THE MALLOPHAGA (BITING-LICE) RECORDED FROM THE PACIFIC ISLANDS

BY GORDON B. THOMPSON.


This paper is the fifth of a series devoted to listing the ectoparasitic insects recorded from Pacific Island hosts and contains check-lists and host-lists of the Mallophaga recorded for the most part from birds (domestic and wild).

Following the principles laid down in the previous lists, I have only cited references which have some bearing on the species and records relative to the Pacific Islands. Most of the references have been checked against the originals.

It is quite obvious from a glance at the lists which follow that our knowledge of the Mallophaga parasitic on the innumerable birds which abound in the Pacific regions is extremely poor. A vast amount of collecting is necessary and should be done as soon as possible, as many of the birds are nearing extinction. The Mallophaga parasitic on birds of the interesting Galapagos Is. have received more attention than those from any other of the island groups, but even these are not well known. Nothing, except for a revision of a few species by Ferris, has been published on the lice of Galapagos Is. birds since about 1906. Kellogg, in association with other workers, has contributed most towards our present-day knowledge of them, but unfortunately until such time as further material is available which can be worked out in conjunction with Kellogg's collection no important advances can be made. Kellogg has drawn attention to the phenomenon known as straggling and seems perfectly satisfied, as shown by his extraordinary lists of hosts upon which some of the lice were said to have been taken, to accept it as being of common occurrence in the case of the parasites of the Galapagos birds. I am not prepared to believe that straggling occurs on these islands to anything like the extent to which it is stated. From my own experience of collecting I know full well how easy it is to produce artificial examples of straggling. The report on the Mallophaga of Hawaiian birds by Kellogg and Chapman contains some very remarkable instances of straggling which seems to me to be merely the result of carelessness on the part of the collectors. However, these remarks are made merely as a warning to future collectors.

It is interesting to note that the paper by Kellogg and Chapman on the Mallophaga of Hawaiian birds was published twice, once
in the Journal of the New York Entomological Society and again in Vol. III (pp. 305-321) of the Fauna Hawaiianis. Some years ago this struck me as being rather odd, so I wrote to Dr. R. C. L. Perkins, F.R.S., for an explanation. He replied, saying that it was an extraordinary thing that this paper should have been published in the Fauna Hawaiianis, for to the best of his knowledge a good collection of Mallophaga was made in the Hawaiian Is. during the time of his associations there and that they were never worked out and, moreover, that after numerous efforts were made to locate this material it has never yet been found. Assuming that the collection mentioned by Dr. Perkins was made, it is a very great pity that it has been lost, as I understand that some of the birds from which lice were collected are now almost, if not entirely, extinct. Maybe they will be found one day.

The check-list of the Mallophaga is divided into two parts. The first part deals with the lice recorded from domestic animals, the second with the lice of wild birds. Collections of lice from domestic animals would greatly increase the first list, which at present contains a very poor representation of both parasites and localities.

In dealing with the Mallophaga I have endeavoured to give correct synonymy, some of which is new, and also to place species in their correct genera. I am fully aware that such papers as the present one do little to increase our knowledge of the systematics of the group in question, but at the same time I do feel that it is a convenient opportunity of bringing to light references to species which may be overlooked, etc. It is to be hoped, however, that this paper may have the desired effect, and that is to make a strong appeal to those in a position to collect conscientiously the Mallophaga of the birds of the Pacific Islands.

In the case of the Mallophaga of birds of the Hawaiian Islands I have only given the references to Kellogg and Chapman’s earlier paper published in 1902.

The host-list is also divided into two parts. The first part contains only those birds recorded from islands outside the Galapagos group, the second is concerned exclusively with the Galapagos avifauna. In almost every case I have brought the host names up to date with the aid of Mathews ‘Systema Avium Australasianum’ and Swarth’s ‘The Avifauna of the Galapagos Is.’. In the first host-list I have omitted any obvious cases of straggling. In the second part I have, perhaps somewhat rashly, endeavoured to give a corrected host-list of the parasites. It would be quite useless to repeat Kellogg’s host-lists, since they contain so many obvious records of stragglers. Under each parasite, in the earlier part of the paper I have suggested the probable true hosts of each parasite and the host-list is made up for the most part from my suggestions. There are cases where I have refrained from expressing any opinion as to the host. In the case of the Geospiza spp., Nesomimus spp., Cactospiza spp., Certhidea spp., etc., it is at present almost impossible to say which are their true parasites, so I have listed nearly all the lice recorded from them. A few of the birds from which Kellogg and his associates recorded Mallophaga have created some difficulty in their interpretation. I am not prepared to say what they meant by Fregata aquila, for instance, so I have merely interpreted it as Fregata sp. A number of parasites are recorded from Anas versicolor. According to Swarth (1931) there is only a single record of the capture of this bird on the islands, and even that is open to doubt. The bird is an Argentine species. Only two species of Anatidae are listed as occurring in the Galapagos Is., Querquedula discors (Linn.) and Pachycephala galapagensis Ridgway. The former species is listed on the basis of a single specimen. It seems, therefore, probable that Kellogg’s records from Anas versicolor really refer to Pachycephala galapagensis Ridgway, which has been recorded on numerous occasions from all the islands except Narborough. There are records of Mallophaga from Speotyto sp. and Corvus sp., but I can find no reference to any such birds from the Galapagos Is.

**Species Parasitic on Domestic Animals.**

1. *Menopon gallinae* (Linn.).


_M. gallinae_ (Linn.), Ferris, 1924, Parasitology, XVI, p. 57, f. 1.

This is a common parasite of the domestic fowl, which is its true host. Jepson (1911, Rept. Econ. Entom., Dept. Agric. Fiji, Council Paper 25, p. 30) recorded it on fowls in Fiji. Buxton (1918, Researches in Polynesia and Melanesia, London, p. 54) and Waterston (1928, Insects of Samoa, Pt. VII, fasc. 3, p. 80) recorded it from domestic fowls at Apia, Samoa. Illingworth (1928, Proc. Hawaiian ent. Soc., VII, p. 41) recorded it from turkeys and guinea hens at Honolulu and from chickens at Waipio and Honolulu.


