

ON A COLLECTION OF THYSANOPTERA (INSECTA)
FROM SILENT VALLEY, KERALA, INDIA

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(With 2 Text-figures)

Silent Valley situated in the Western Ghats in the Palghat gap area is a part of a luxurious tropical wet evergreen forest harbouring a wealth of plant species as well as forest litters. So far no attempt has been made to study the thrips fauna of the area and the present paper is a preliminary attempt to study the faunal wealth of this group.

SYSTEMATIC ACCOUNT

Order THYSANOPTERA

Suborder TEREBRANTIA

Family THRIPIDAE

Subfamily THRIPINAE

1. *Anaphothrips sudanensis* Trybom

Anaphothrips sudanensis Trybom, 1911 *Res. Swed. Zool. Exped. Egypt* : 1.

Euthrips flavicinctus Karny, 1912 *Marcellia*, 11 : 115-117.

Anaphothrips sudanensis : Mound, 1968, *Bull. Br. Mus. nat. Hist. (Ent. Suppl.)*, 11 : 21.

Anaphothrips sudanensis : Bhatti, 1978, *Oriental Ins.*, 12 (1) : 3-4.

Material examined : 3 ♀ ♀, KERALA : Silent Valley, ex. grass, 22.1.80 (N. Muraleedharan Coll.). [Z. S. I. Reg. Nos. 720-722/H₁τ]

Distribution : All over INDIA. *Elsewhere* : EGYPT JAVA ; INDONESIA ; SRI LANKA.

2. *Megalurothrips distalis* (Karny)

Taeniothrips distalis Karny, 1913, *Arch. Naturgesch.*, 79A : 122.

Megalurothrips distalis : Bhatti, 1969, *Oriental Ins.*, 3 (3) : 240.

Material examined : 2 ♀ ♀ ; KERALA : Silent Valley, 1979 (R. S. Pillay Coll.). [Z. S. I. Reg. Nos. 723-724/H₁τ].

Distribution : All over INDIA. *Elsewhere* : JAPAN to AUSTRALIA and SOUTH ASIA.

Subfamily PANCHAETOTHRIPINAE

3. *Heliothrips haemorrhoidalis* (Bouche)

Thrips haemorrhoidalis Bouche, 1833, *Nat. Schdl. Garten Ins.* : 42.

Heliothrips haemorrhoidalis : Burmeister, 1833, *Handbuch der Ent.*, 2 (pt. 2, sec. 1) : 412.

Heliothrips haemorrhoidalis : Wilson, 1975 *Mem. Am. Ent. Inst.*, 23 : 146.

Material examined : 2 ♀ ♀, KERALA : Silent Valley, *ex.* wild plant (N. Muraleedharan Coll.) [Z. S. I. Reg. Nos. 725-726/H₁₇]

Distribution : INDIA : Tamil Nadu ; Karnataka ; Andaman Is. *Elsewhere* : GERMANY ; U. K. ; NORTH AMERICA ; SURINAM ; BRAZIL ; MEXICO ; SRI LANKA.

Suborder TUBULIFERA

Family PHLAEOTHRIPIDAE

Subfamily PHLAEOTHRIPINAE

4. *Alcothrips hadrocerus* (Karny)

Trichothrips hadrocerus Karny, 1926, *Mem. Dep. Agric. India ent. Ser.*, 9 (6) ; 220.

Alcothrips hadrocerus : Priesner, 1951, *Indian J. Ent.*, 13 (2) : 195.

Alcothrips hadrocerus : Ananth. & Jagadish, 1969, *Marcellia*, 36 (1-2) : 22.

Material examined : 3 ♀ ♀, KERALA : Silent Valley, *ex.* plant gall, 22.1.80 (N. Muraleedharan Coll.). [Z. S. I. Reg. Nos. 727-728/H₁₇ & 772/H₁₇]

Distribution : Kerala ; Tamil Nadu ; Andhra Pradesh ; Londa—Goa border.

