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PARASITIC MITES OF SURINAM XXXI. NEW SPECIES OF PROCTOPHYLLODIDAE (SARCOPTIFORMES, ANALGOIDEA)

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Abstract. Eleven new species of feather mites belonging to the genera *Proctophyllodes, Pterodectes, Trochilodectes* and *Allodectes* are described from passeriform birds and hummingbirds of Surinam.

This paper is a continuation of the first contribution (Černý 1974) concerning the new feather mite species of the genus *Mesalgoides* collected in Surinam by the Dutch expedition under the leadership of Dr F. Lukoschus, Nijmegen, in 1971, supported by the Grant W 83-1 from the Netherlands Foundation for the Advancement of Tropical Research (WOTRO). Here the new taxa belonging to three subfamilies of Proctophyllodidae are described. Among the new species the genera *Proctophyllodes* Robin, 1877 (Proctophyllodinae), *Pterodectes* Robin, 1877, *Trochilodectes* Park and Atyeo, 1971 (Pterodectinae) and *Allodectes* Gaud and Berla, 1963 (Allodectinae) are represented. The last revision of the genus *Proctophyllodes* was made by Atyeo and Braasch (1966). The subfamily Pterodectinae was erected and revised by Park and Atyeo (1971a), the subfamily Allodectinae was erected and the single genus *Allodectes* revised by Park and Atyeo (1971b).

The holotypes of all species are deposited with the collection of Rijksmuseum van Natuurlijke Historie, Leiden (RNHL), the paratypes with the following institutions: National Collection of Surinam, Paramaribo (NCSP), University of Georgia, Athens (UGA), Institute of Parasitology, Prague (IPP), Prins Leopold Instituut voor Tropische Geneeskunde, Antwerpen (ITGA), Zoologisches Museum, Hamburg (ZMH), Katholieke Universiteit, Nijmegen (KUN), U.S. National Museum, Washington (NMW), Rocky Mountain Laboratory, Hamilton (RMLH), Institut Pasteur, Cayenne (IPC).

Proctophyllodes Robin, 1877

This widely distributed genus, parasitizing almost exclusively Passeriformes and Apodiformes, is represented by some 130 described species.

Proctophyllodes kratochvili sp.n. Fig. 1

Material examined: Male (holotype) from *Turdus leucomelas* Vieillot (Turdidae), Welgedacht, 19. 9. 1971. Paratypes: 13♀ 5N, the same data.

Male (holotype). — Length, excluding lamellae 207*, width 92. Propodosomal

* All measurements are given in μ.

shield 53×57, without lateral incision and lacunae, sce-sce 38. Hysterosomal shield 118×66, with large oval lacunae in posterior 4/5. Lamella 21×9, internal margins approximate. Epimerites I parallel in posterior half, with a barely discernible connective terminally, without lateral extensions. Epimerites without surface fields. Setae sh 11, spiculiform. Pregenital apodeme absent, genital discs separate, penis reaching adanal discs. Setae c_3 on soft cuticle, setae a on small subtriangular opisthogastric shields. Adanal discs 9×6. Accessory glands absent.

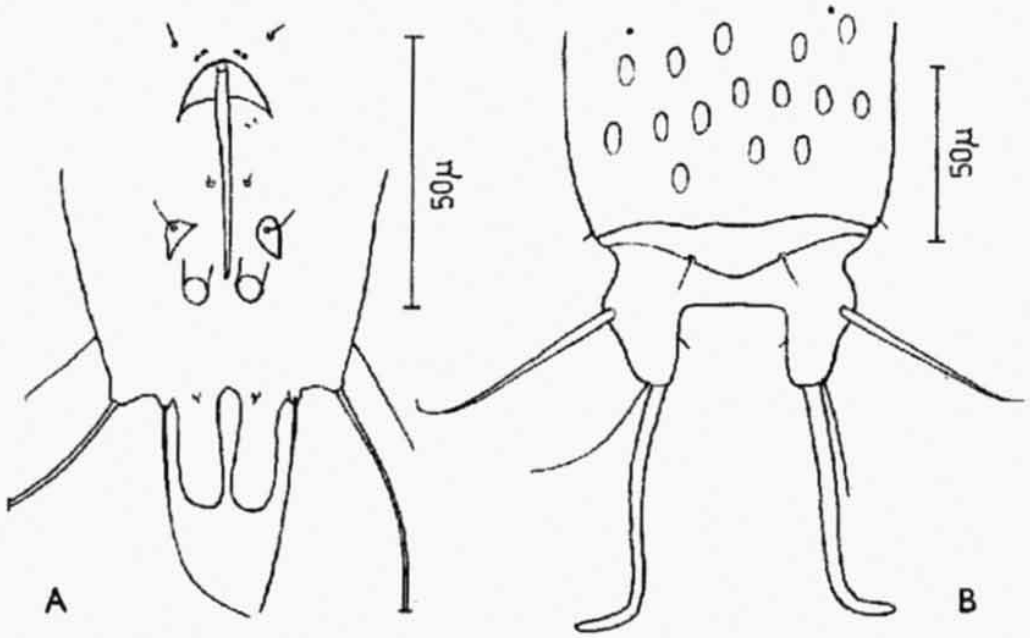

Fig. 1. *Proctophyllodes kratochvili* sp.n. A — male, body terminus, ventrally, B — female, body terminus, dorsally.

Female (allotype). — Length, excluding terminal appendages, 369, width 162. Propodosomal shield 74×101, lateral margins entire, without lacunae, sce-sce 72. Humeral shields with setae l_1 at anteromedial angles. Anterior hysterosomal shield 187×106, with large oval lacunae on posterior 2/3. Lobar region 44, setae d_4 in contact with anterior margin of lobar shield which is deeply concave, d_4 -d_4 26. Interlobal cleft broad, parallel-sided, 24×32, setae d_5 reaching about 1/2 of terminal appendages. Epimerites I free, without lateral extension. Setae sh 20, lanceolate.

Proctophyllodes kratochvili sp.n. belongs to the *detruncatus*-group of Atyeo and Braasch (1966). The male differs from all other members of this group in its penis extending beyond setae a, small terminal lamellae and character of opisthogastric shields, the female differs in its ornamentation of hysterosomal shield and broad interlobal cleft.