The true host of this species is the peacock. Illingworth (1928, Proc. Hawaiian ent. Soc., VII, p. 41) recorded it from a guinea-hen at Honolulu.


*Menopon stramineum* Nitzsch in Giebel, 1874, Insecta Epiza, p. 291.

*M. biseriatum* Piaget, 1880, Les Pédiculines, p. 469, Pl. 37, f. 2.


This common parasite occurs on both chicken and turkeys. Illingworth (1928, Proc. Hawaiian ent. Soc., VII, p. 41) recorded it from chicken at Honolulu.

4. *Trichodectes canis* (De Geer).

*Ricinus canis* De Geer, 1778, Mémoires pour servir à l’histoire des Insectes, Stockholm, VII, p. 81, Pl. 4, f. 16.


This species is the true parasite of domestic dogs. Swezey (1931, Proc. Hawaiian ent. Soc., VII, p. 361) recorded it from a dog in Honolulu.

5. *Bovicola* spp.

There has been so much confusion regarding the lice of goats that it would be unsafe to say which species as at present recognised are referred to by past records. The *Trichodectes* spp. occurring on goats are now placed in the genus *Bovicola*.


*Goniodes dissimilis* Nitzsch in Denny, 1842, Monographia Anoplurorum Britanniae, p. 162, Pl. 12, f. 4.


7. *Goniodes meleagridis* (Linn.).


This large species seems to be a normal parasite of guinea-fowls but is frequently found on domestic fowls. Illingworth (1928, Proc. Hawaiian ent. Soc., VII, p. 41) recorded it from chicken at Waipio, Hawaiian Is.


*Goniocotes hologetaster* Nitzsch in Burmeister, 1838, Handbuch der Entomologie, ii, p. 431.

Another common parasite of chickens which is also found on guinea-fowls. Recorded by Illingworth (1928, Proc. Hawaiian ent. Soc., VII, p. 41) from chicken and turkeys at Honolulu.

10. *Lipeurus caponis* (Linn.).


11. *Lipeurus gallipavonis* (Geoffroy).


This species is a parasite of turkeys, and has been recorded from these hosts in Honolulu by Illingworth (1928, Proc. Hawaiian ent. Soc., VII, p. 41).


**Analysis of Mallophaga Recorded from Domestic Animals.**

<table>
<thead>
<tr>
<th>Name of parasite</th>
<th>Hawaiian Is.</th>
<th>Fiji Is.</th>
<th>Samoan</th>
<th>Kermadec Is.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menopon gallinae (Linn.)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>M. phaeostomum Nitzsch</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Eomenacanthus stramineus (Nitzsch)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Trichodectes canis (De Geer)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bovicola spp. (of Goats)</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Goniodes dissimilis Nitzsch</td>
<td>-</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. meleagridis (Linn.)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goniocotes gigas Taschenberg</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>G. hologaster Nitzsch</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Lipurus caponis (Linn.)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L. gallipavonis (Geoffroy)</td>
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</tr>
<tr>
<td>L. heterographus Nitzsch</td>
<td></td>
<td>X</td>
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</tr>
</tbody>
</table>

(Continued from p. 189.)

**Species Parasitic on 'Wild' Birds.**


Locality: Galapagos Is., Albemarle I.

**Geospiza fuliginosa fuliginosa** Gould.

Locality: Galapagos Is., Albemarle I.

14. **Menopon aurifasciatum** Kellogg.


*M. aurifasciatum* Kellogg, Ewing, 1924, Zoologica, N.Y., V, p. 82.

Recorded host: *Fregata* sp.? (*Fregata aquila*).

Localities: Galapagos Is.

15. **Menopon becki** Kellogg.


Recorded host: *Phaethon aethereus* Linn.

Locality: Galapagos Is., Daphne I.

16. **Menopon cyrtostigmum** Kellogg and Chapman.*

* In the case of all species referred to in the paper on the Mallophaga from Hawaiian Birds by Kellogg and Chapman I have given only the earlier references to the paper published in the Journal of the New York Entomological Society and omitted the references to the same paper which appeared in the Puna Hawaiianus.
Recorded host: *Vestaria coccinea* (Forster).
Localities: Hawaiian Is., Hilo, Maui I.

Recorded hosts: *Phaetusa aethereus* Linn.; *Sula dactylatra granti* Rothschild; *Fregata sp.*; *Anous stolidus galapagensis* Sharpe.
Probable true host: *Anous stolidus galapagensis* Sharpe.
Localities: Galapagos Is., Daphne I., Indefatigable I., Seymour I., Wenman I.

Recorded hosts: *Geospiza conirostris conirostris* Ridgway; *Nesomimus macdonaldi* Ridgway.
Locality: Galapagos Is., Hood I.

Recorded host: *Chlorodrepanis virens* (Gmelin).
Locality: Hawaiian Is., Maui I.

Recorded host: *Vestaria coccinea* (Forster).
Locality: Hawaiian Is., Hilo.

Recorded hosts: *Certhidea olivacea* Gould; *C. becki* Rothschild; *Geospiza f. fuliginosa* Gould; *G. c. conirostris* Ridgway.

Recorded hosts: *Extrudites sundevalli* Reichnow; *Puffinus obscurus subalaris* Ridgway; *Sula dactylatra granti* Rothschild; *Anous stolidus galapagensis* Sharpe.
Probable true host: *Puffinus obscurus subalaris* Ridgway.
Localities: Galapagos Is., Naborough I., Culpepper I., Bindloe I.

*M. navigans* Kellogg, Ewing, 1924, Zoologica, N.Y., V, p. 82.
Recorded hosts: *Sula dactylatra grantii* Rothschild; *S. nebuixii* Milne-Edwards.
Localities: Galapagos Is.

Recorded host: *Puffinus obscurus subalaris* Ridgway.
Locality: Galapagos Is., Seymour I.


Recorded hosts: *Anous stolidus galapagensis* Sharpe; *Phaethon aethereus* Linn.; *Sula dactylatra* granti Rothschild; *S. nebuluxii* Milne-Edwards; *Sterna fuscata crissalis* Lawrence; *Fregata minor* (Lesson).

Probable true hosts: *Anous stolidus galapagensis* Sharpe; *Sterna fuscata crissalis* Lawrence.