5. *Byctothrips ayyari* Ananthkrishnan

Byctothrips ayyari Ananthkrishnan, 1973, *Oriental Ins.*, 7 (4) : 540.

Material examined : 2 ♀ ♀, KERALA : Silent Valley, *ex.* *Linochera malabarica* ?, 15.1.80 (N. Muraleedharan Coll.) [Z. S. I. Reg. Nos. 729-730/H₁₇]

Distribution : Valparai (Tamil Nadu).

6. *Crotonothrips coorgensis* Ananthkrishnan

Crotonothrips coorgensis Ananthkrishnan, 1976, *Oriental Ins.*, 10 (3) : 412-414.

Material examined : 4 ♀ ♀, 1 ♂, KERALA : Silent Valley, *ex.* plant galls, 23.1.80 (N. Muraleedharan Coll.) [Z. S. I. Reg. Nos. 731-735/H₁₇]

Distribution : Murnad (Karnataka).

7. Gynaikothrips imitator Ananthakrishnan

Gynaikothrips imitator Ananthakrishnan, 1968, *Oriental Ins.*, 2 (1) : 44-45.

Gynaikothrips imitator Ananth. & Jagadish, 1969, *Marcellia*, 36 (1-2) : 34.

Gynaikothrips imitator Ananth. & Muraleedharan, 1974, *Oriental Ins. Suppl.*, 4 : 7.

Material examined : 3 ♀♀, KERALA : Silent Valley, ex. leaf rolls of *Antidesme* sp. (N. Muraleedharan Coll.) [Z. S. I. Reg. Nos. 773-775/H₁₇]

Distribution : Yercaud.

8. Haplothrips ganglbaueri Schmutz

Haplothrips ganglbaueri Schmutz, 1913 *Sitz. Akad. Wiss. Wien*, 122 : 1034

Haplothrips ganglbaueri : Pitkin, 1976 *Bull. Brit. Mus. nat. Hist. (Ent.)*, 34 (4) : 249.

Material examined : 3 ♀♀, KERALA : Silent Valley, 1979 (R. S. Pillay Coll.) [Z. S. I. Reg. Nos. 736-738/H₁₇]

Distribution : All over India. *Elsewhere* : SRI LANKA ; JAVA ; PHILIPPINES.

9. Hoplandrothrips graminis Ananthakrishnan

Hoplandrothrips graminis Ananthakrishnan, 1964, *Entomol. Ts. Arg.* 85 (1-2) : 105-106.

Hoplandrothrips priesneri Ananthakrishnan, 1956, *Proc. R. ent. Soc. Lond.*, (B) 25 : 75-76.

Hoplandrothrips indicus Ananthakrishnan, 1959, *Zool. Anz.*, 162 (9-10) : 320-322.

Hoplandrothrips graminis Ananthakrishnan, 1973, *Occl. Publ. 2, Ent. Res. Unit, Loyola College, Madras* : 33.

Material examined : 3 ♀♀, KERALA, Silent Valley, ex. leaf-litter, 22.1.80 (N. Muraleedharan Coll.) [Z. S. I. Reg. Nos. 739-741/H₁₇]

Distribution : Tamil Nadu.

10. Karnyothrips melaleucus (Bagnall)

Hindsiana melaleuca Bagnall, 1911, *Entomologist's Mon. Mag.*, 47 : 61.

Karnyothrips melaleuca : Hood, 1927, *Pan-Pacif. Ent.*, 3 : 176.

Watsoniella melaleuca : Bailey, 1947 *Fla. Ent.*, 30 : 22.

karnyothrips melaleucus : Mound, 1968 *Bull. Br. Mus. nat. Hist. (Ent.) Suppl.* 11 : 128.

Karnyothrips melaleucus : Pitkin, 1976, *Bull. Br. Mus. nat. Hist. (Ent.)*, 34 (4) : 263.

Material examined : 1 ♀, KERALA : Silent Valley, 27.1.80 (N. Muraleedharan Coll.) [Z. S. I. Reg. No. 742/H₁₇].

