

Thysanopterologica Indica-III

By T. N. ANANTHAKRISHNAN

Department of Zoology, Loyola College, Madras. 34.

Three new genera of Tubulifera *Segnothrips*, *Stannardothrips*, *Xenothrips* and a new subgenus of *Podothrips* — *Nepodothrips* are treated in this paper along with descriptions of the new species — *Malacothrips lucidus*, *Podothrips* (*Kentronothrips*) *flavipes* and *Odontoplothrips cecidii*. *Trehermiella inferna* Priesner, *Eurhynchothrips* (*Nephothrips*) *bipunctatus* Priesner, *Oedaleothrips congoensis* Hood, *Kleothrips agama* Priesner, *Haplothrips* (*Trybomiella*) *talpa* Priesner and *Ischyrothrips crassus* Schmutz are mentioned as records new to this country. The new genera and species are discussed first, followed by the mention of records news to this country.

It is a pleasure to thank the authorities of the U.S. Department of Agriculture for the award of a P.L. 480 grant, during the tenure of which this work was carried out.

Genus *Segnothrips* nov.

Body long and slender; head elongate, 1.33 times as long as wide, 1.7 longer than pronotum. Eyes large; median ocellus on a small elevation. Antenna 8-segmented, intermediate segments elongate, 8 a little constricted at base; segments 3 and 5 sub-equal, 4 longest, 1.2 times as long as 3; 3 not asymmetrical, with one sense cone. Mouth cone moderately long, narrowly rounded at apex; maxillary stylets retracted about middle with a distinct maxillary bridge. *Pronotum excluding coxae not wider, wider than head; epimeral suture incomplete*. Postoculars and prothoracic bristles well developed, expanded. Forefemora not enlarged, foretarsus unarmed in both sexes. Forewings narrowed at middle without accessory fringes; basal wing bristles short. Tube about half the length of head, terminal setae as long as tube.

Type of the genus, *Segnothrips trivandrensis* gen. et sp. nov.

This genus approaches *Pallidothrips* Pelikan, also having an elongate, slender body, with elongate antennal segments, similar mouth cone, maxillary bridge and prothorax shorter than head. But it differs from *Segnothrips* in the presence of an asymmetrical 3rd antennal segment, very short postoculars

Entomol. Ts. Arg. 86. H. 1-2, 1965

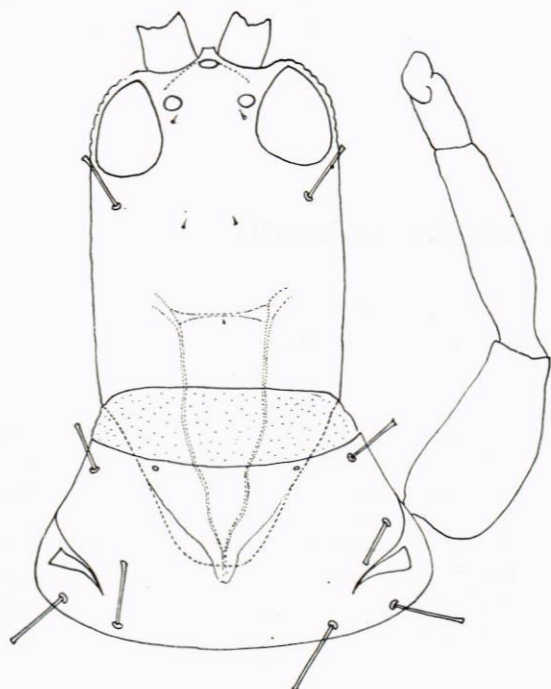


Fig. 1. *Segnothrips trivandrensis* gen. et sp. nov. Head and prothorax of female.

and prothoracic bristles which are pointed, accessory fringes on forewing, complete epimeral suture, armed tarsi, longer tube and anal setae shorter than tube.

***Segnothrips trivandrensis* gen. et sp. nov.**

Macropterous female:

Colour, brownish yellow with red hypodermal pigmentation, scattered. Tube, all femora, mid and hind tibia except at apex and antennal, base of 2 and 7 and 8; segments 3—5 yellow, 6 suffused yellowish brown. Foretibia except along outer margin at base, yellow, apex of mid and hind tibiae and all tarsi pale yellow.

Head elongate, 238—252 long, 158—168 wide across eyes and 168—182 across cheeks. Eyes 84 long, 56 wide. Postoculars 38—48 long; median ocellus 16 wide, placed 26 from lateral ocelli 13 wide and 32 apart. Mouth cone 96—100 long, 38 wide at apex, 96 at middle, broad at base, surpassing the middle of prosternum, narrowly rounded; maxillary bridge 64—68 long (i.e. stylets 64—68 apart). Antennal segments, length (width) 32 (32); 54 (32); 64—67 (29); 70—77 32—35); 64 (29—32); 58 (29); 48 (22—26); 32—35 (13).

Prothorax 128—140 long at middle, 168—210 wide across anterior margin, 308 across posterior including coxae. Postangulars 48—54, epimerals 58 long. Forefemora slender, 70 wide, foretibia elongate 168 long, foretarsus unarmed.