Localities: Galapagos Is., Clipperton I., Culepper I., Wemman I., Seymour I., Bindloe I.; Marquesas Is., Hatiatu.


Recorded host: *Coccyx melacoryphus* Vieillot.

Localities: Galapagos Is., Chatham I.


Recorded host: *Onychoprion fuscatus* Linn. (*Sterna fuscata*). Localities: Marquesas Is., Teuana, off Uahuka.


Recorded hosts: *Anous stolidus galapagensis* Sharpe; *Geospiza f. fuliginosa* Gould; *Puffinus obscurus subalaris* Ridgway; *Sula piscator websteri* Rothschild; *Fregata sp.* (*Fregata aquila*); *F. minor* (Lesson) (*F. minor*).

Probable true host: *Fregata spp.*

1938.


Recorded hosts: *Asio flammeus* (Pontopp.) (*Asio accipiter*); *Pluvialis dominicus fulvus* (Gmelin) (*Charadrius dominicus fulvus*).

Probable true host: *Asio flammeus* (Pontopp.).


Recorded hosts: *Carpodacus mexicanus obscurus*; *Anous stolidus* (Linn.).


*Colpocephalus flavescens* Nitzsch in Lyonet, 1829, Mém. du Mus., XVIII, p. 262, Pl. 12.


Recorded host: *Buteo galapagoensis* Ridgway; *Fregata sp.*

Probable true host: *Buteo galapagoensis* Ridgway.

Localities: Galapagos Is., Indefatigable I., Wemman I.

32. *Colpocephalus hetersoma* Piaget.


Recorded host: *Progne modesta* (Neboux).

Probable true host: *Phoenicopterus ruber* Linn.

Localities: Galapagos Is., Indefatigable I.

33. *Colpocephalus subaequale* Nitzsch.

*Colpocephalus subaequale* Nitzsch in Burmeister, 1838, Handb. der Entomologie, ii, p. 438.


Recorded hosts: *Sula piscator websteri* Rothschild; *Fregata sp.* (*F. aquila*); *Corvus* sp.
Probable true host: Corvus sp.
Locality: Galapagos Is., Clarion I.

34. Colpocephalum unciferum Kellogg.
C. unciferum Kellogg, Ewing, 1924, Zoologica, N.Y., V, p. 82.
Recorded hosts: Cethidea olivacea Gould; Sula dactylatra granti Rothschild; Fregata sp. (Fregala aquila); Anous stolidus galapagensis Sharpe; Anas versicolor; Pelecanus occidentalis Linn. (Pelecanus sp.).
Probable true host: Pelecanus occidentalis Linn.
Localities: Galapagos Is., Albemarle I., Wenman I.

35. Actornithophilus epiphanes (Kellogg and Chapman).
Recorded host: Anous stolidus (Linn).

36. Actornithophilus grandiceps (Piaget).
Recorded host: Haematopus palliatus galapagensis Ridgway.
Locality: Galapagos Is., Indefatigable I.

37. Actornithophilus kilauensis (Kellogg and Chapman).
Recorded host: Heteractitis incanus (Gmelin).
Locality: Hawaiian Is., Hilo.

38. Actornithophilus milleri (Kellogg and Kuwana).
Recorded hosts: Anous stolidus galapagensis Sharpe; Butorides sundevalli Reichenow; Camarhynchus affinis Ridgway; Geospiza f. fuliginosa Gould; G. foris Gould; Phaeocephalus aethereus Linn.; Sula dactylatra granti Rothschild; S. nebolii Milne-Edwards; Nesopelia g. galapagoensis (Gould); Anous stolidus (Linn.); Gygistera sumatrana (Raffles) (Sterna melanochtenchus).
Probable true host: Anous stolidus (Linn.).

39. Actornithophilus timidus (Kellogg).
A. timidus (Kellogg), Waterston, 1928, Insects of Samoa, Pt. VII, fasc. 3, p. 81.
Recorded host: Pluvialis dominicus fulvus (Gmelin).
Localities: Kermadec Is.; Samoa, Upolu, Apia.

40. Eomenopon denticulatum Harrison.
Eomenopon denticulatum Harrison, 1915, Parasitology, VII, pp. 385-388, f. 5, 6 and 16.
Recorded hosts: ‘Eos rubiginosa’; Vini australis (Gmelin).
Localities: Ponape I.; Samoa, Apia, Vailele.
41. Myrsidea buxtoni Waterston.
   Recorded host: Aplonis atrifusca (Peale).
   Locality: Samoa, Apia.

42. Myrsidea conspicua (Kellogg and Chapman).
   Recorded host: ‘Carpodacus mexicanus obscurus.’

43. Myrsidea invadens (Kellogg and Chapman).
   Recorded hosts: ‘Acridothis tristis’; Spilopelia chinensis (Scop.) (Turtur chinensis).
   Probable true host: ‘Acridothis tristis.’

44. Myrsidea rustica (Nitzsch).
   Myrsidea rustica (Nitzsch), Harrison, 1916, Parasitology, IX, p. 59.
   Recorded host: Progne modesta (Neboux).
   Locality: Galapagos Is., Indefatigable I.

45. Myrsidea teraokai Uchida.
   M. teraokai Uchida, Waterston, 1928, Insects of Samoa, VII, fasc. 3, p. 78, f. 2b.
   Recorded host: Aplonis opaca (Kittl.).
   Locality: Caroline Is., Truk I.

46. Dennyus distinctus Ferris.
   Recorded host: Collocalia ociosa Oberholser.

47. Trinoton lituratum Nitzsch.
   Trinoton lituratum Nitzsch in Burmeister, 1838, Handbuch der Entomologie, ii, p. 441.
   Recorded host: ‘Anas versicolor.’
   Locality: Galapagos Is., Indefatigable I.

48. Trinoton querquedulae (Linn.).
   Trinoton luridum Nitzsch in Burmeister, 1838, Handbuch der Entomologie, ii, p. 441.
   T. querquedulae (Linn.), Harrison, 1916, Parasitology, IX, p. 62.
   Recorded hosts: ‘Anas versicolor’; Haematopus palliatus galapagensis Ridgway (Haematopus galapagoensis).
   Probable true host: Poecilometta galapagensis Ridgway.
   Locality: Galapagos Is., Indefatigable I.
49. Ancistrona vagelli (Fabricius).