Distribution : INDIA : Kerala ; Tamil Nadu ; Andaman Is.
Elsewhere : DENMARK ; VIETNAM ; CHINA ; NORTH AMERICA ; HAWAII Is. ;
 SOUTH AFRICA ; EGYPT.

11. *Karnyothrips mucidus* (Ananthakrishnan & Jagadish)

Xylaplothrips mucidus Ananth. & Jagadish, 1971, *Zool. Anz.*, 186 : 260-261.

Karnyothrips mucidus : Pitkin, 1976, *Bull. Br. Mus. nat. Hist. (Ent.)*, 34 (4) : 264.

Material examined : 1 ♂, KERALA : Silent Valley, *ex.* dry twigs,
 18.1.80 (N. Muraleedharan Coll.) [Z. S. I. Reg. No. 743/H₁₇]

Distribution : Wynad (Kerala).

12. *Liothrips epacrus* Ananth. & Muraleedharan

Liothrips epacrus Ananth. & Muraleedharan, 1974, *Oriental Ins. Suppl.*, 4 : 11 &
 16-17.

Specimen examined : 2 ♀♀, 1 ♂, KERALA : Silent Valley, *ex.*
 marginal leaf gall of *Piper* sp., 16.1.80 (N. Muraleedharan Coll.)
 [Z. S. I. Reg. Nos. 744-746/H₁₇].

Distribution : Pachmarhi (M. P.).

13. *Liothrips eugeniae* Priesner

Liothrips (Phaenothrips) eugeniae : Ananth. & Jagadish, 1968, *Oriental Ins.*, 2 (2) ;
 214-215.

Liothrips eugeniae : Ananth. & Muraleedharan, 1974, *Oriental Ins. Suppl.*, 4 : 10.

Material examined : 4 ♀♀, KERALA : Silent Valley, *ex.* leaf rolls,
 24.1.80 (N. Muraleedharan Coll.) [Z. S. I. Reg. Nos. 747-750/H₁₇].

Distribution : Thenmalai (Kerala).

14. *Liothrips hradecensis* Uzel

Liothrips hradecensis Uzel, 1895, *Mon. Ord. Thys.*, 7 : 262.

Liothrips hradecensis : Ramakrishnan, 1928, *Mem. Dep. Agric. India ent. Ser.* 10 :
 283-285.

Liothrips hradecensis : Ananth. & Jagadish, 1967, *Bull. Ent.*, 8 (2) : 4-5.

Liothrips hradecensis : Ananth. & Muraleedharan, 1974, *Oriental Ins. Suppl.*, 4 : 12.