The new species is dedicated to Academician J. Kratochvíl, Director of the Institute of Vertebrate Zoology, Czechoslovak Academy of Sciences, Brno, in recognition of his great merits in the development of zoological disciplines in Czechoslovakia.

Deposition of type material: RNHL, NCSP, UGA, IPP, NMW, ITGA, ZMH.

***Proctophyllodes atyeoi* sp.n.** Fig. 2A, B

Material examined: male (holotype) and female (allotype) from *Agelaius icterocephalus* (L.) (Icteridae), Welgedacht, 31. 8. 1971.

Male (holotype). — Length, excluding lamellae 306, width 134. Propodosomal shield 75×81, lateral margins entire, with indistinct lacunae, sce-sce 55. Hysterosomal shield

183×101, anterior margin nearly straight, lateral margins undulate, covered with small lacunae. Setae l_1 at extreme anteromedial angle of humeral shields. Supranal concavity 41. Lamellae strongly coiled, at least 250 long, 10 wide, flagelliform. Epimerites I U-shaped, with a weak connective, without lateral extensions. Epimerites without surface fields. Setae sh 13, slightly lanceolate. Pregenital apodeme absent, genital discs separate, penis reflection to level of humeral setae, the organ extends approximately 270 beyond posterior limits of idiosoma. Opisthogastric shields separate, with long parallel anterior branches, bearing setae c_3 and a in trapezoidal arrangement, c_3—c_3 12, row c_3 — row a 17. Adanal discs 16×14, accessory glands absent.

Female (allotype). — Length, excluding terminal appendages, 374, width 142. Propodosomal shield 85×98, lateral margins entire, with few indistinct lacunae, sce-sce 65. Humeral shields with setae l_1 at anteromedial angle. Anterior hysterosomal shield 205×106, its anterior margin nearly straight, with small lacunae. Supranal concavity absent, lobar region 43, almost fused with hysterosomal shield, setae d_4 inserted at anterior edge of lobar shield, d_4—d_4 23. Interlobal cleft bell-shaped, 18 deep. Setae d_5 reaching nearly 1/2 of terminal appendages. Epimerites I U-shaped, without lateral extensions. Setae sh 15, lanceolate.

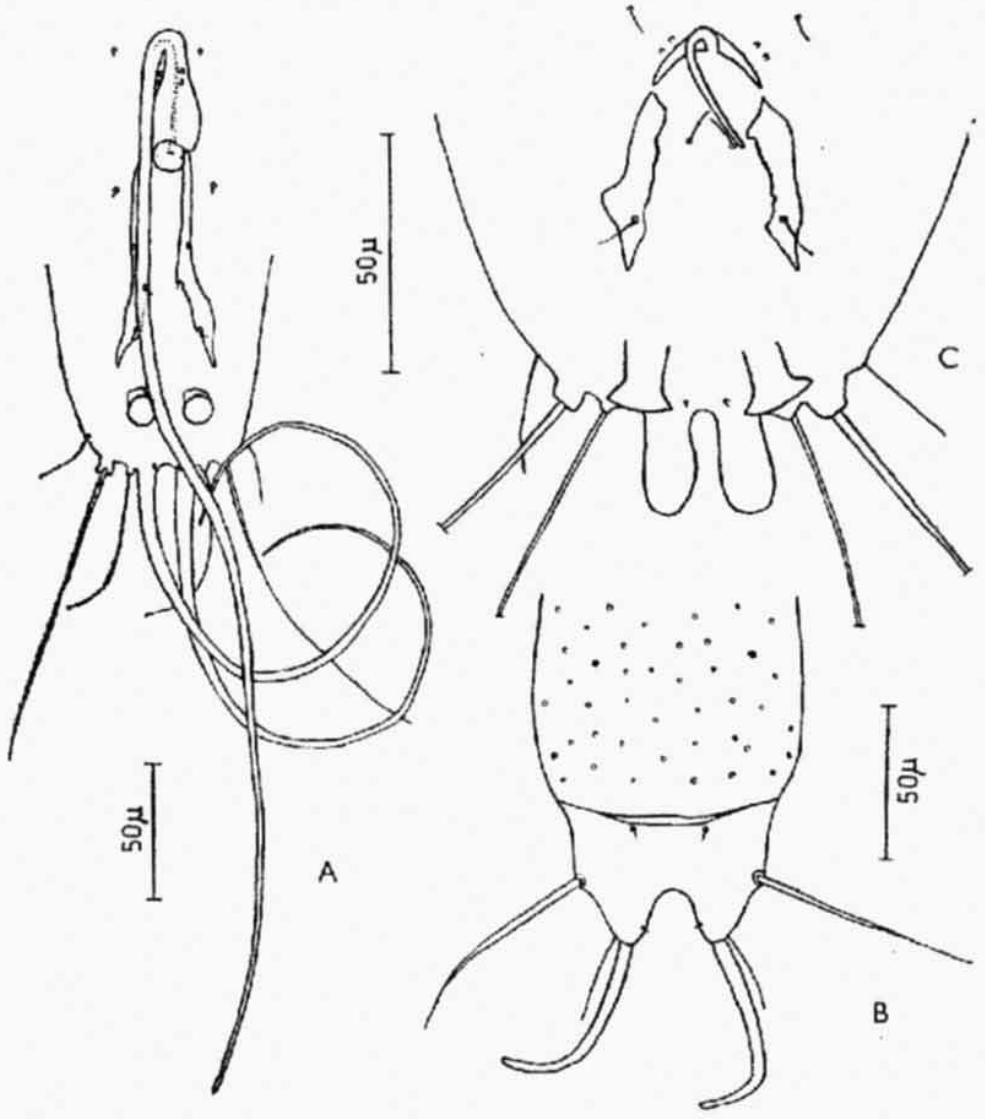

Fig. 2. *Proctophyllodes atyeoi* sp.n. A — male, body terminus, ventrally, B — female, body terminus, dorsally. *Proctophyllodes parvilamellatus* sp.n. C — male, body terminus, ventrally.

Proctophyllodes atyeoi sp.n. is in male sex extremely similar to *P. longiphyllus* Atyeo and Braasch, 1966 from which it differs in the form of opisthogastric shields, presence of lacunae on hysterosomal shield, longer penis and narrower lamellae. The female differs from the latter species distinctly in the characters of lobar region.

