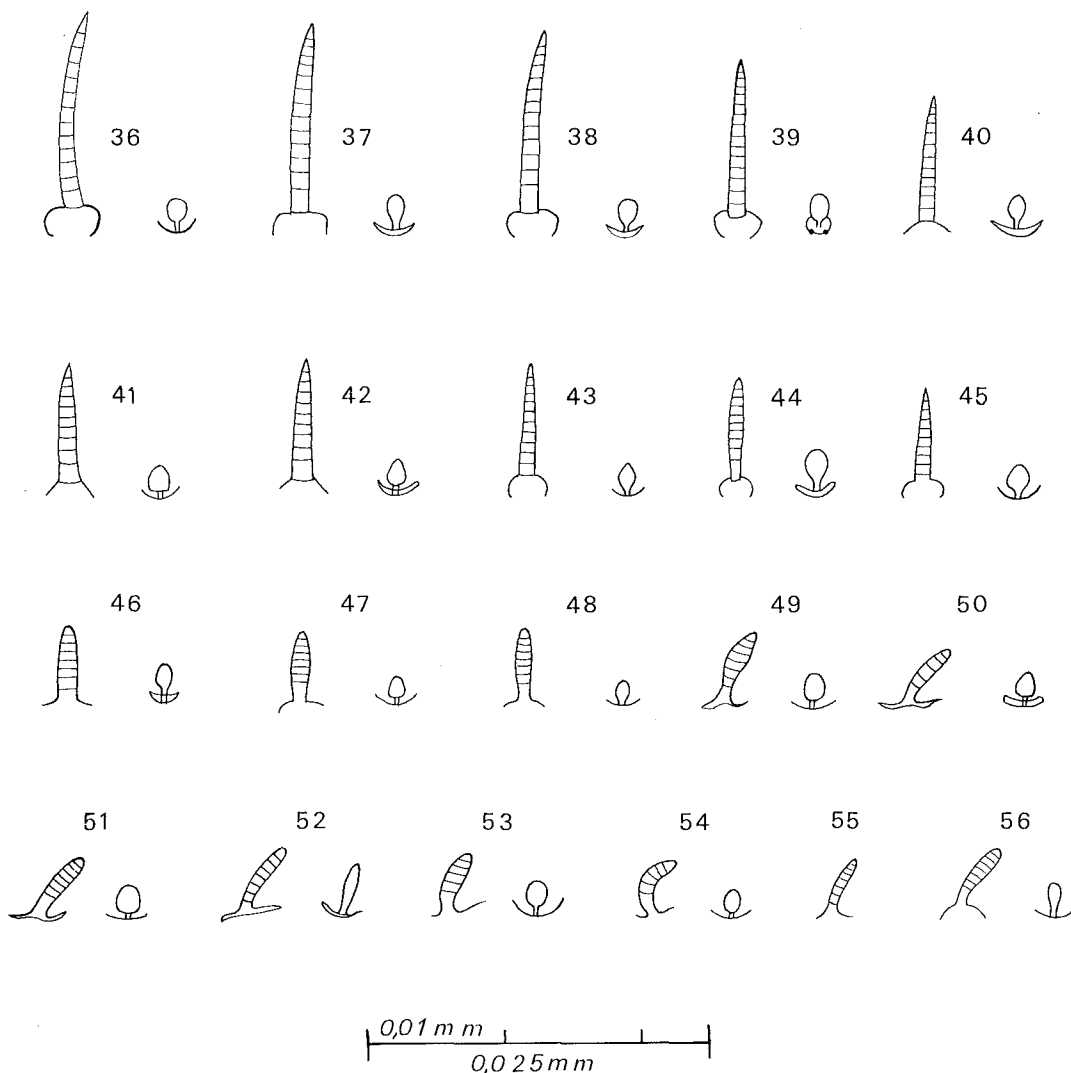
19. *Ornithocheyletia garrulax* Fain, 1972