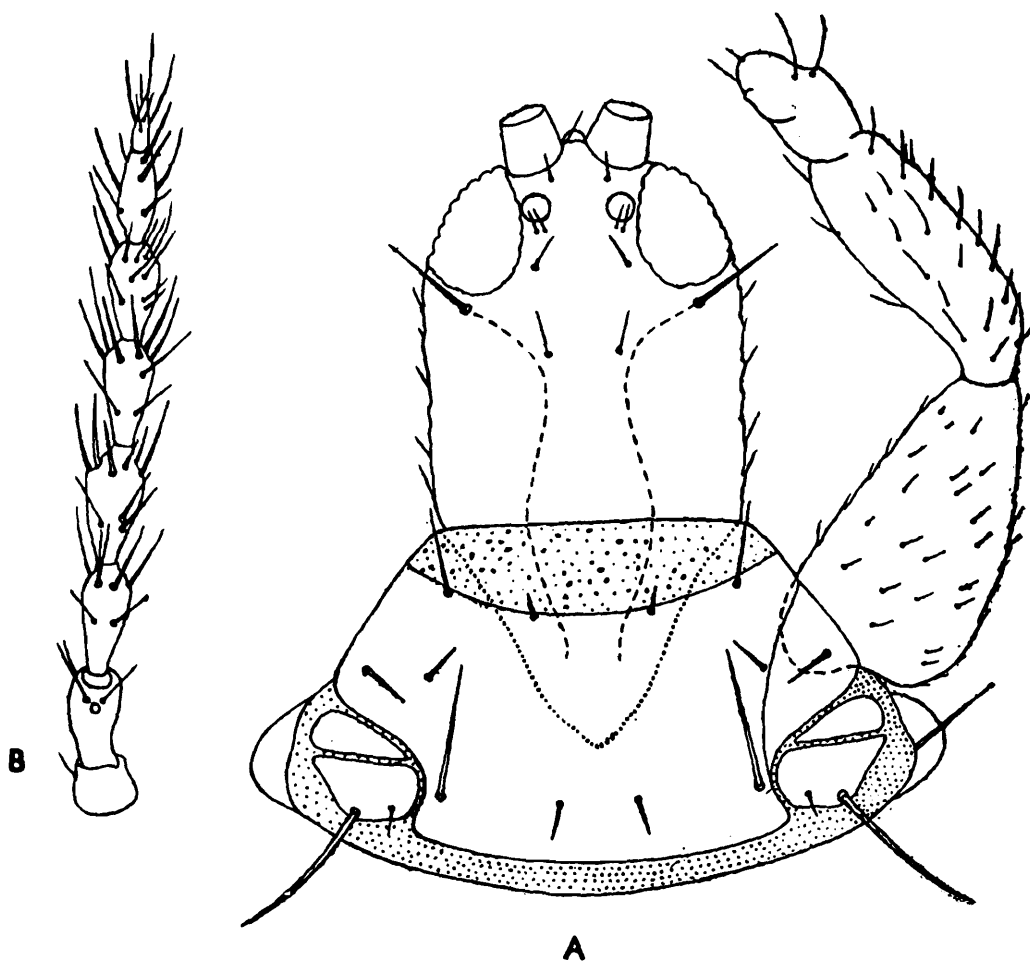
Material examined : 1 ♀, 1 ♂ KERALA : Silent Valley, *ex.* leaf galls,
 16.1.80 (N. Muraleedharan Coll.) [Z. S. I. Reg. Nos. 751-752/H₁₇].

Distribution : Tamil Nadu.

15. *Liothrips muralii* sp. nov.

(Text-fig. 1)

Female (Macropterous) : General body colour deep brown, head and tube darker ; antennal segments 1, 7 & 8 brown, 2 yellow with base and inner margin brown, 3-5 yellow, 6 yellow at base light brown distally ; all femora brown, foretibiae yellow with light brown tinge, mid and hind tibiae brown with extreme apex yellow, all tarsi yellow ; forewings light grey. All setae brown and pointed.



Text-fig. 1. *Liothrips muralii* sp. nov. A. head and prothorax, B. antenna.

Head very little longer than broad, *198-206 long, 172-184 wide across eyes, 186-194 across base ; cheeks crenulate with 2-4 short spines, surface strongly reticulate. Eyes 76 long, 58 wide, all ocelli 20-24 wide, median ocellus overhanging. Postoculars 62 long. Antennal segments 3-5 subpedicellate, 6-7 pedicellate ; segments 1-8 length (width) : I : 46-50 (36) ; II : 54-58 (32-36) ; III : 66-70 (32) ; IV : 66-70 (36) ; V : 58-62 (28-32) ; VI : 56-58 (32) ; VII : 52-56 (24-28) ; VIII : 32 (12-14) ; sense cones short, moderately thick, 32-36 long. Mouthcone broadly pointed 114-122 long, 166-172 wide at base, 38 at apex ; maxillary stylets oculad, close at middle.

* All measurements are in microns unless otherwise specified.

Prothorax 152 long, 222-240 wide at anterior margin. Prothoracic chaetotaxy—anteroangulars 38-40, anteromarginals vestigial 8, midlaterals reduced 24-32, posteroangulars 84-98, epimerals 96-104 long respectively; epimeral suture complete. Forefemora 198-202 long, 92-98 wide. Pterothorax 358-370 long, 422-448 wide across meso- and 428-438 across metathorax. Forewings 816-850 long, 66-78 wide with 14 double fringes; basal wing setae 40, 66 and 64-66 long respectively. Mesopraesternum very much narrowed at middle, almost thread like.