Pediculus vagelli Fabr., 1787, Mant. Ins., p. 369.

Ancistrona procellariae Westwood, 1874, Thees. ent. Oxon., p. 197, Pl. 37, f. 4.

A. gigas Piaget, 1883, Tijdschr. ent., XXVI, p. 152, Pl. 9, f. 1.


Recorded hosts: Cookilavus hypoleuca (Salvin) (Aestrelata hypoleuca); Pelagodroma marina passerina (Mathews) (Pelagodroma marina).

Localities: Galapagos Is.*; Laysan I.; Kermadec Is.

50. Ricinus angulatus (Kellogg).


Ricinus angulatus (Kellogg), Harrison, 1916, Parasitology, IX, p. 66.

Recorded hosts: Myiarchus magnirostris (Gray); Dendroica petechia aureola (Gould).

Localities: Galapagos Is., Albemarle I.


Recorded host: Spiloptelia chinensis (Scop.).

Localities: Hawaiian Is., Maui I.

52. Goniocotes galapagensis Kellogg and Kuwana.


Recorded hosts: Cactospiza pallida producta (Ridgway); G. f. fuliginosa Gould; Oceanites gracilis galapagoensis Lowe; Fregata sp.; Sila piscator websteri Rothschild; Anous stolidus galapagoensis Sharpe; Nesopelia g. galapagoensis (Gould).

* The host from which this species was recorded from the Galapagos Is. was not stated by Kellogg and Kuwana (1902).

1939.

Probable true host: Nesopelia galapagoensis (Gould).

Localities: Galapagos Is., Albemarle I., Narborough I., Weman I., Bindloe I.

53. Lipurus minhaiensis Kellogg and Chapman.


Recorded host: Acrithos tristis


Note.—The host given by Kellogg and Chapman is not the true host.

54. Philopterus armatus Johnston and Harrison.


Recorded host: Phaeopus phaeopus variegatus (Scop.).

Localities: Kermadec Is.

55. Philopterus breviformis (Kellogg and Kuwana).


Philopterus breviformis (Kellogg and Kuwana), Harrison, 1916, Parasitology, IX, p. 80.

P. breviformis (Kellogg and Kuwana), Ewing, 1924, Zool.ogica, N.Y., V, p. 82.

Recorded hosts: Progne modesta (Neboux); Geospiza fortis Gould; Actitis macularia (Linn.).

Probable true host: Progne modesta (Neboux).

Localities: Galapagos Is., Albemarle I., Indefatigable I.

56. Philopterus conicus (Denny).

Docophorus conicus Denny, 1842, Monographia Anoplurorum Britanniae, p. 90, Pl. 5, f. 2.


P. conicus (Denny), Harrison, 1916, Parasitology, IX, p. 92.

Recorded hosts: Pluvialis dominicus fulvus (Gmelin); Heteractitis incanus (Gmelin).

57. Philopterus corvi (Osborn).

Recorded host: *Corvus* sp.
Locality: Galapagos Is., Clarion I.

Note: As has been previously pointed out by Harrison (1916) Osborn's *P. corvi* needs renaming if it is distinct from *P. corvi* (Linn.).

58. Philopterus cursor (Nitzsch).


*Philopterus cursor* (Nitzsch), Harrison, 1916, Parasitology, IX, p. 92.
Recorded host: *Asio galapagoensis* (Gould).
Locality: Galapagos Is., Clarion I.

59. Philopterus domesticus (Kellogg).


*Philopterus domesticus* (Kellogg), Harrison, 1916, Parasitology, IX, p. 317.
Recorded host: *Progne modesta* (Neboux).
Locality: Galapagos Is., Indefatigable I.

60. Philopterus galapagensis (Kellogg and Kuwana).


*Philopterus galapagensis* (Kellogg and Kuwana), Harrison, 1916, Parasitology IX, p. 95.
Recorded hosts: *Geospiza f. fuliginosa* (Gould); *G. c. conirostris* Ridgway; *G. fortis* Gould; *Cactospiza pallida producta* (Ridgway); *Camarhynchus prosthelmas* Sclater and Salvin; *Nesomimus parvulus* (Gould).

Localities: Galapagos Is., Albemarle I., Chatham I., Naborough I., Indefatigable I.

61. Philopterus insulicola (Kellogg and Kuwana).


*Philopterus insulicola* (Kellogg and Kuwana), Harrison, 1916, Parasitology, IX, p. 97.
Recorded hosts: *Certhidea olivacea* Gould; *Pyrocephalus nanus intercedens* Ridgway; *Geospiza fuliginosa* subsp.
Locality: Galapagos Is., Albemarle I.


Recorded host: *Chlorodrepanis virens* (Gmelin).
Locality: Hawaiian Is., Maui I., Kahului and Ias Valley.

(To be continued)
63. *Philopterus minor* (Kellogg and Kuwana).


*Philopterus minor* (Kellogg and Kuwana), Harrison, 1916, Parasitology, IX, p. 99.

Recorded hosts: *Puffinus obscurus subalaris* Ridgway; *Nesonimus parvulus barringtoni* Rothschild.

Probable true host: *Puffinus obscurus subalaris* Ridgway.

Localities: Galapagos Is., Narborough I., Alameda I., Barrington I., Culepeper I.

64. *Philopterus numenicola* Johnston and Harrison.


Recorded host: *Phaeopus phaeopus variegatus* (Scop.).

Localities: Kermadec Is.


*Philopterus platycephalus* (Kellogg and Kuwana), Harrison, 1916, Parasitology, IX, p. 102.

Recorded hosts: *Oceanites gracilis galapagoensis* Lowe; *Geospiza f. fuliginosa* Gould.

Probable true host: *Oceanites gracilis galapagoensis* Lowe.

Localities: Galapagos Is., Alameda I., Wenman I.


*Pediculus sturni* Schrank, 1776, Beiträge zur Naturgeschichte, p. 118, Pl. 5, f. 1.


Recorded host: *Sturnus vulgaris* Linn.

Localities: Kermadec Is.