The new species is dedicated to Dr W. T. Atyeo, Professor of the University of Georgia, Athens, a prominent specialist in the taxonomy of Analgoidea who has contributed considerably to the knowledge of the genus *Proctophyllodes*.

Deposition of the type material: RNHL

***Proctophyllodes parvilamellatus* sp.n.** Fig. 2C

Material examined: male (holotype) from *Philydor pyrrhodes* (Cabanis) (Furnariidae), Tawajariweg, 9. 9. 1971.

Male (holotype). — Length, excluding lamellae, 280, width 154. Propodosomal shield 81 × 93, lateral margins entire, with lacunae, scc-scc 61. Hysterosomal shield 154 × × 97, anterior margin shallowly concave, lateral margins undulate, uniformely covered with lacunae. Supranal concavity 36. Lamellae 26 × 14, separate. Epimerites I free, without lateral extensions, epimerites without surface fields. Setae sh 15, slightly lanceolate. Pregenital apodeme absent, genital discs separate. Penis reaching setae c_3. Opisthogastric setae in trapezoidal arrangement. Opisthogastric shields separate, bearing setae a, c_3 — c_3 10, row c_3 — row a 16. Adanal discs 16 × 16, accessory glands absent.

Proctophyllodes parvilamellatus sp.n. belongs to the *musicus*-group and by the arrangement of its genital region is close to *P. tenericaulus* Atyeo and Vasilev, 1964 and *P. picae* (Koch, 1840). It differs from both species in having smaller lamellae and propodosomal shield with lacunae.

Deposition of type material: RNHL

***Pterodectes* Robin, 1877**

This genus is represented until now by 9 described species, mostly from South and North America. Birds of the families Hirundinidae, Fringillidae, Corvidae, Icteridae, Emberizidae, Turdidae and Tyrannidae, all Passeriformes are reported as hosts. In the examinations of the females the character of circumsetal lacunae was found to be useful in the differentiation of individual species—apart from other morphological features already mentioned in the literature. They are lacunae around the setae d_4, different in size and number.

***Pterodectes storkani* sp.n.** Figs. 3A, B; 5A; 6A

Material examined: male (holotype) from *Ramphocelus carbo* (Pallas) (Thraupidae), Tawajariweg, 7. 9. 1971. Paratypes: 3 ♂ 7 ♀ 4N, the same data.

Male (holotype). — Length 439, width 160. Propodosomal shield 128 × 129, with posterolateral corners and straight posterior margin. Small lacunae mostly in posterior half, scc-scc 74. Hysterosomal shield 247 × 125, covered with larger lacunae except the median field delimited by 2 anteriorly converging lines joining at the level of setae sh. Opisthosomal lobes with narrow internal lamella in their middle part. Interlobal cleft 30, diverging posteriorly, without supranal concavity. Setae d_5 slightly shorter than pae. Epimerites I connected on their tips transversely with bent epimerites II. Setae sh dagger-like, 32 × 8. Penis 136, extending beyond adanal discs, bent terminally, DAD 37*.

* DAD = distance between centers of adanal discs

Setae a at the level slightly before adanal discs. Genua I and II with setae cG blade-like, about 1.5 × longer than the corresponding tibia. Legs IV reaching the body terminus.

Female (allotype). — Length 574, width 195. Propodosomal shield 146 × 145, with nearly straight posterior margin and small lacunae in its posterior half, sce-sce 80. Hysterosomal shield 260 × 142, with uniformely distributed lacunae a little larger than those on the propodosomal shield, and with 2 narrow oblique lacunae posterolaterally. Terminal region 107, without supranal concavity. Interlobal cleft 57, slit-like. Setae d_4 with 6—7 small circumsetal lacunae, d_4—d_4 24, setae 1_5 49, blade-like, without terminal filament, d_5 30. Spermatheca as in Fig. 6A. Epimerites I connected terminally by a transverse platelet, epimerites II bent. Setae sh dagger-like, 30 × 8. Interlobal shield well developed, protruding anterolaterally, bearing setae pae. The blade-like setae cG on genua I and II longer than the corresponding tibiae. Legs IV reaching the level of setae d_4.

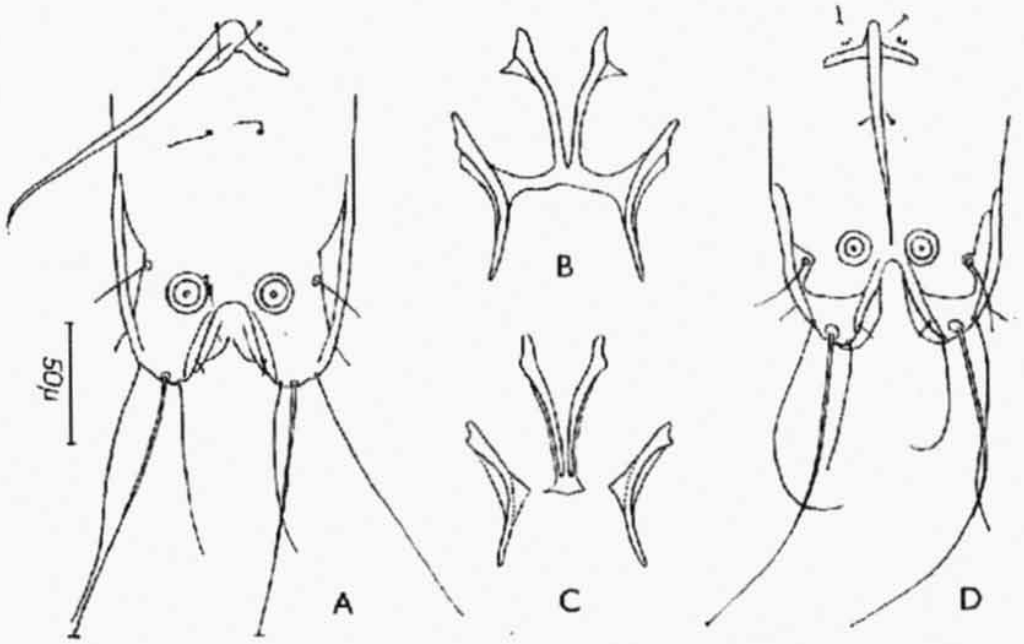

Fig. 3. Males. *Pterodectes storkani* sp. n. A — body terminus, ventrally, B — epimerites I and II. *Pterodectes havliki* sp. n. C — epimerites I and II, D — body terminus, ventrally.