Abdomen 408-428 wide at base, 408-412 at middle, 320-324 across segment VIII, 190 across segment IX. B₁-B₃ of abdominal segment IX: 172; 184-188 & 180 long respectively. Pelta roughly triangular with apex flat. Tube 208-212 long, anal setae 172 long.

Total body length: 2.46-2.51 mm.

Type specimen: *Holotype* ♀ (Z. S. I. Reg. No. 753/H₁₇) and *paratypes* 2 ♀♀ (Z.S.I. Reg. Nos. 754-755/H₁₇) INDIA: KERALA. Silent Valley, *ex.* leaf gall, 16.1.80 (N. Muraleedharan Coll.).

This species is named in honour of N. Muraleedharan for making the collection and for his contributions to Indian Thysanoptera.

The new species comes close to *L. retusus* Ananthakrishnan but it is a distinct species and can easily be distinguished by vestigial anteromarginals, not subequal to anteroangulars, reduced midlaterals, antennal segments 7 & 8 brown, tube as long as head, not shorter and pointed mouthcone.

16. *Liothrips viticola* (Karny)

Gynaikothrips viticola Karny, 1913, *Bull. Jard. bot. Buitenz.* 10: 112-113.

Gynaikothrips viticola: Ananth. & Jagadish, 1969, *Marcellia*, 36 (1-2): 36.

Liothrips viticola: Ananth. & Muraleedharan, 1974, *Oriental Ins. Suppl.*, 4: 14.

Material examined: 3 ♀♀, KERALA: Silent Valley, *ex.* plant gall, 28. 1. 80 (N. Muraleedharan Coll.) [Z. S. I. Reg. Nos. 756-758/H₁₇].

Distribution: Kerala.

17. *Mesicothrips plicans* Priesner

Mesicothrips plicans Priesner, 1951, *Indian J. Ent.*, 13 (1-2): 191-192.

Mesicothrips plicans: Ananth. & Jagadish, 1969, *Marcellia*, 36 (1-2): 57-58.

Material examined: 2 ♀♀, 1 ♂, KERALA: Silent Valley, *ex.* leaf folds, 23. 1. 80. (Muraleedharan Coll.) [Z. S. I. Reg. Nos. 759-761/H₁₇].

Distribution: Valparai (Tamil Nadu).

18. **Mesothrips manii** Ananthakrishnan

Mesothrips manii Ananthakrishnan, 1972, *Marcellia*, **37** (5) : 13-14.

Material examined : 1 ♂, KERALA : Silent Valley, ex. leaves of an unknown plant, 16. 1. 80 (N. Muraleedharan Coll.) [Z. S. I. Reg. No. 762/H₁₇]

Distribution : Kolli Hills (Tamil Nadu)

19. **Stigmothrips limpidus** Ananthakrishnan

Stigmothrips limpidus Ananthakrishnan, 1964, *Entomol. Ts. Arg.*, **85** (3-4) : 231-232.

Stigmothrips limpidus Ananthakrishnan, 1971, *J. zool. Soc. India*, **23** (2) : 231-232.

Stigmothrips limpidus Ananthakrishnan, 1973, *Occl. Publ. 2, Ent. Res. Unit., Loyola College, Madras* : 63.

Material examined : 1 ♂, KERALA : Silent Valley, ex. leaf litter, 22. 1. 80 (N. Muraleedharan Coll.) [Z. S. I. Reg. No. 763H/17].

Distribution : Kerala ; Tamil Nadu.

Subfamily IDOLOTHRIPINAE

20. **Meiothrips menoni** Ananthakrishnan

Meiothrips menoni Ananthakrishnan, 1964, *Opusc. ent. Suppl.*, **25** : 99-101.

Meiothrips menoni Ananthakrishnan, 1973, *Occl. Publ. 2, Ent. Res. Unit, Loyola College, Madras* ; 111-112.