67. *Philopterus subflavescens* (Geoffroy).


*Philopterus subflavescens* (Geoffroy), Harrison, 1916, Parasitology, IX, p. 105.

Recorded hosts: *Geospiza f. fuliginosa* Gould; *Geospiza sp.; Curpodacus mexicanus obscurus*.; *Urolechta punctulata nisoria* (Temm. and Lang.) (*Munia nisoria*).


68. *Philopterus syrni* (Packard).


*Philopterus syrni* (Packard), Harrison, 1916, Parasitology, IX, p. 105.

Recorded host: *Speotyto sp.*

Localities: Galapagos Is.?

69. *Philopterus taurocephalus* (Kellogg).


*Philopterus taurocephalus* (Kellogg), Harrison, 1916, Parasitology, IX, p. 105.

Recorded host: *Puffinus obscurus subalaris* Ridgway.

Probable true host: *Buteo galapagoensis* (Gould).

Localities: Galapagos Is., Culepeper I.

70. *Saemundssonia albemarlensis* (Kellogg and Kuwana).


Philopterus albemarlensis (Kellogg and Kuwana), Harrison, 1916, Parasitology, IX, p. 87.

Recorded hosts: Camarhynchus affinis Ridgway; Phaethon aethereus Linn.; Sterna fuscata crissalis (Lawrence).

Probable true host: Sterna fuscata crissalis (Lawrence).

Localities: Galapagos Is., Albermarle I., Seymour I., Culpepper I.

71. Saemundssonia gonothorax (Giebel).


Philopterus gonothorax (Giebel), Harrison, 1916, Parasitology, IX, p. 95.


Recorded host: Creagrus furcatus (Neboux).

Locality: Galapagos Is., Culpepper I.

72. Saemundssonia melanocephala (Nitzsch).


Philopterus melanocephalus (Nitzsch in Burmeister), Harrison, 1916, Parasitology, IX, p. 99.


Recorded hosts: Sterna fuscata crissalis (Lawrence); Anous stolidus galapagensis Sharpe; Creagrus furcatus (Neboux); Nesomimus macdonaldii Ridgway.

Probable true hosts: Sterna fuscata crissalis (Lawrence); Anous stolidus galapagensis Sharpe; Creagrus furcatus (Neboux).

Localities: Galapagos Is., Clipperton I., Narborough I., Gardner I., Wenman I., Culpepper I.

73. Saemundssonia peristictus (Kellogg and Kuwana).

1939.


Philopterus peristictus (Kellogg and Kuwana), Harrison, 1916, Parasitology, IX, p. 101.

Recorded hosts: Sterna fuscata crissalis (Lawrence); Denroica petechia aureola (Gould); Nesomimus parvulus bairdii Rothschild; Puffinus obscurus subalaris Ridgway.

Probable true host: Sterna fuscata crissalis (Lawrence).

Localities: Galapagos Is., Clipperton I., Albermarle I., Seymour I.

74. Saemundssonia phaethonius (Howard).


Philopterus phaethonius (Osborn), Harrison, 1916, Parasitology, IX, p. 101.

Recorded host: Phaethon aethereus Linn.

Localities: Galapagos Is., Daphne I., Indefatigable I., Wenman I.

75. Saemundssonia snyderi (Kellogg and Paine).


Philopterus snyderi (Kellogg and Paine), Harrison, 1916, Parasitology, IX, p. 104.


Recorded hosts: Melanosterna lunata (Peale); Onychoprix fuscatus (Linn.).

Localities: Laysan I.; Marquesas Is., Hatutu.

76. Anatoces dentatus (Scopoli).

Pediculus dentatus Scopoli, 1763, Ent. Carn., p. 383.


Philopterus dentatus (Nitzsch), Harrison, 1916, Parasitology, IX, p. 93.
Recorded hosts: Sterna fuscata crissalis (Lawrence); 'Anas versicolor.'
Probable true host: Poecilonetta galapagensis Ridgway.
Localities: Galapagos Is., Clipperton I., Indefatigable I.

77. Degeeriella birostris (Giebel).
Degeeriella gloriosa (Kellogg and Kuwana), Harrison, 1916, Parasitology, IX, p. 114.
Recorded hosts: Sterna fuscata crissalis (Lawrence); Anous stolidus galapagensis Sharpe; Geospiza f. fuliginosa Gould; Camarhynchus affinis Ridgway; Progne modesta (Neboux); Nesomimus parvulus barmingtoni Rothschild; Melanosterna lunata (Peale); Onychoprion fuscatus (Linn.).
Probable true host: Sterna spp. etc.
Localities: Galapagos Is., Clipperton I., Albemarle I., South Seymour I., Barrington I.; Laysan I.; Marquesas Is., Hatutu (Hatutua).

78. Degeeriella curvilineata (Kellogg and Kuwana).
Recorded hosts: Nesopelia g. galapagoensis (Gould); Oceanites gracilis galapagoensis Lowe.
Probable true host: ?
Localities: Galapagos Is., Narborough I., Albemarle I.

79. Degeeriella diaprepes (Kellogg and Chapman).

1939.
Recorded host: Vestaria occinea (Forster).
Locality: Hawaiian Is., Hilo.

80. Degeeriella galapagensis (Kellogg and Kuwana).
Recorded hosts: Geospiza f. fuliginosa Gould; G. foris Gould; G. concinrostris concinrostris Ridgway; Nesomimus macdonaldi Ridgway; N. p. parvulus (Gould); N. p. barmingtoni Rothschild; N. melannotis Gould; Cactospiza pallida producta (Ridgway); Platyspiza crassirostris (Gould); Pyrocephalus nanus intercedens Ridgway; P. dubius Gould; Certidea olivacea Gould; Myiarchus magnirostris (Gray); *Cocyzus melanocoryphus Vieillot; *Actitis macularia (Linn.); *Procellaria tethys (Bonaparte); *Anous stolidus galapagensis Sharpe.
Probable true hosts: All the above species except those with asterisk *.

81. Degeeriella interposita (Kellogg).
Recorded hosts: Geospiza f. fuliginosa Gould; G. foris Gould; Nesomimus p. parvulus (Gould); N. p. barmingtoni Rothschild; Platyspiza crassirostris (Gould).
Probable true host: Dendroica petechia aureola (Gould).
Localities: Galapagos Is., Albemarle I., Narborough I., Barrington I.