Pterodectes storkani sp.n. resembles very much *P. bilineatus* Berla, 1958 in having the blade-like setae cG on legs I and II in both sexes, in the ornamentation of the hysterosomal shield in male and in the shape of terminal region in female. The male of the latter species has shorter setae cG, especially on legs I and the median groove on the hysterosomal shield reaches the sejugal furrow. The lacunae on the propodosomal shield are larger than those on the hysterosomal shield. The female has more numerous circumsetal d_4 lacunae.

The new species is dedicated to the late Dr J. Štorkán, Professor of the Charles University in Prague, in recognition of his merits in the development of Czechoslovak acarology before the World War II.

Deposition of type material: RNHL, NCSP, UGA, IPP

***Pterodectes havliki* sp.n.** Figs. 3C, D; 5B; 6B

Material examined: male (holotype) from *Philydor pyrrhodes* (Cabanis) (Furnariidae), Tawajariweg, 9. 9. 1971. Paratypes: 7 ♂ 22 ♀ 3N 3L, the same data.

Male (holotype). — Length 419, width 146. Propodosomal shield 110×112, with nearly straight posterior margin, sce-sce 62. Hysterosomal shield 235×114. Both shields with medium-sized lacunae. Opisthosomal lobes truncated with internal lamella in posterior half (not developed in all specimens), interlobal cleft 28, diverging posteriorly. Supranal concavity small, subcircular, at the level of adanal discs. Setae d_5 slightly shorter than pae. Epimerites I connected terminally by a platelet, epimerites II bent, with triangular internal projection at the level of tips of epimerites I. Setae sh dagger-like, 28×7. Penis 95, reaching the level of centers of adanal discs, DAD 27. Setae a at the level of posterior half of adanal discs. Legs IV extending slightly beyond the body terminus.

Female (allotype). — Length 575, width 183. Propodosomal shield 138×132, with irregular posterior margin, sce-sce 72. Hysterosomal shield 272×130, with uniformly distributed lacunae smaller than those on the propodosomal shield, and with 2 big elongate lacunae posterolaterally. Terminal region 89, without supranal concavity. Interlobal cleft 51, very narrow, diverging posteriorly. Setae d_4 with 5 circumsetal lacunae of different size, d_4—d_4 25, setae l_5 53, blade-like, without terminal filament, d_5 24. Spermatheca as in Fig. 6 B. Epimerites I V-shaped, epimerites II bent. Setae sh dagger-like, 29×8. Legs IV not reaching the level of setae d_4.

Pterodectes havliki sp.n. differs from other members of the genus in the combination of the following characters: both dorsal shields with medium-sized lacunae, opisthosomal lobes truncated, with internal lamella in posterior half, penis reaching the centers of adanal discs in male, hysterosomal shield with smaller lacunae than the propodosomal shield, very narrow interlobal cleft without supranal concavity and 5 circumsetal d_4 lacunae in female.

The new species is dedicated to my friend, the late Dr O. Havlík, Institute of Epidemiology and Microbiology, Prague, a versatile parasitologist, who deceased prematurely in the prime of his life.

Deposition of type material: RNHL, NCSP, UGA, IPP, NMW, ITGA, ZMH.

***Pterodectes troglodytis* sp.n.** Figs. 4A, B; 5C; 6C

Material examined: male (holotype) from *Troglodytes aedon* Vieillot (Troglodytidae), Paramaribo, 18. 7. 1971. Paratypes: 4♂ 4♀ 5N, the same data.

Male (holotype). — Weakly sclerotized. Length 390, width 150. Propodosomal shield 110×106, with nearly straight posterior margin, sce-sce 57. Hysterosomal shield 219×97. Both dorsal shields with only fine granulation. Opisthosomal lobes short and broad, interlobal cleft shallow (16), nearly semicircular. Supranal concavity absent. Setae d_5 very short (16). Epimerites I connected terminally by a small bridge, epimerites II bent. Setae sh dagger-like, 26×8. Penis 85, extending beyond the centers of adanal discs, DAD 32. Setae a at the level of anterior half of adanal discs. Legs IV reaching the body terminus.

Female (allotype). — Weakly sclerotized. Length 554, width 170. Propodosomal shield 130×131, incised laterally and with 2 incisions on its posterior margin, finely granulated. Setae sce situated on the margin of the lateral incision, sce-sce 71. Hysterosomal shield 256×134, with small lacunae especially in its posterior two thirds and 2 big lacunae posterolaterally. Terminal region 85, with subcircular, indistinct supranal concavity. Interlobal cleft 49, diverging posteriorly. Setae d_4 without circumsetal lacunae, d_4—d_4 26, setae l_5 49, blade-like, without terminal filament, d_5 19. Spermatheca as in Fig. 6C. Epimerites I V-shaped, epimerites II bent. Setae sh 26×8. Legs IV reaching the level of setae d_4.

Pterodectes troglodytis sp.n. resembles in male *P. muticus* Banks, 1909 in having

nearly semicircular interlobal cleft. The penis of the latter species does not reach the adanal discs. Female has parallel-sided interlobal cleft. The differences against other species are given in Tab. 1 and 2.

Deposition of type material: RNHL, NCSP, UGA, IPP

***Pterodectes maculatus* sp.n.** Fig. 4C, D

Material examined: male (holotype) from *Agelaius icterocephalus* (L.) (Icteridae), Welgedacht, 31. 8. 1971. Paratype: 1 ♂, the same data.

Male (holotype). — Length 399, width 162. Propodosomal shield 110×116, with straight posterior margin, sce-sce 65. Hysterosomal shield 227×106. Both shields with lacunae. They are larger in the anterior half of hysterosomal shield which is not uniform in coloration. Opisthosomal lobes rounded, interlobal cleft 20, its bottom in contact with suboval supranal concavity. Setae d_5 longer than pae. Epimerites I connected terminally by a platelet, epimerites II bent. Seta sh dagger-like, 20×8.

