

STUDY ON THE COLLECTION OF PSOCOPTERA  
FROM CERTAIN PARTS OF NORTH  
EASTERN INDIA AND BHUTAN

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(With 1 Table)

INTRODUCTION

Psocoptera collected from various surveys by the Zoological Survey of India, were studied, including material from Darjeeling (West Bengal), Shillong (Meghalaya), Tripura and Manipur (North Eastern India) and Bhutan. The study revealed 12 species representing 11 genera and 8 families ; of these 2 species (*Rhyopsocus afer* Badonnel and (*Psococerasis sinensis* Thornton), are recorded for the first time from India. The first represents a new family record e. g. Psoquillidae for India.

Material of Psocoptera from Bhutan were also studied. Study revealed 6 species under 5 genera and 4 families, of which 5 species are recorded for the first time which are (*Pseudocaecilius citricola* (Ashmead), *Stenopsocus pallidus* Thornton & Wong, *Kodamaius mirabundus* Datta, *Amphipsocus pilosus* McLachlan and *Lachesilla* sp.

The families, deal with, are Psoquillidae, Pachytroctidae, Caeciliidae, Stenopsocidae, Amphipsocidae, Lachesillidae, Peripsocidae, Hemipsocidae, Pseudocaecilliidae and Psocidae.

SYSTEMATIC ACCOUNT

Family PSOQUILLIDAE

1. *Rhyopsocus afer* (Badonnel)

1948. *Deinopsocus afer* Badonnel, *Revue Zool. Bot. afr.*, **40** : 267.

1949. *Rhyopsocus afer* (Pearman), Badonnel, *Bull. Inst. r. sci. nat. Belg.*, **25** : 9.

*Material* : 2 ♀ ♀, Amarpur, South Tripura, coll. N. Muralidharan, 17.x.1977 ; body-length (in alcohol) : 1.6 mm.

*Remarks* : The specimens were collected from a nest of the bird, *Ploceus* sp.

*Distribution* : INDIA (new record), CONGO ; IVORY COAST ; ANGOLA ; SOUTH AFRICA AND TANZANIA.

## Family PACHYTROCTIDAE

2. *Tapinella formosana* Enderlein

1908. *Tapinella formosana* Enderlein, *Zool. Anz.*, 33 : 774.

1979. *Tapinella formosana* Enderlein, Ray, *Rec. Zool. Surv. India*, 75 : 354.

*Material* : 2 ♀ ♀ (alate forms), Amarpur, South Tripura ; coll. N. Muralidharan, 17.x.1977 ; body-length (in alcohol) : 1.4 mm.

*Remarks* : The specimens were collected from a nest of *Ploceus* sp.

*Distribution* : INDIA (Maharashtra, West Bengal, Tripura [new record]) and TAIWAN.

## Family CAECILIIDAE

3. *Caecilius muggenburgi* Enderlein

1903. *Caecilius muggenburgi* Enderlein, *Annls. hist.-nat. Mus. natn. hung.*, 1 : 269.

1979. *Caecilius muggenburgi* Enderlein, Ray, *Rec. zool. Surv. India*, 75 : 255.

*Material* : 2 ♀ ♀, Shillong, Meghalaya ; Coll. B. K. Tikader, 1965 ; body-length (in alcohol) : 1.5 mm.

*Distribution* : INDIA ; SINGAPORE ; JAVA ; PHILIPPINES and TAIWAN.

4. *Caecilius pictifrons* Thornton & Wong

1966. *Caecilius pictifrons* Thornton & Wong, *Trans. R. ent. Soc. Lond.*, 118 (1) : 7-10.

1973. *Caecilius pictifrons* Thornton & Wong, *New, Oriental Ins.*, 7 (1) : 4.

*Material* : 10 ♂ ♂, 10 ♀ ♀, Shillong, Meghalaya ; Coll. B. K. Tikader, 1965 ; body-length (in alcohol) ; ♂ 2 mm., ♀ 2.2 mm.

*Remarks* : The population of the species seems to be high in this locality.

*Distribution* : INDIA.

5. *Dypsocus coleoptratus* (Hagen)

1858. *Psocus coleoptratus* Hagen, *Verh. zool. bot. Ges. Wien*, 8 : 474.

1969. *Dypsocus coleoptratus* (Hagen), Datta, *Zool. Anz.*, 189 (1/2) : 140-144.

*Material* : 1 ♂, 2 ♀ ♀, Shillong, Meghalaya ; coll. B. C. Das, 31.viii.1977 ; body-length (in alcohol) : ♂ 3 mm ; ♀ 4 mm.