*Ornithocheyletia garrulax* Fain, 1972, p. 46

*Female* (Figs. 30, 41) : Idiosoma in the holotype 338  $\mu$  long and 255  $\mu$  wide. Total length 395  $\mu$ . *Dorsum* : propodonal plate 153  $\mu$  wide; hysteronotal plate 105  $\mu$  long and 155  $\mu$  wide; pygidial

plate 42  $\mu$  wide. Setae *vi*, *ve*, *sci* and *l1* barbed and 22-25  $\mu$  long; *sc e* barbed, 30  $\mu$ . Setae *d1* serrate, 33  $\mu$ . Setae *h* and *l5* smooth, 150  $\mu$ . Setae *l2* to *l4* smooth, 15  $\mu$ . The *l5* are 60  $\mu$  apart. *Venter* : all coxal setae smooth except lateral seta of coxa III which is barbed. Setae *ic1*, *ic3* and *ic4* smooth and thin, subequal in length. Base of gnathosoma 70  $\mu$  wide. *Legs* : Number of setae as in the other species, the tibiae bear 4-4-3-3 setae. Solenidion of tibia I cylindrico-conical very slightly curved, 10  $\mu$  long; solenidion of genu I ovoid 1.5  $\mu$  long and 1.2  $\mu$  thick.

*Heteromorphic male* (Figs. 31, 32) : Idiosoma in the allotype 220  $\mu$  long and 175  $\mu$  wide. Total length 290  $\mu$ . *Dorsum* : propodonal plate 84  $\mu$  long and 135  $\mu$  wide; hysteronotal plate 80  $\mu$  long and approximately 100  $\mu$  wide. The lateral parts of these plates bear numerous very thin and indistinct striations. Setae *vi*, *ve*, *sci*, *sc e* and *l1* barbed, 18 to 27  $\mu$  long. Setae *d1* 28  $\mu$  long, serrate. Other setae



Figs. 36-56. Solenidions of tibia I (to the left) and genu I (to the right) in the females of: (36) *Ornithocheyletia leiothrix*; (37) *O. eulabes*; (38) *O. lepidus*; (39) *O. granatina*; (40) *O. gersoni*; (41) *O. garrulax*; (42) *O. dubinini* (from *Sturnus vulgaris* in Holland); (43) *O. barri*; (44) *O. francolini*; (45) *O. lawrenceae*; (46) *O. hallae similis*; (47) *O. geopeltiae*; (48) *O. hallae hallae*; (49) *O. argentinensis*; (50) *O. lamprocolius*; (51) *O. smileyi*; (52) *O. aitkeni*; (53) *O. psittaci psittaci*; (54) *O. psittaculae*; (55) *O. volgini*; (56) *O. lukoschusi*. (All from the holotypes except no. 42.)

smooth, the *l*2 to *l*4 being very thin and short; the *h* are 135  $\mu$  long. The *venter* is striated, without plates. Coxal and *ic* setae as in female. Chaetotaxy of legs as in female. Gnathosoma large with base 72  $\mu$  wide, bearing ventrally a pair of long setae placed on a short stalk. Palps strong and long, especially the palpfemur which is devoid of processes.

*Host and locality*: On the skin of *Garrulax leucolophus bicolor*. This bird died in the Antwerp Zoo,

20.V.1966, soon after its importation. Holotype and one paratype female, allotype and one paratype male, three nymphs and one larva, eggs. One of these nymphs (a protonymph) contains a fully developed male. Types in IRSNB.

*Remark*: This species differs from all the other species in the genus in both sexes by the aspect of the *d*1 setae, which are short and serrate.

20. *Ornithocheyletia lepidus* sp.nov.

This species is known only from the holotype female.

*Female* (Figs. 33, 38): Idiosoma 525  $\mu$  long, 285  $\mu$  wide. Total length 585  $\mu$ . *Dorsum*: propodonal plate 140  $\mu$  wide; hysteronotal plate 105  $\mu$  and 135  $\mu$  wide; pygidial plate 45  $\mu$  wide. The anterior part of the propodonal plate bears very faint striations close to one another. Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* barbed 21-27  $\mu$  long, other dorsal setae smooth, the *d 1*, *h* and *l 5* are 110  $\mu$ , 175  $\mu$  and 175  $\mu$  long respectively. Setae *l 5* 66  $\mu$  apart. *Venter*: setae *ic* and coxals thin and smooth except lateral seta of coxa III which is thicker and barbed. Coxal margins poorly sclerotized. Gnathosomal base 65  $\mu$  wide. Legs with the usual number of setae, the tibiae III-IV with three setae. Tibia I with a very slightly curved cylindrico-conical solenidion 12  $\mu$  long; genu I with a very small globular solenidion (diameter 1.3  $\mu$ ).

*Male*: unknown

*Host and locality*: Holotype from *Garrulax leucolophus bicolor*. This bird died in the Antwerp Zoo, 20.V.1966, a few days after its importation. Type in IRSNB.

*Remark*: This species is close to the species of the group "aitkeni". It differs from them by much shorter *l 4*, *v i*, *v e*, *sc i*, *sc e* and *l 1* setae.