Material examined : 1 ♀, KERALA : Silent Valley, 19. 1. 80 (N. Muraleedharan Coll.) [Z. S. I. Reg. No. 764/H₁₇].

Distribution : Kerala ; Karnataka ; Andhra Pradesh.

21. **Neosmerinthothrips fructuum** Schmutz

Neosmerinthothrips fructuum Schmutz, 1913, *Sher Akad. Wiss. Wien.*, **122** : 1052.

Oedemothrips ceylonicus Karny, 1925, *Bull. ent. Res.*, **16** : 137.

Neosmerinthothrips fructuum : Mound, 1974, *Bull. Br. Mus. nat. Hist. (Ent.)*, **31** (5) : 152.

Material examined : 1 ♀, KERALA : Silent Valley, 23. 1. 80 (N. Muraleedharan Coll.) [Z. S. I. Reg. No. 765/H₁₇].

Distribution : INDIA : Kerala ; Karnataka ; M. P. ; West Bengal ; Andaman Is. *Elsewhere* : SRI LANKA.

22. *Polyphemothrips cracens* Ananthakrishnan

Polyphemothrips cracens Ananthakrishnan, 1968, *Oriental Ins.*, 2 (1) : 55-56.

Polyphemothrips cracens Ananthakrishnan, 1969, *Oriental Ins.*, 3 (3) : 308-309.

Polyphemothrips cracens Ananthakrishnan, 1973, *Occl. Publ.* 2, *Ent. Res. Unit, Loyola College, Madras* : 53.

Material examined : 1 ♂, KERALA : Silent Valley, *ex.* dry twigs, 16. 1. 80 (*N. Muraleedharan* Coll.) [Z. S. I. Reg. No. 766/H₁₇].

Distribution : Kerala ; Tamil Nadu ; Andhra Pradesh.

23. *Polyphemothrips indicus* (Ananthakrishnan)

Erythrinothrips indicus Ananthakrishnan, 1955, *Indian J. Ent.*, 17 (3) : 341-342.

Symphiothrips associatus Ananthakrishnan, 1968, *Oriental Ins.*, 2 (1) : 56-57.

Polyphemothrips indicus Ananthakrishnan, 1969, *Oriental Ins.*, 3 (3) : 307-308.

Polyphemothrips indicus Ananthakrishnan, 1973, *Occl. Publ.* 2, *Ent. Res. Unit, Loyola College, Madras* : 53-54.

Material examined : 1 ♀, 1 ♂, KERALA, Silent Valley, *ex.* dry leaves and twigs, 23. 1. 80 [Z. S. I. Reg. Nos. 767-768/H₁₇]; 1 ♂, 27. 1. 80 (*N. Muraleedharan* Coll.) [Z. S. I. Reg. No. 771/H₁₇]

Distribution : Kerala ; Tamil Nadu ; Andhra Pradesh.

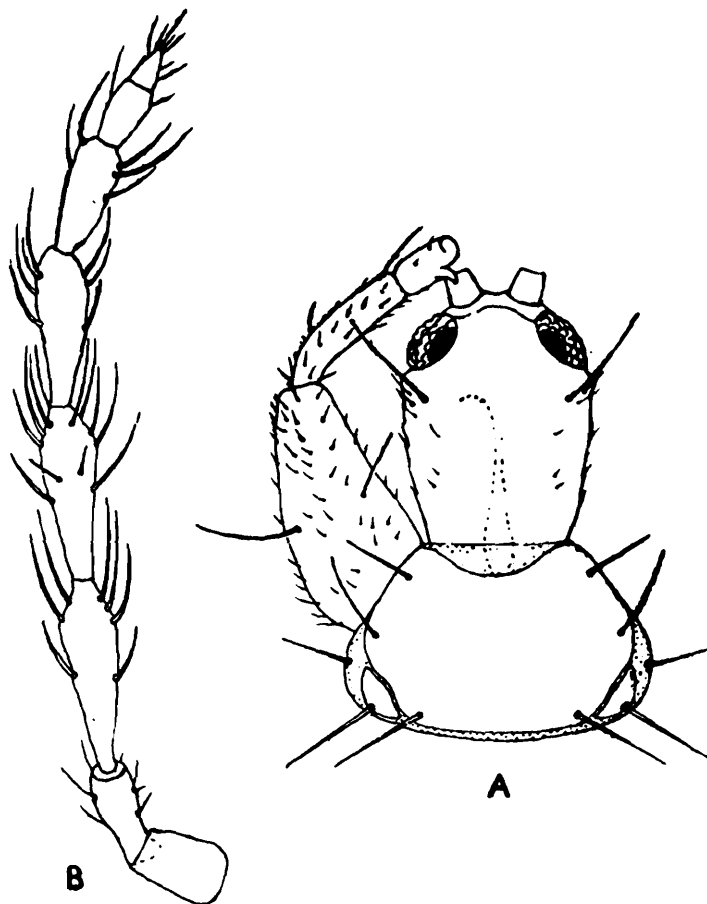
24. *Polyphemothrips kuntiae* sp. nov.