*Remarks* : This is relatively larger than many psocids.

*Distribution* : INDIA ; SRI LANKA ; JAVA AND JAPAN.

**6. Fulleborniella persimilaris Thornton & Wong**

1966. *Fulleborniella persimilaris* Thornton & Wong, *Trans. R. ent. Soc. Lond.*, **118** (1) : 4-7.

1973. *Fulleborniella persimilaris* Thornton & Wong, *New, Oriental Ins.*, **7** (1) : 5.

*Material* : 2 ♂♂, 2 ♀♀, Shillong ; Meghalaya ; coll. B. K. Tikader, 1965 ; body-length (in alcohol) : ♂ 2.5 mm., ♀ 2.9 mm.

*Distribution* : INDIA.

## Family STENOPSOCIDAE

**7. Kodamaius mirabundus (Datta)**

1969. *Stenepipsocus mirabundus* Datta, *Zool. Anz.*, **183** (1/2) : 145-146.

*Material* : 2 ♀♀, chasilakha, Bhutan ; coll. S. K. Mitra, 3.ii.1969 ; body-length (in alcohol) : 3.5 mm.

*Distribution* : INDIA ; BHUTAN (new record).

**8. Stenopsocus pallidus Thornton & Wong**

1966. *Stenopsocus pallidus* Thornton & Wong, *Trans. R. ent. Soc. Lond.*, **118** (1) : 13.

*Material* : 2 ♀♀, chasilakha, Bhutan ; Coll. S. K. Mitra, 3.ii.1969 ; body-length (in alcohol) : 3.2 mm.

*Distribution* : INDIA ; BHUTAN (new record).

**9. Stenopsocus nepalensis New**

1971. *Stenopsocus nepalensis* New, *Canad. Ent.*, **103** (2) : 207-209.

1978. *Stenopsocus nepalensis* New, *Ent. Basil*, **3** : 72.

*Material* : 1 ♀, Ganalakha, Bhutan ; Coll. S. K. Mitra, 26.i.1969 ; body length (in alcohol) : 2.6 mm.

*Distribution* : NEPAL ; BHUTAN.

## Family AMPHIPSOCIDAE

**10. Amphipsocus pilosus McLachlan**

1872. *Amphipsocus pilosus* McLachlan, *Entomologist's mon. Mag.*, **9** : 77.

*Material* : 1 ♂, 1 ♀, Putlibir, Bhutan ; Coll. S. K. Mitra, 10.ii.1969 ; body-length (in alcohol) : ♂ 2.4 mm. ♀ 2.8 mm. 1 ♂, 1 ♀, Shillong, Meghalaya ; Coll. B. C. Das, 31.viii.1977 ; body-length (in alcohol) : ♂ 2.8 mm., ♀ 3.3 mm.

*Remarks* : The specimens were collected and recorded here after an interval of long period. A black spot in the pterostigma of the forewing is present.

*Distribution* : INDIA ; BHUTAN (new record).

Family LACHESILLIDAE

11. *Lachesilla* sp.

*Material* : 1 ♂, 1 ♀, Putlibir, Bhutan ; coll. S. K. Mitra, 7.iii.1969 ; body-length (in alcohol) ; ♂ 1.7 mm., ♀ 2 mm.

*Remarks* : Its specific identity was not possible due to lack of more material and host-tree record.

Family PERIPSOCIDAE

12. *Peripsocus quercicola* Enderlein

1906. *Peripsocus quercicola* Enderlein, *Stettin ent. Ztg.*, **67** : 316.

1966. *Peripsocus quercicola* Enderlein, Thornton & Wong, *Trans. R. ent. Soc. Lond.*, **118** (1) : 18.

*Material* : 1 ♂, Shillong, Meghalaya ; coll. B. K. Tikader, 1965 ; body-length (in alcohol) : 1.6 mm.

*Distribution* : INDIA ; SINGAPORE ; HONG KONG ; TAIWAN AND JAPAN.

Family HEMIPSOCIDAE

13. *Hemipsocus ornatus* Datta

1969. *Hemipsocus ornatus* Datta, *Zool. Anz.*, **182** (3/4) : 288-290.

*Material* : 1 ♂ ; Agartala Tripura ; Coll. K. K. Ray, 18.xii.1981 ; body-length (in alcohol) : 2.5 mm.

*Remarks* : The beautiful pigmentation on the veins of forewing is an attraction of the species, which was collected from a dry bamboo craft. It is a new record from Tripura.

*Distribution* : INDIA (Tripura).