Pterothorax 380 long and as wide. Forewings 700—728 long, without accessory fringes, basal wing bristles, 26—32, 32—38 and 43—51 long, knobbed.

Abdomen elongate 280 wide at base, 154 across IX. B1 and B2 of IX almost subequal, 96—112 long. Tube 126—140 long, 56 wide at base and 42 at apex; anal setae 140—154 long. Total body length 2.030—2.170 mm.

Macropterous male:

Colour as in the female.

Head, 196—224 long, 154 wide across eyes, 154—168 across cheeks. Eyes 70 long, 56 wide. Antennal segments, length (width 32 (29—32); 45 (26—29); 64—67 (26); 67—74 (32); 64—70 (29); 58 (26); 48—51 (22); 32—35 (13).

Prothorax 112—126 long, 154—168 across anterior margin, 224—238 across posterior; anteroangulars 19; epimerals 38—43 and postangulars 38—43 long. Forefemora 56—70 wide, foretarsi unarmed. Pterothorax 280 long, 2380 wide. Forewings 588—658 long; basal wing bristles 32, 32 and 38 long. Abdomen 210—224 wide at base, 112 across IX. Tube 112—126 long.

Total body length, 1.424—1.596 mm.

Material: — 14 females, 7 males on grass, Trivandrum, 23—6—64.

Genus *Stannardothrips* nov.

Head about as long as wide, converging towards eyes, widest below eyes and a little angular behind, cheeks with 2—3 weak spines; dorsum of head weakly striate. Eyes large. Antennal segments 3—8, elongate, thin, with long sense cones. Mouth cone very long, extending beyond prosternum, apex narrowly rounded, maxillary stylets do not meet, though close. Prothorax unusually short, as in *Cartomothrips* Stannard; prothoracic bristles well developed, except the anteromarginals which are weak. Forelegs short; forefemora not enlarged in both sexes and foretarsus unarmed in both sexes. Forewings uniformly wide, with very few accessory fringes. Pelta triangular. Tube longer than head; anal setae shorter than tube. Lateral abdominal bristles strong; abdominal tergite IX with long, pointed bristles.

Type of the genus, *Stannardothrips longirostris* gen. et sp. nov.

In the tube longer than the head and the unusually short prothorax, this genus approaches *Cartomothrips* Stannard. But the head angular behind eyes, the elongate mouthcone, the elongate, thin antennal segments, with long sense cones, the unarmed foretarsi in both sexes, the very few accessory fringes on forewings, absence of submedial projections on posterior dorsal margin of head etc. are sufficient to establish a new genus, related by the nature of the prothorax and tube to *Cartomothrips*. In view of the discovery of a genus with very short prothorax first by Dr. L. J. Stannard of Illinois, I have great pleasure in naming this genus after him.

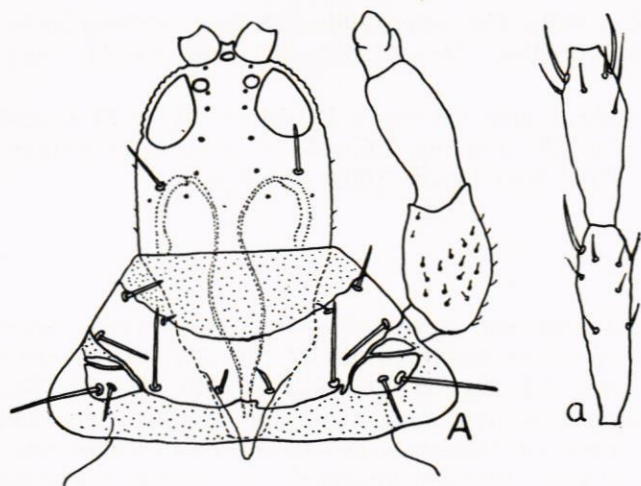


Fig. 2. *Stannardothrips longirostris* gen. et sp. nov. A. Head and prothorax of female. a. Antennal segments 3 and 4.

Stannardothrips longirostris gen. et sp. nov.

Macropterous female:

Colour brown. Apex of antennal segment 2 and segments 3—8 yellow; legs foretibia yellow (except at base along margins), mid and hind tibiae, lighter brown at base, distally yellow; all tarsi yellow. Wings clear; bristles dark. Head 252 long, 210 wide across eyes, 238—252 across cheeks and 224—238 at base. Eyes large, 98 long, 70 wide; postoculars 64 long blunt, placed 48 below eyes. Ocelli 16 wide, medium ocellus 26 apart from lateral ocelli, placed 45 apart. Antennal segments length/width: 48 (48); 67 (45); 109—112 (26); 96—109 (32); 96 (26); 88—90 (29); 70—80 (26); 48 (13). Mouthcone 252 long, 154—168 wide across middle and 70 at apex.

Prothorax 96 long, strap-like, 392 across at middle; anteroangulars 48—54; anteromarginals 16—19; midlaterals 64; postangulars 110—112 and epimerals 115—132 long. Forefemora, 98 wide, 182—196 long; foretibia 154—168 long; midfemora, 238 long, midtibia 224 long; hind femora, length, 322; hind tibia 280 long.