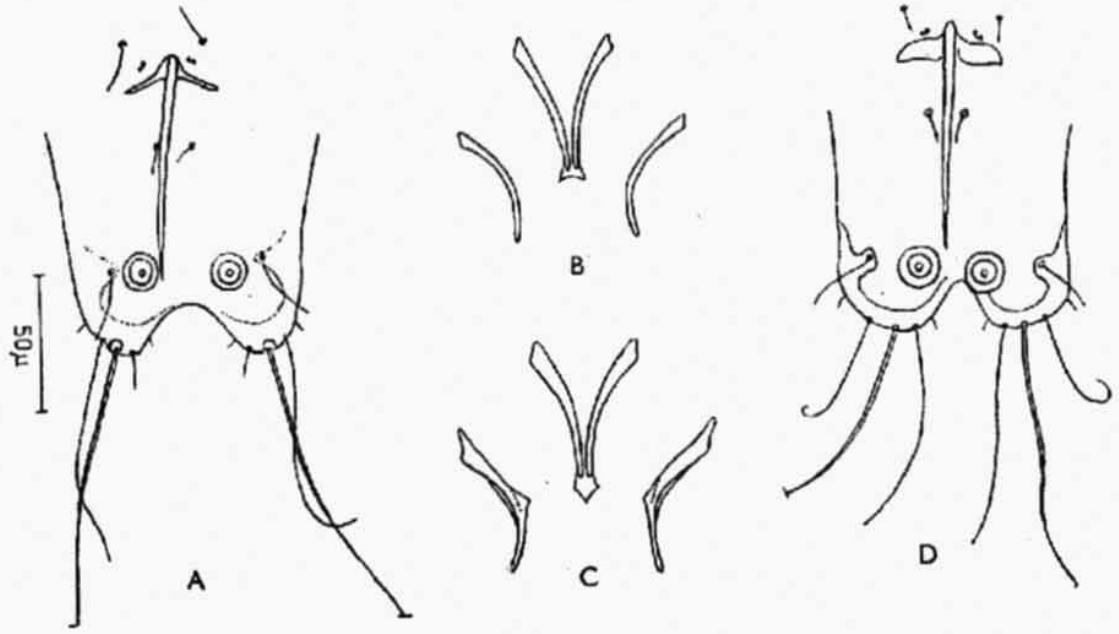

Fig. 4. Males. *Pterodectes troglodytis* sp. n. A — body terminus, ventrally, B — epimerites I and II. *Pterodectes maculatus* sp.n. C — epimerites I and II, D — body terminus, ventrally.

(There exist an asymmetry in the size of setae sh in the holotype the second one being only 12 long). Penis 86, reaching the anterior margin of adanal discs, DAD 36. Setae a at the level of anterior half of adanal discs. Legs IV extending beyond the body terminus.

The male of *Pterodectes maculatus* sp.n. differs from other species of the genus in the combination of the following characters: hysterosomal shield not evenly sclerotized, anteriorly with medium sized and posteriorly with small lacunae, suboval supranal concavity present, penis reaching the anterior margin of adanal discs. Another species, *Pterodectes gracilis* (Trt., 1885) is known to parasitize icterid bird, *Psarocolius decumanus* (syn. *Ostinops decumanus*). The male differs markedly from *P. maculatus* in having a long penis reaching the body terminus and epimerites I connected transversely with epimerites II.

Deposition of type material: RNHL

***Pterodectes thraupicola* sp.n.** Figs. 5D; 6D

Material examined: female (holotype) from *Thraupis episcopus* L. (Thraupidae), Tawajariweg, 7. 9. 1971. Paratypes: 5 ♀, the same data.

Female (holotype). — Length 511, width 178. Propodosomal shield 130×145, with nearly straight posterior margin, with small lacunae especially in its anterior half. A transverse row of a little larger lacunae near the posterior margin developed, sescse 90. Hysterosomal shield 244×142, with only fine granulation. In more sclerotized specimens 2 big posterolateral lacunae present. Terminal region 81, with subcircular supranal concavity. Interlobal cleft 50, doubly concave, inner margins almost touching. Setae d_4 with 1—2 circumsetal small lacunae, d_4—d_4 30, setae l_5 55, blade-like, without terminal filament, d_5 22. Spermatheca as in Fig. 6D. Epimerites I V-shaped, epimerites II bent. Setae sh dagger-like, 28×8. Legs IV reaching the level of bottom of interlobal cleft.

The female of *Pterodectes thraupicola* sp.n. differs from other members of the genus in the combination of the following characters: type of ornamentation on propodosomal