82. Degeeriella lepida (Kellogg and Kuwana).
Recorded hosts: Geospiza f. fuliginosa Gould; Nesomimus parvulus barmingtoni Rothschild; Sterna fuscata crissalis (Lawrence).
Probable true host: Sterna fuscata crissalis (Lawrence).
Localities: Galapagos Is., Narborough I., Barrington I., Clipperton I.
83. Degeeriella minhaensis (Kellogg and Chapman).
   Recorded host: *Acrideres tristis* (L.).
   Locality: Hawaiian Is., Maui I.

84. Degeeriella nebulosa (Burmeister).
   *D. nebulosa* (Burmeister), Harrison, 1916, Parasitology, IX, p. 118.
   Recorded host: *Sturnus vulgaris* Linn.
   Locality: Kermadec Is.

85. Degeeriella obtusa (Kellogg and Kuwana).
   Recorded host: *Sturna fusca* crisalis (Lawrence).
   Locality: Galapagos Is., Clipperton I.

86. Degeeriella olivieri Johnston and Harrison.
   Recorded host: *Phaopus phaeopus variegatus* (Scop.).
   Locality: Kermadec Is.

87. Degeeriella oraria (Kellogg).
   Recorded hosts: *Pluvialis dominicus fulvus* (Gmelin); *Fulica alai* Peale.
   True host: *Pluvialis dominicus fulvus* (Gmelin).

   Recorded host: *Butorides sundevalli* Reichenow.
   Probable true host: ?
   Locality: Galapagos Is., Albemarle I.

89. Degeeriella ridgwayi (Kellogg).
   Recorded host: *Haematopus palliatus galapagensis* Ridgway.
   Locality: Galapagos Is., Indefatigable I.

90. Degeeriella separata (Kellogg and Kuwana).
   *Degeeriella separata* (Kellogg and Kuwana), Harrison, 1916, Parasitology, IX, p. 123.
   Recorded hosts: *Platyspiza crassirostris* (Gould); *Progne modestia* (Nebou); *Geospiza conirostris conirostris* Ridgway; *G. fortis* Gould; *Certhidea olivacea* Gould; *Anous stolidus galapagensis* Sharpe; *Sturna fusca* crisalis (Lawrence); *Anous stolidus* (Linn.); *Nesopelia g. galapagoensis* (Gould).
   Probable true hosts: *Anous* spp.

91. Degeeriella stenozona (Kellogg and Chapman).
   Recorded hosts: ? *Uroloncha punctulata nisoria* (Temm. and Laug.); *Munia nisoria*; *Vestiara coccinea* (Forster).
   Locality: Hawaiian Is., Hilo.
92. Deguevrella vulgata (Kellogg).


Recorded hosts: Geospiza f. fuliginosa Gould; G. fortis Gould; G. c. conirostris Ridgway; G. scandens intermedia Ridgway; Nesomimus macdonaldi Ridgway; N. p. parvulus (Gould); N. melanotis Gould; N. parvulus barringtoni Rothschild; Cactospiza pallida producta (Ridgway); Camarhynchus affinis Ridgway; C. p. parvulus (Gould); Certhidea olivacea Gould; C. beckii Rothschild; Dendroica petechia aureola (Gould); Myiarchus magnirostris Gray; Pyrococchalus manus intercedens Ridgway; Sterna fuscata crissalis (Lawrence).

Probable true hosts: All the above except Sterna fuscata crissalis (Lawrence).


93. Ralliola advena (Kellogg).


Ralliola advena (Kellogg), Harrison, 1916, Parasitology, IX, p. 126.

Recorded hosts: Fulica alai Peale; Vestaria occinea (Forst.); Heteractitis incanus (Gmelin).

Probable true host: Fulica alai Peale.


94. Columbicola columbae (Linn.).


95. Halipeurus diversus (Kellogg).


Recorded hosts: Puffinus obscurus subalaris Ridgway; Anous stolidus galapagensis Sharpe; Butorides sundevalli Reichenow; Fulmarus sp.; Pterodroma phaeopygia (Salvin).

Probable true hosts: Puffinus obscurus subalaris Ridgway; Pterodroma phaeopygia (Salvin).

Localities: Galapagos Is., Narborough I., Albemarle I., Culppeper I., Weman I., Clarion I.

96. Halipeurus kermadecensis (Johnston and Harrison).


Recorded host: Pterodroma neglecta (Schlegel.).

Localities: Kermadec Is.; Sunday I.

(To be continued.)
97. *Halipeurus marquesanus* (Ferris).


Recorded host: *Pterodroma rostrata* (Peale).

Locality: Marquesas, Hivaoa.

98. *Synnautes pelagicus* (Denny).

*Lipeurus pelagicus* Denny, 1842, Monographia Anoplurorum Britanniae, p. 173, Pl. 14, f. 2.


*Esthiopeterum pelagicum* (Denny), Harrison, 1916, Parasitology, IX, p. 139.

*E. pelagicum* (Denny), Ewing, 1924, Zoologica, N.Y., V, p. 84.


Recorded hosts: *Oceanites gracilis galapagoensis* Lowe; *Procellaria tethys* (Bonaparte); *Sula piscator websteri* Rothschild; *Actitis macularia* (Linn.); *Pyrocephalus nanus intercedens* Ridgway; *Nesomimus p. parvulus* (Gould); *Geosipha f. fuliginosa* Gould; *Cactospiza pallida producta* (Ridgway); *Puffinus obscurus subalaris* Ridgway; *Fulmarus sp.; ‘Sula fuliginosa’; Pterodroma phaeopygiu* (Salvin); *Fregata sp.?; ?Pelagodrome marina passerma* (Mathews) (*Pelagodrome nivea* Math.).

99. *Harrisoniella diomedae* (Fabricius).

*Pediculus diomedae* Fabricius, 1775, Syst. ent., p. 808.


*Esthiopterum diomedae* (Fabricius), Harrison, 1916, Parasitology, IX, p. 133.


Recorded hosts: *?Diomedea irrorata* Salvin; *Thalassarche nigripes* (Audubon); *T. immutabilis* (Rothschild).