Family PSEUDOCAECILIIDAE

14. *Pseudocaecilius citricola* (Ashmead)

1879. *Psocus citricola* Ashmead, *Can. Ent.*, **11** : 228.

1903. *Pseudocaecilius elutus* Enderlein, *Anns. hist.-nat. Mus. natn. hung.*, **1** : 261.

1976. *Pseudocaecilius citricola* (Ashmead), Turner, *Syst. Ent.*, **1** : 212.

*Material* : 2 ♀ ♀, Putlibir, BHUTAN ; Coll. S. K. Mitra, 7.iii.1969 ; body-length (in alcohol) : 1.9 mm.

*Distribution* : INDIA ; BHUTAN (new record) ; SINGAPORE ; MADAGASCAR ; SOUTH AFRICA ; MOSAMBIQUE ; CONGO ; PORTO RICA and NORTH AMERICA.

### Family PSOCIDAE

#### 15. *Amphigerontia nubila* Enderlein

1906. *Amphigerontia nubila* Enderlein, *Zool. Jh.*, **23** : 247.

1969. *Amphigerontia nubila* Enderlein, Datta, *Zool. Anz.*, **182** (3/4) : 291-292.

*Material* : 1 ♀, Morch, Manipur ; Coll. P. T. Cherian, 26.ii.1975 ; body length (in alcohol) : 4 mm.

*Remarks* : This is a large species and is generally collected from cool and shady places. Its pictured forewings are distinctive.

*Distribution* : INDIA (Manipur [new record]) and JAPAN.

#### 16. *Psococerastis assamensis* Datta

1966. *Psococerastis assamensis* Datta, *J. Beng. nat. Hist. Soc.*, **35** (1) : 16-20.

*Material* : 2 ♂ ♂, 2 ♀ ♀, New charachandpur, Manipur ; Coll. M. S. Shishodia, 19.ix.1975 ; body length (in alcohol) ; ♂ 3.6 mm., ♀ 4 mm.

*Remarks* : Its hypandrium is apically bilobed, each on inner side with a set of teeth, each side laterally with a blunt projection ; and the penial structure is oval, stout, internally curved inwards and backwards, two arms apically free, well-sclerotised, acute, provided with flat structures beset with short spines.

*Distribution* : INDIA.

#### 17. *Psococerastis sinensis* Thornton

1960. *Psococerastis sinensis* Thornton, *Trans. R. ent. Soc. Lond.*, **112** (10) : 248-252.

*Material* : 1 ♂, 1 ♀, Shillong, Meghalaya ; coll. B. K. Tikader 1965 ; body length (in alcohol) : ♂ 3.6 mm., ♀ 4.3 mm.

*Remarks* : Its hypandrium is apically bilobed, each lobe ending in a close set of teeth, a tract of spines only on right lobe ; and the penial structure is a stout closed frame, well sclerotised, with a "notch" posteriorly, a small pointed projection anteriorly.

*Distribution* : INDIA (new record) ; HONG KONG.

18. *Trichadenotecnum distinctum* Datta

1969. *Trichadenotecnum distinctum* Datta, *Zool. Anz.*, 183 (1/2) : 148-149.

*Material* : 1 ♀, Shillong, Meghalaya ; Coll. B. K. Tikader, 1965 ; body length (in alcohol) : 2.5 mm.

*Distribution* : INDIA.

## SUMMARY

Psocoptera of North-Eastern India are now known to comprise 43 species and the fauna of Bhutan by 25 species. Records include 38 species recorded by McLachlan (1866), Enderlein (1903), Needham (1909), Banks (1914), Datta (1963, 1966, 1969 & 1970), Thornton & Wong (1966), Lee & Thornton (1967) and Badonnel (1981) and 20 species from the latter area by New (1978). A summary of Psocoptera so far recorded from the above two areas is shown in the following table [(+) marks indicate the recorded species whereas (-) marks are for the unrecorded ones].

TABLE 1.