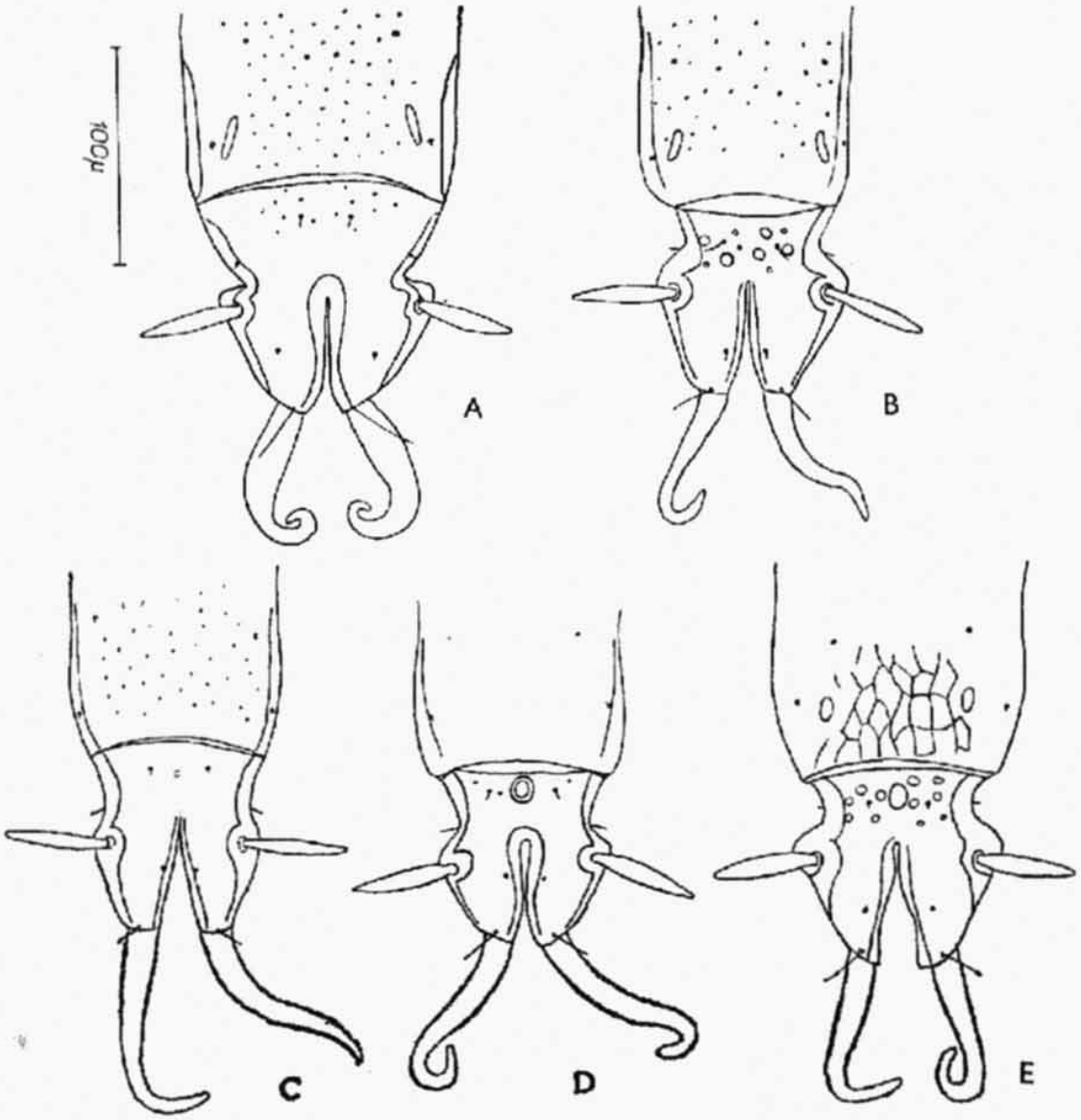

Fig. 5. Females, body terminus, dorsally. A — *Pterodectes storkani* sp. n., B — *Pterodectes havliki* sp.n., C — *Pterodectes troglodytis* sp.n., D — *Pterodectes thraupicola* sp.n., E — *Pterodectes reticulatus* sp.n.

shield, absence of lacunae on hysterosomal shield, doubly concave interlobal cleft, presence of 1—2 small circumsetal d_4 lacunae (see Tab. 2).

Deposition of type material: RNHL, NCSP, UGA, IPP, NMW

***Pterodectes reticulatus* sp.n.**

Figs. 5E; 6E

Material examined: female (holotype) from *Elaenia flavogaster* (Thunberg) (Tyrannidae), Weg n. Zee, 19. 9. 1971. Paratypes: 1 ♀ 1N 3L, the same data.

Female (holotype). — Length 577, width 183. Propodosomal shield 128×128, with undulate posterior margin, finely granulated, scc-scc 75. Hysterosomal shield 284×126, with reticulation and 2 big lacunae in posterior part. Terminal region 93 with oval supranal concavity. Interlobal cleft 61, diverging posteriorly. Setae d_4 with 5—6 circumsetal lacunae, d_4—d_4 27, setae l_5 47, blade-like, without terminal filament, d_5 22. Spermatheca as in Fig. 6E. Epimerites I V-shaped, epimerites II bent. Setae sh dagger-like, 27×8. Legs IV not reaching the level of setae d_4.

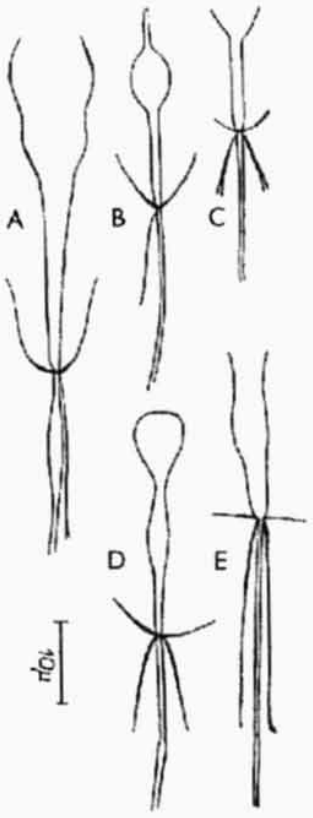

Fig. 6. Spermathecae. A — *Pterodectes storkani* sp.n., B — *Pterodectes havliki* sp.n., C — *Pterodectes troglodytis* sp. n., D — *Pterodectes thraupicola* sp.n., E — *Pterodectes reticulatus* sp.n.

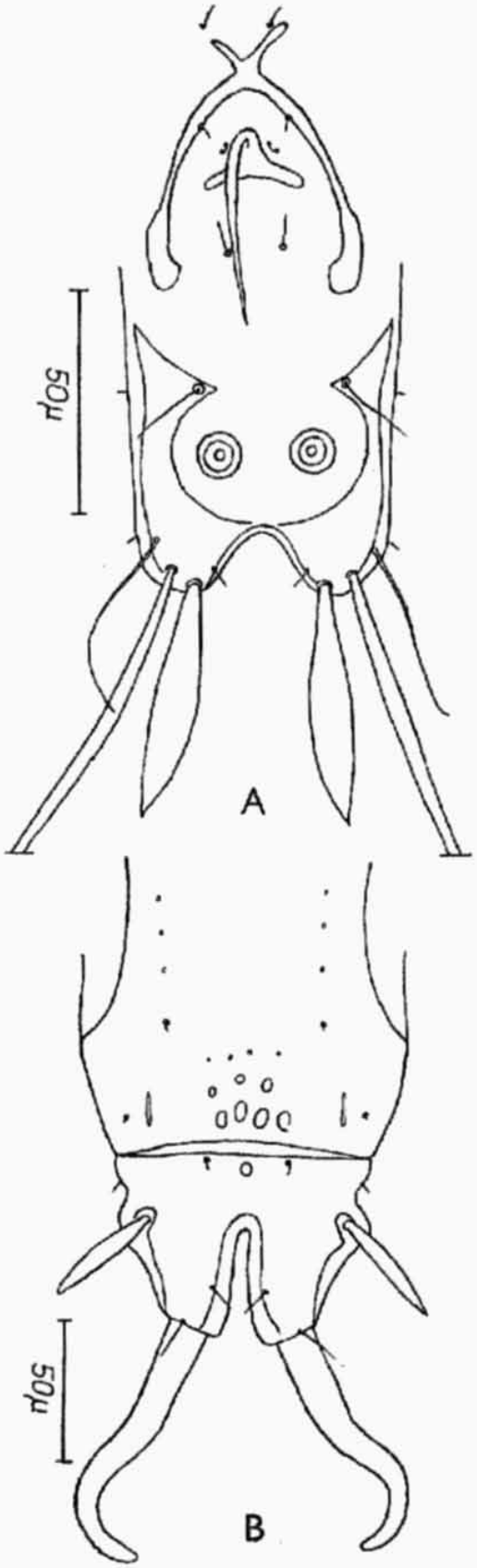

Fig. 7. *Trochilodectes brevicaulus* sp.n. A — male, body terminus, ventrally, B — female, body terminus, dorsally.