Localities: Galapagos Is., Clarion I.; Laysan I.; Erben Bank.

100. *Perineus concinnus* (Kellogg and Chapman).


Recorded host: *Thalassarche immutabilis* (Rothschild).

Locality: Laysan I.


Recorded hosts: Geospiza f. fuliginosa Gould; ?Diomedea irrorata Salvin; Melanosterna lunata (Peale).

True hosts: ?Diomedea irrorata Salvin; Thalassarche nigripes (Audubon).

Localities: Galapagos Is., Albemarie I., Clarion I.; Erben Bank; Laysan I.

102. Naubates fuliginosus (Taschenberg).


Recorded host: Sula piscator websteri Rothschild.

Probable true host: A species of petrel.

Locality: Galapagos Is.; Clarion I.

103. Pectinopygus (Pectinopygus) minor (Ewing).

Esthiopterus potens minor Ewing, 1924, Zoologica, N.Y., V, p. 84.


Recorded host: Sula nebouxii Milne-Edwards.

Locality: Galapagos Is.

104. Pectinopygus (Pectinopygus) sulae Rudow.

Lipeurus sulae Rudow, 1869, Beitrag zur Kenntnis der Mallophaga oder Pelzfresser, Diss., Halle, p. 43.


105. Pectinopygus (Epifregata) gracilicornis (Piaget).


Recorded hosts: Fregata sp.; Sula fuscata crissalis (Lawrence); Sula dactylatra granti Rothschild; Fregata minor stramosa Hartter; Melanosterna lunata (Peale); Fregata minor (Lesson).

Probable true hosts: Fregata spp.

Localities: Galapagos Is., Clarion I., Cape St. Lucas, Clipperton I.; Necker I.; Laysan I.; Marquesas, Hatatu (Hatutaa).
106. Pectinopygus (Philichthysophaga) namnopteri (Ewing).
   Ethistiorum namnopteri Ewing, 1924, Zoologica, N.Y., V, pp. 82-84, f. 12.
   Recorded host: Nannopterum harrisi (Rothschild).
   Locality: Galapagos Is.

107. Philoecanus becki Kellogg.
   Recorded host: Poccellaria tethys (Bonaparte).
   Locality: Galapagos Is.; Wenman I.

108. Giebelia fuscoceleata (Johnston and Harrison).
   Giebelia fuscoceleata (Johnston and Harrison), Harrison, 1916, Parasitology, IX, p. 144.
   Recorded host: Pterodroma neglecta (Schlegel).
   Locality: Kermadec Is.

   Recorded hosts: Puffinus obscurus subalaris Ridgway; Fulmarus sp.; Oceanites gracilis galapagoensis Lowe; Sula planator websteri Rothschild; Pterodroma phaeopygia (Salvin).
   Probable true hosts: Puffinus obscurus subalaris Ridgway; Pterodroma phaeopygia (Salvin); Oceanites gracilis galapagoensis Lowe.
   Locality: Galapagos Is.

110. Docophoroides brevis (Dufour).
   Philopterus brevis Dufour, 1834, Ann. Soc. ent. Fr., IV, p. 676, Pl. 21, f. 3.
   Recorded hosts: Arenaria i. interpres (Linn.); Diomedea irrorata Salvin; Thalassarche nigripes (Audubon); Thalassarche immutabilis Rothschild.
   Probable true hosts: Diomedea spp. and Thalassarche spp.
   Localities: Galapagos Is., Narborough I., Clarion I.; Laysan I.; Erben Bank.

HOST—PARASITE LISTS.

I. BIRDS RECORDED FROM ISLANDS OTHER THAN THE GALAPAGOS IS.

<table>
<thead>
<tr>
<th>Hosts</th>
<th>Parasites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spilopelia chinensis (Scop.)</td>
<td>G. chinensis Kellogg and Chapman.</td>
</tr>
<tr>
<td>Fulica alai Peale</td>
<td>R. advena (Kellogg).</td>
</tr>
<tr>
<td>Pelagodroma marina passerina (Mathews)</td>
<td>A. vagelli (Fabricius).</td>
</tr>
<tr>
<td>Pterodroma neglecta (Schlegel)</td>
<td>S. pelagica (Denny).</td>
</tr>
<tr>
<td></td>
<td>H. kermadecensis (Johnston and Harrison).</td>
</tr>
<tr>
<td>Pterodroma rostrata (Peale)</td>
<td>G. fuscoceleata (Johnston and Harrison).</td>
</tr>
<tr>
<td>Cookiaria hypoleuca (Salvin)</td>
<td></td>
</tr>
<tr>
<td>Thalassarche nigripes (Audubon)</td>
<td></td>
</tr>
<tr>
<td>T. immutabilis Rothschild</td>
<td></td>
</tr>
<tr>
<td>Gygysterna sumatrana (Raffles)</td>
<td></td>
</tr>
<tr>
<td>Onychoptron fusca (Linn.)</td>
<td></td>
</tr>
<tr>
<td>Melanosterna lanata (Peale)</td>
<td></td>
</tr>
<tr>
<td>Anous stolidus (Linn.)</td>
<td></td>
</tr>
<tr>
<td>Pluvialis dominicus fulvus (Gmelin)</td>
<td></td>
</tr>
<tr>
<td>Phaeopus phaeopus variegatus (Scop.)</td>
<td></td>
</tr>
</tbody>
</table>

   Recorded hosts: Arenaria i. interpres (Linn.); Diomedea irrorata Salvin; Thalassarche nigripes (Audubon); Thalassarche immutabilis Rothschild.
   Probable true hosts: Diomedea spp. and Thalassarche spp.
   Localities: Galapagos Is., Narborough I., Clarion I.; Laysan I.; Erben Bank.
P. numenicola Johnston and Harrison.
D. oliveri Johnston and Harrison.
A. kilianensis (Kellogg and Chapman).
P. conicus (Denny).
P. (P.) sulae (Rudow).
M. singularis Kellogg and Kuwana.
C. angulaticeps Piaget.
P. (P.) sulae (Rudow).
P. (E.) gracilicornis (Piaget).
P. (E.) gracilicornis (Piaget).
C. brachysomum Kellogg and Chapman.
E. denticulatum Harrison.
D. distinctus Ferria.
M. cyrtotignum Kellogg and Chapman.
M. hilensis Kellogg and Chapman.
D. diaprepes Kellogg and Chapman.
D. stenoena Kellogg and Chapman.
M. cyrtostigmum Kellogg and Chapman.
M. hawaiiensis Kellogg and Chapman.
D. stenoena Kellogg and Chapman.
M. teraoeki Uchida.
M. huxtoni Waterston.