Sl. No.	Name of the species	Family	N. E. INDIA	BHUTAN
1.	<i>Lepinotus indicus</i> Badonnel	Trogiidae	+	—
2.	<i>Rhyopsocus afer</i> „	Psoquillidae	+	—
3.	<i>Psyllipsocus ramburi</i> Selys-Longchamps	Psyllipsocidae	+	—
4.	(?) <i>Pseudoseopsis marginepunctata</i> New	Amphientomidae	—	+
5.	<i>Liposcelis entomophilus</i> (Enderlein)	Liposcelidae	+	—
6.	<i>L. bengalensis</i> Badonnel	„	+	—
7.	<i>Tapinella formosana</i> Enderlein	Pachytroctidae	+	—
8.	<i>Epipsocus conspersus</i> Banks	Epipsocidae	+	—
9.	<i>E. costalis</i> Banks	„	+	—
10.	<i>E. thimphuensis</i> New	„	—	+
11.	<i>Hinduipsocus annulipes</i> Badonnel	„	+	—
12.	<i>H. atratus</i> Badonnel	„	+	+
13.	<i>Caecilius ? himalayanus</i> Enderlein	Caeciliidae	+	—
14.	<i>C. ceylonicus</i> Enderlein	„	+	—
15.	<i>C. muggenburgi</i> „	„	+	—
16.	<i>C. pictifrons</i> Thornton & Wong	„	+	—
17.	<i>C. bengalensis</i> Badonnel	„	+	—
18.	<i>Dypsocus coleoptratus</i> (Hagen)	„	+	—
19.	<i>D. fucosus</i> Thornton & Wong	„	+	—
20.	<i>Fulleborniella persimilaris</i> Thornton & Wong	„	+	—
21.	<i>F. bhutanensis</i> New	„	—	+

TABLE 1. (Concluded)

Sl. No.	Name of the species	Family	N. E. INDIA	BHUTAN
22.	<i>Taeniostigma</i> (?) <i>ingens</i> Enderlein	Stenopsocidae	—	+
23.	<i>Stenopsocus pallidus</i> Thornton & Wong	„	+	+
24.	<i>Kodamaius mirabundus</i> (Datta)	„	—	+
25.	<i>Stenopsocus nepalensis</i> New	„	—	+
26.	<i>Stenopsocus signatipennis</i> New	„	—	+
27.	<i>Kodamaius wittmeri</i> New	„	—	+
28.	<i>K. besucheti</i> Badonnel	„	+	—
29.	<i>K. khasiensis</i> „	„	+	—
30.	<i>K. loebli</i> „	„	+	—
31.	<i>Amphipsocus pilosus</i> McLachlan	Amphipsocidae	—	+
32.	<i>Kolbea punctata</i> Banks	„	+	—
33.	<i>Amphipsocus heterothrix</i> Thornton & Wong	„	+	+
34.	<i>Dasypsocus chillcotti</i> New	„	—	+
35.	<i>Dasypsocus</i> sp.	„	—	+
36.	<i>Lachesilla</i> sp.	Lachesillidae	—	+
37.	<i>Peripsocus quercicola</i> Enderlein	Peripsocidae	+	—
38.	<i>P. minutus</i> Datta	„	+	—
39.	<i>P. sinensis</i> „	„	+	—
40.	<i>P. bhaktai</i> Badonnel	„	+	—
41.	<i>Ectopsocus briggsi</i> McLachlan	Ectopsocidae	+	—
42.	<i>Hemipsocus chloroticus</i> (Hagen)	Hemipsocidae	—	+
43.	<i>H. ornatus</i> Datta	„	+	—
44.	<i>Pseudocaecilius citricola</i> (Ashmead)	Pseudocaeciliidae	—	+
45.	<i>Allocaecilius heterothrix</i> Lee & Thornton	„	+	—
46.	<i>Heterocaecilius fuscipalpus</i> Lee & Thornton	„	+	—
47.	<i>Scytopsocopsis hirtipenna</i> Thornton	„	+	+
48.	<i>Psococerastis</i> ( <i>Psococerastis</i> ) <i>taprobanes</i> (Hagen)	Psocidae	+	+
49.	<i>Psococerastis nirvana</i> (Banks)	„	+	—
50.	<i>Ps. sinensis</i> Thornton	„	+	—
51.	<i>Ps. assamensis</i> Datta	„	+	—
52.	<i>Ps. nilae</i> „	„	+	—
53.	<i>Cerastipsocus subcostalis</i> Enderlein	„	+	—
54.	<i>Amphigerontia nubila</i> Enderlein	„	+	—
55.	<i>Trichadenotecnum distinctum</i> Datta	„	+	—
56.	<i>T. sclerotum</i> New	„	—	+
57.	<i>Psococerastis rhondae</i> New	„	—	+
58.	<i>Psocidus</i> (S. Str.) <i>samchiensis</i> New	„	—	+
59.	<i>Metylophorus fuscatus</i> New	„	—	+
60.	<i>M. paranebulosus</i> New	„	—	+
61.	<i>Myopsocus fraternus</i> (McLachlan)	Myopsocidae	+	—
62.	<i>M. pattoni</i> Datta	„	+	—
63.	<i>M. sanguensis</i> New	„	—	+

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