21. *Ornithocheyletia lamprocolius* Fain, 1972

*Ornithocheyletia lamprocolius* Fain, 1972, p. 45

*Female* (Fig. 50): Idiosoma in holotype 390  $\mu$  long and 285  $\mu$  wide. Total length in holotype 435  $\mu$ , in the paratype 450  $\mu$ . *Dorsum*: the plates are sclerotized but the two anterior plates bear very thin and almost indistinguishable striations. Propodonal plate 120  $\mu$  wide, hysteronotal plate 100  $\mu$  long and 115  $\mu$  wide, pygidial plate 36  $\mu$  wide. Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* barbed and 42 to 45  $\mu$  long. All other dorsal setae are smooth: *d 1*, *h* and *l 5*, 150  $\mu$  long; *l 5* are off the pygidial plate and 69  $\mu$  apart; *l 4* longer (63  $\mu$ ) than the *l 2* (18  $\mu$ ) and the *l 3* (25-30  $\mu$ ). *Venter*: all the setae very thin and smooth except the external seta of coxa III which is barbed. Setae *ic* subequal. Base of gnathosoma 63  $\mu$  wide. Legs with long dorsal setae; tibiae III-IV with

three setae. Solenidion of tibia I curved, 5  $\mu$  long; solenidion of genu I ovoidal, 2.5  $\mu$  long.

*Male*: unknown.

*Host and locality*: On *Lamprocolius chloropterus*, Central Africa, 20.III.1967. Holotype and one paratype female on the same slide, deposited in MRAC.

*Remarks*: This species belongs to the "aitkeni" group containing two other species, *O. aitkeni* and *O. granatina*. It is distinguished from *O. aitkeni* by the greater size of the body, the greater length of *l 4* setae, the presence of striations on the two anterior dorsal plates and the inflated aspect of the solenidion of genu I. It differs from *O. granatina* by the presence of striations on the dorsal shields, by the straight and much shorter aspect of the solenidion of tibia I and the narrower shape of the pygidial plate but the wider shape of the propodonal plate.

22. *Ornithocheyletia granatina* Fain, 1972

*Ornithocheyletia granatina* Fain, 1972, p. 46

*Female* (Fig. 39): Idiosoma in holotype 339  $\mu$  long, 260  $\mu$  wide. Total length in holotype 385  $\mu$ , in two paratypes 375  $\mu$  and 358  $\mu$ . *Dorsum*: the plates are sclerotized without striations. Propodonal plate 105  $\mu$  wide; hysteronotal plate 86  $\mu$  long and 100  $\mu$  wide; pygidial plate 43  $\mu$  wide. Setae *v i*, *v e*, *sc i*, *sc e* and *l 1* barbed and 38-42  $\mu$  long. Other setae smooth. Setae *d 1*, *h* and *l 5* 140  $\mu$ , 150  $\mu$  and 165  $\mu$  long respectively; *l 5* are off the pygidial plate and 67  $\mu$  apart; *l 2* 15  $\mu$ , *l 3* 21  $\mu$ , *l 4* 42  $\mu$ . *Venter*: coxae III-IV poorly developed; coxal and *ic* setae as in *O. lamprocolius*. Base of gnathosoma 50  $\mu$  wide. Legs and leg chaetotaxy as in *L. lamprocolius*. Claws thick. Solenidion of tibia I cylindrico-conical straight or very slightly incurved, 12  $\mu$  long; solenidion of genu I very small 2.5  $\mu$  long.

*Heteromorphic male* (Figs. 34, 35): Idiosoma in allotype 195  $\mu$  long, 160  $\mu$  wide. *Dorsum* with two large sclerotized and striated plates; chaetotaxy as in the female but slightly shorter. *Venter*: setae *ic* and coxals as in female. The coxae I-II with thick margins. Penis 36  $\mu$  long, 3  $\mu$  wide in its median part. Legs as in the female. Gnathosoma strongly developed recalling that of *O. leiothrix* and 72  $\mu$  wide at its base. In another less heteromorphic male the gnathosoma is much smaller, its base only 57  $\mu$



wide and the palps shorter. This male is 210  $\mu$  long (idiosoma).

*Host and locality:* From *Granatina ianthinogaster*. This bird died in the Antwerp Zoo, soon after its importation (28.IX.1965). Holotype and two paratypes female, allotype and two paratypes males, all heteromorphic; nymphs. Holotype and allotype in IRSNB.

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