Introduced host.

Sturnus vulgaris Linn.
P. sturni (Schranks).
D. nebulosa (Burmeister).

Unplaced hosts.

Carpodacus mexicanus obscurus.
C. discrepans Kellogg and Chapman.
M. consicina Kellogg and Chapman.
E. denticulatum Harrison.
M. inaequidens Kellogg and Chapman.
L. minhaensis Kellogg and Chapman.
D. minhaensis Kellogg and Chapman.

II. BIRDS OF THE GALAPAGOS IS.

Hosts.

Dioneda irrorata Salvin.

Pterodroma phaethoptera (Salvin).
P. obscurus subalaris Ridgway.

Parasites.

H. diomedeae (Fabrelicus).
P. confidens (Kellogg).
D. brevis (Dufour).
H. diversus (Kellogg).
G. mirabilis Kellogg.
M. nashoroughi Kellogg and Kuwana.
M. numerosus Kellogg.
P. minor (Kellogg and Kuwana).
H. diversus (Kellogg).
G. mirabilis Kellogg.
S. pelagicus (Denny).
D. platycéphalus (Kellogg and Kuwana).
S. pelagicus (Denny).
G. mirabilis Kellogg.
M. becki Kellogg.
S. p. phaethon (Howard).
C. unicerum Kellogg.
M. navigans Kellogg.
P. (P.) minor (Ewing).
P. (P.) sulae (Rudow).
P. (P.) nanopteris (Ewing).
M. aurifasciatum Kellogg.
C. angulaticeps Piaget.
P. (E.) gracilicornis (Piaget).
D. phalacidella (Kellogg and Kuwana).
C. heterosa Piaget.
T. lituratum Nitsch.
T. quercus (Linn.).
A. denticus (Scopoli).
C. flavescens Nitsch.
P. taurocephalos (Kellogg).
A. grandiceps (Piaget).
D. ridgwayi (Kellogg).
S. gonoanthera (Giebel).
M. singularis Kellogg and Kuwana.
M. abemarlense (Kellogg and Kuwana).
M. melanocephala (Nitsch).
S. peristius (Kellogg and Kuwana).
D. biriostis (Giebel).
D. lepida (Kellogg and Kuwana).
D. obtusa (Kellogg and Kuwana).
M. fuscofasciatum Piaget.
M. singularis Kellogg and Kuwana.
A. Milleri (Kellogg and Kuwana).
S. melanocephala (Nitsch).
D. separata (Kellogg and Kuwana).
G. galapagoensis Kellogg and Kuwana.
C. columbae (Linn.).
M. sordidus Kellogg and Kuwana.
P. cursor (Nitsch).
R. angulatus (Kellogg).
D. galapagoensis Kellogg and Kuwana.
D. oulata (Kellogg).

Phaethon aethereus Linn.

Pelecanus occidentalis Linn.

Nannopterus harrisi (Rothschild).
Fregata spp.

Butorides sundevalli Reichenow.

Phoenicopterus ruber Linn.

Haematopus palliatus galapagoensis Ridgway.

Creagrus furcatus (Noboux).

Sterna fuscata crissalis (Lawrence).

1939.

Procellaria tethys (Bonaparte).

Oceanites gracilis galapagoensis Lowe.

Phaethon aethereus Linn.

Sula spp.

Nannopterus harrisi (Rothschild).
Fregata spp.

Butorides sundevalli Reichenow.

Phoenicopterus ruber Linn.

Haematopus palliatus galapagoensis Ridgway.

Creagrus furcatus (Neboux).

Sterna fuscata crissalis (Lawrence).
Pyrocephalus nanus Gould.
D. galapagensis (Kellogg and Kuwana),
D. vulgata (Kellogg),
P. insulicola (Kellogg and Kuwana).

Progne modesta (Neboux).
M. rustica (Nitzsch),
P. breviformis (Kellogg and Kuwana),
P. domesticus (Kellogg).

Nesomimus macdonaldi Ridgway.
M. galapagensis Kellogg and Kuwana,
M. icterus Kellogg.
D. galapagensis (Kellogg and Kuwana).

N. melanotis (Gould).
M. icterus Kellogg.
D. galapagensis (Kellogg and Kuwana),
D. vulgata (Kellogg).

N. parvulus (Gould).
M. icterus Kellogg.
P. galapagensis (Kellogg and Kuwana).
D. galapagensis (Kellogg and Kuwana),
D. vulgata (Kellogg).

Dendroica petechia aureola (Gould).
R. angulatus (Kellogg),
D. interposita (Kellogg),
D. vulgata (Kellogg).

Geospiza spp.
M. albirostris Kellogg and Kuwana,
M. galapagensis Kellogg and Kuwana,
M. icterus Kellogg.
P. galapagensis (Kellogg and Kuwana),
P. insulicola (Kellogg and Kuwana),
P. subflavescens (Geoffroy),
D. galapagensis (Kellogg and Kuwana),
D. vulgata (Kellogg).

Platyspiza crassirostris (Gould).
M. icterus Kellogg.
D. galapagensis (Kellogg and Kuwana).

Camarhynchus spp.
M. icterus Kellogg.
P. galapagensis (Kellogg and Kuwana),
D. vulgata (Kellogg).

Cactospiza spp.
M. albicollis Kellogg and Kuwana,
M. icterus Kellogg.
P. galapagensis (Kellogg and Kuwana),
D. galapagensis (Kellogg and Kuwana),
D. vulgata (Kellogg),
M. icterus Kellogg,
P. insulicola (Kellogg and Kuwana),

Unplaced hosts.

Spatuleta sp.
P. syrni (Packard),
C. subaequale Nitzsch,
P. corsi (Osborn).

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