Table 1. Comparison of some morphological characters in males of the new *Pterodectes* species

	P. storkani	*P. havliki*	*P. troglodytis*	*P. maculatus*
Ornamentation of propodosomal shield	small lacunae mostly in posterior half	medium-sized lacunae	without lacunae	medium-sized lacunae
Ornamentation of hysterosomal shield	larger lacunae except the median field	medium-sized lacunae	without lacunae	anteriorly medium-sized posteriorly smaller lacunae
Supranal concavity	absent	small, subcircular	absent	suboval
Epimerites I	connected transversely with Ep II	connected terminally by a platelet	connected terminally by a bridge	connected terminally by a platelet
Penis	extending beyond adanal discs	reaching the level of centres of adanal discs	extending beyond centres of adanal discs	reaching the anterior margin of adanal discs
Seta cG I and II	blade-like	setiform	setiform	setiform

Table 2. Comparison of some morphological characters in females of the new *Pterodectes* species

	P. storkani	*P. havliki*	*P. troglodytis*	*P. thraupicola*	*P. reticulatus*
Ornamentation of propodosomal shield	small lacunae in posterior half	medium-sized lacunae	without lacunae	small lacunae a transverse row posteriorly	without lacunae
Ornamentation of hysterosomal shield	lacunae uniformely distributed, a little larger	lacunae uniformely distributed, smaller	small lacunae especially in posterior 2/3	without lacunae	reticulation posteriorly
Supranal concavity	absent	absent	subcircular	subcircular	oval
Interlobal cleft	slit-like	very narrow, diverging posteriorly	diverging posteriorly	double concave	diverging posteriorly
Circumsetal d_4 lacunae	6—7 small	4—5 different size	0	1—2 small	5—6 different size
Seta cG I and II	blade-like	setiform	setiform	setiform	setiform

The female of the new species differs from other members of the genus in the combination of the following characters: absence of lacunae on propodosomal shield, posterior reticulation on hysterosomal shield, oval supranal concavity, presense of 5—6 circumsetal d_4 lacunae of different size.

Deposition of type material: RNHL, NCSP

Trochilodectes Park and Atyeo, 1971

The genus is represented by 2 species, both from Trochilidae from Central and South America.

Trochilodectes brevicaulus sp.n. Fig. 7

Material examined: male (holotype) from *Phaethornis longuemareus* (Lesson) (Trochilidae), Zanderij, 6. 9. 1971. Paratypes: 12♂ 10♀ 7N 2L, the same data.

Male (holotype). — Length 286, width 126. Prodoposomal shield 88×96, sce-sce 44, hysterosomal shield 158×81. Both shields finely granulated. Opisthosomal lobes truncated laterally, interlobal cleft 20, subtriangular. Supranal concavity small, oval. Setae d_5 leaf-like, l_5 dilated basally. Epimerites I inverted π—shaped, connected with epimerites II. Setae sh slightly dagger-like, 17×4. Epimerites III and IV broadly connected. Epimerites IVa connecting anteriorly to form an inverted U-shaped apodeme with 2 anteriorly directed digitiform extensions, bearing setae c_2. Coxal field IV open. Penis 43, reaching about mid-distance between setae c_3 and a. Setae a anterolaterally to adanal discs, on anterior extensions of ventrolateral shields. DAD 22. Legs IV not reaching the body terminus, a little stronger than legs III.

Female (allotype). — Length 410, width 162. Propodosomal shield 99×126, finely granulated, with irregular posterior margin, sce-sce 59. Anterior hysterosomal shield with large lateral emarginations, broadest in its posterior 1/6, 190×115, with several oval lacunae posteromedially and small lacunae in lateral zones. Terminal region 69, supranal concavity small. Interlobal cleft 43, narrow, diverging posteriorly, d_4—d_4 28. Setae l_5 49, blade-like, without terminal filament, d_5 14. Epimerites I inverted π—shaped. Setae sh dagger-like, 19×6. Legs IV reaching the level of bottom of interlobal cleft.

Trochilodectes brevicaulus sp. n.is similar to *T. trochilidarum* (Trt., 1885) in having leaf-like setae d_5 in male. The latter species differs in closed coxal fields IV, longer penis reaching the level of setae a in males and hysterosomal shield without pronounced lateral emarginations and posteromedian lacunae in females.

Deposition of type material: RNHL, NCSP, UGA, IPP, NMW, ITGA, ZMH, RMLH, KUN, IPC

Allodectes Gaud and Berla, 1963

The genus is represented by 11 species, all from Trochilidae from Central and South America.

Allodectes similis sp.n. Fig. 8

Material examined: male (holotype) from *Amazilia fimbriata* (Gmelin) (Trochilidae), Welgedacht, 27. 8. 1971. Paratypes: 8♂ 7♀, the same data.

Male (holotype). — Length 455, width 265. Propodosomal shield 124×191, with 4 minute lacunae about in mid-distance between setae ve and sc and straight posterior

margin, sce-sce 83. Hysterosomal shield 268×200, without lacunae. Terminal cleft 13. Setae d_5 385, sh 51, sR 61. Penis 22, reaching (in some paratypes extending slightly beyond) the level of setae c_1 which are situated anterolaterally to genital discs. Setae c_2 on subgenital shield. DAD 34, adanal discs 24×22. Genu IV with posterointernal projection. Tarsi III and IV with apicodorsal claws. Coxal fields incompletely sclerotized.