(Text-fig. 2)

Female (Macropterous) : General body colour yellow with profuse red pigmentation in the entire body ; tube brown except proximal one fourth yellow ; antennal segments 1 & 7 brown, 2-3 yellow, 4 yellow in proximal three fourth and brown distally, 5 & 6 brown light in base dark distally ; all femora yellow with brownish shade, mid and hind femora dark, all tibiae and all tarsi yellow with apex brown. Forewings grey with base and apex light. All setae hyaline and blunt.

Head longer than broad, 420 long, 292 wide across eyes, 304 across cheeks, 228 across base ; cheeks highly corrugated, constricted, behind eyes bulging afterwards and gradually narrowing, constricted at base, surface sculptured. Eyes 124 long, 76 wide, all ocelli 38 wide, median ocellus not overhanging. Postoculars very long 186 long, placed 58 below posterior margin of eyes. Antennal segments 1-7 length (width) : I : 80 (58) ; II : 88 (50) ; III : 156 (52-54) ; IV : 148 (50) ; V :

122 (42-44) ; VI : 104 (38) ; VII : 100 (32) ; sense cones on 3-6 long and moderately thick 60-76 long. Maxillary stylets retracted upto the limit of postoculars meeting at middle,



Text-fig. 2. *Polyphemothrips kuntiae* sp. nov. A. head and prothorax, B. antenna.

Prothorax 342 long, 248 wide at anterior margin, 456 at posterior margin. Prothoracic chaetotaxy-anteroangulars 108-116, midlaterals 156-164, posteroangulars 126, epimerals 138 long respectively. Forefemora 418 long, 190 wide, inner margin straight, foretarsal tooth 40 long. Pterothorax 456 long, 514 wide across metathorax. Forewings broad 1.63 mm. long 122 wide with 22 double fringes ; basal wing setae 90, 124 & 140 long respectively.

Abdomen 456 wide at base, 484 at middle, 368 across segment VIII, 210 across segment IX. B_1 - B_3 of segment IX 274, 248 & 286 long respectively. Tube broad at base gradually narrowing at apex narrowest at apical tip 270 long, anal setae 96 long.

Total body length : 1.98 mm.

Type specimens : *Holotype* ♀ (Z. S. I. Reg. No. 769/ H_{17}), *paratype* 1 ♀ (Z. S. I. Reg. No. 770/ H_{17}) [damaged] INDIA : KERALA, Silent Valley, 18. 1. 80, ex. dry twigs (*N. Muraleedharan* Coll.)

This new species is named after the River Kuntipuzha flowing along Silent Valley.

The new species is an unique and distinct species differing from all known species by head constricted at base, cheeks highly corrugated and shape of the head.

ACKNOWLEDGEMENTS

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SUMMARY

The paper deals with Thysanoptera fauna of Silent Valley. 24 species under 17 genera have been recorded including 2 species—*Liothrips muralii* & *Polyphemothrips kuntiae* new to science.