Female (allotype). — Length 547, width 235. Propodosomal shield 145×183 with nearly straight posterior margin, without lacunae, sce-sce 79. Anterior hysterosomal shield 235×182, without lacunae. Terminal region 110, interlobal cleft 62, slightly diverging behind pai. Setae d_5 81, l_5 152, sh 43, sR 40. Tarsi I—IV without apicodorsal claws. Coxal fields I incompletely sclerotized.

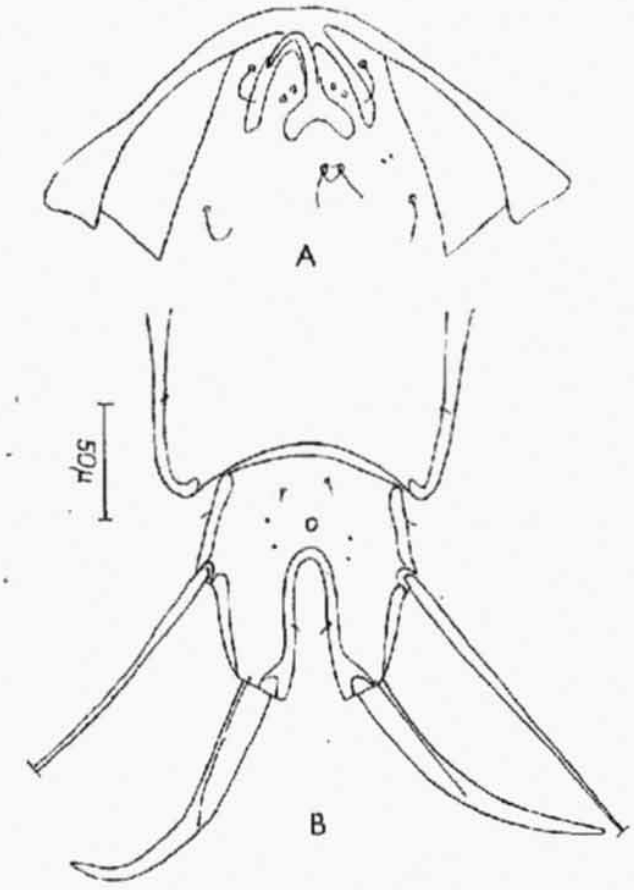

Fig. 8. *Allodectes similis* sp.n. A — male, genital region, B — female, body terminus, dorsally.

Allodectes similis sp.n. is closely related to *A. amaziliae* Park and Atyeo, 1971 reported from 4 species of humming-birds from Trinidad and Mexico, all belonging to the genus *Amazilia*. Other species of the trochilid subgenus *Polyerata* which includes the species *Amazilia fimbriata* are also represented among the hosts of *A. amaziliae*. *A. norneri* (Trt., 1885) is another species with subgenital shield bearing setae c_2 in males. *A. similis* sp.n. differs from both species in the absence of well-developed striations on hysterosomal shield and the tip of penis distinctly before c_1 in male, from *A. amaziliae* in larger dimensions and from *A. norneri* is a straight posterior margin of propodosomal shield in female.

Deposition of type material: RNHL, NCSP, UGA, IPP, NMW, ITGA, ZMH, RMLH, KUN.

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ПАРАЗИТИЧЕСКИЕ КЛЕЩИ СУРИНАМА XXXI. НОВЫЕ ВИДЫ СЕМЕЙСТВА PROCTOPHYLLODIDAE (SARCOPTIFORMES, ANALGOIDEA)

В. Черны

Резюме. Дано описание 11 новых видов перьевых клещей, относящихся к родам *Proctophyllodes, Pterodectes, Trochilodectes* и *Allodectes* от воробьиных птиц и колибри Суринама.

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The 15th International Symposium on Diseases of Zoo Animals

The 15th International Symposium on diseases of zoo-animals, arranged by the Institute for Vertebrate Research, Department of Diseases of Zoo Animals and Wildlife in collaboration with the Veterinary Institute, Stockholm and the Zoological Garden at Kolmården, was held at the town Norrköping from June 27 to July 1 1973. It was attended by more than 200 specialists and a total of 40 papers were presented at the meetings. The Proceedings (390 pp.) containing all papers received, were on sale at the opening session. The working programme of the first day of the symposium was devoted to ruminant diseases, that of the second day to diseases acquired during transport; the programme of the third day was polythematic.

On the first day papers were presented on cases of infection with atypical mycobacteria, which have increased in frequency during recent years, on necrobacillosis, on the etiology of the weak vitality of newborn ruminants, on the pathophysiology of the rumen; of interest was the report on intoxication with berberine, a toxic substance contained in plants of the family Ericaceae. Attention was given also to herbicide intoxication.

Injuries acquired during transport and followed by the outbreak of latent diseases are often responsible for losses. This accounts for the large number of contributions dealing with the various methods of capture and transport, quarantine measures in order to prevent the spreading of infection and its introduction to the livestock, and a statistical evaluation of transport losses. The fact that excessive physical and mental stress may frequently be responsible for the outbreak of a latent parasitic infection which, generally, is lethal, received particular attention. This applies to all groups of animals. E.g., Zwart et al. (Holland) observed in 13 of the 16 recently imported demoiselle cranes a lethal infection caused by *Hexamita* sp. The birds died of catarrhal-necrotic enteritis and heavy liver damage. The remaining three birds, although heavily infected, were cured successfully with 50 mg/kg l. w. of metronidazole (Emtryl).

The third day was reserved for lectures dealing with a variety of topics such as infectious meningo-encephalitis of unknown origin in the lion and tiger (Melchior, G.F.R.) killing 50 lions and three tigers in a safari park within three years. Although the symptoms suggested a virus infection, the virus could not be isolated. Therapeutic experiments using serum of recovered lions and a specific vaccine from the brain of dead lions, did not give satisfactory results. Other reports dealt with spontaneous Newcastle disease in ornamental birds, the incidence of tumours in captive wild animals and osteoporosis in juvenile carnivores. The contribution by Nickel and Schwartz (GDR) suggesting a systematic, planned control of helminthiases in zoological gardens, was of interest particularly to parasitologists and veterinarians. The authors stressed the importance of regular coprological examination, and pointed out that ecological conditions in the zoological garden play an important role in the origin and maintenance of parasitic infections. Dollinger (Switzerland) presented his results with the anthelmintic Mebendazole tested in a number of zoo animals. The drug was readily administered, and no side-effects were observed. In monkeys it was very effective against *Strongyloides*, Strongylidae and Trichostron-