Pterothorax 420 long, 518 wide; forewings 980 long, with 8—10 accessory fringes; basal wing bristles almost in a straight line, 73—83, 88—90 and 80—90 long respectively.

Abdomen at base as wide as pterothorax, narrowing thereafter, 420 wide across middle, 364 at VII, 322 across VIII and 224 across IX; bristles on IX 210—252 long. Tube 294 long, 84, 70 and 42 wide respectively at base, middle and apex tube setae 182 long. Lateral abdominal bristles, strong, 126—140 long.

Total body length: 2.590—2.636 mm.

Material: — 3 females, beating wild vegetation, Hyderabad, 25—6—64, (Holotype and paratypes in the author's collection).

Genus *Xenothrips* nov.

Head as long as wide across cheeks, distinctly convex; cheeks serrate with weak spines; mouth cone short, broadly rounded; maxillary stylets short, orad, arranged in a broad 'V' (as in *Nesothrips*). Antenna 8 segmented, normal, sense cones moderately long. Prothorax shorter than head; prepectus clear, spinasternum well developed. Prothoracic bristles short, pale, expanded; anteromarginals in a row, almost vestigial. Dorsum of head and prothorax with numerous small spines. Forefemora moderately enlarged, foretarsus armed in the male, unarmed in the female. Femoral and tibial teeth absent. Wings haplothripine, without double fringes. Tube much shorter than head, tube setae as long as tube.

Type of the genus, *Xenothrips malabaricus* gen. et sp. nov.

This genus is related to the *Podothrips complex* as seen by the nature of the large basisternum, the spinasternum and the short, broad mouth cone. From *Haplothrips*, it differs in the convex, serrated cheeks, clearly constricted at base, the short maxillary stylets, with their broad 'V' like arrangement and vestigial row of anteromarginals. The foretarsal tooth is present only in the male and is not directed forwards as in *Xylaplothrips*.

Xenothrips malabaricus gen. et sp. nov.*Macropterous female:*

Bicolourous; head, prothorax, antennal segment 6 at apex, 7 and 8, forefemora and tube beyond middle brown, rest yellow; pterothorax at base lighter brown.

Head 168 long, as wide across cheeks, 154 across eyes and 154 at base. Eyes small, 56 long, 42 wide (42 long in *Brachypterous*). Ocelli distinct, median ocellus 10 wide, placed 26 apart from paired ocelli, 45 apart. Postoculars short, 35 long. Antennal segments, length/width: 26 (32); 45 (29); 45—48 (29); 45—48 (26); 45 (26); 45 (22); 38 (19); 26—29 (13).

Prothorax 140 long, 182 wide across anterior margin and 266 wide at base. Forefemora 70 wide, foretarsus unarmed, anteromarginals vestigial, anteroangulars 16, epimerals 32—38 long. Pterothorax, 252 long and as wide. Forewings 602 long, accessory fringes absent.

Abdomen at base as wide as pterothorax, 126 wide across IX. Tube 98 long, 56 wide at base, 28 at apex; anal setae 98 long; setae on IX 64—80 long. Total body length: 1.498 mm.

Brachypterous female, Total body length: 1.582 mm.

Brachypterous male:

Colour as in the female.

Head 140—154 long, 126 wide across eyes, 154 at cheeks and 140 at base. Postoculars 26 long. Antennal segments, length (width): 32 (32); 38 (29); 43 (29); 43 (29); 43 (22); 38 (22); 35 (19); 26 (13). Prothorax 112 long, 154 wide across anterior margin and 224 across posterior; anteroangulars 16, epime-

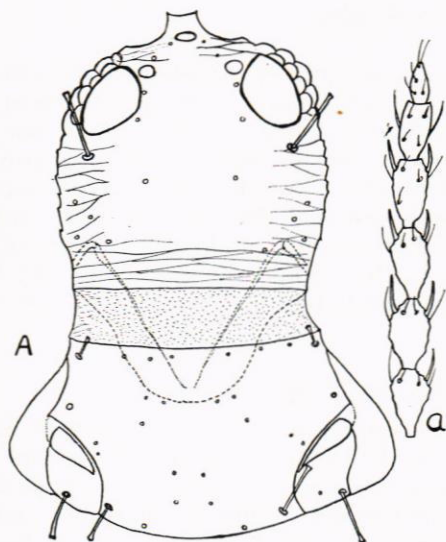


Fig. 3. *Xenothrips malabaricus* gen. et sp. nov. A. Head and prothorax of female. a. Antennal segments 3—8.

rals 28—32 long. Pterothorax 182 long, as wide, Tube 70 long, as also tube setae.

Total body length: 1.064 mm.

Material: — 2 macropterous, 4 brachypterous females and 2 brachypterous males, Chalakudi (Kerala), 5—12—1963, Bamboo spindles.

Genus *Podothrips* subg. *Neopodothrips* nov. subg.

Cheeks convex, with below eyes, a distinct indentation, its outer edge projecting as a sharp process; head at base clearly constricted. Antennal segment 3 with 2 sense cones. Forefemora strong without hump at base, foretibia with a tooth at apex, foretarsus with a developed tooth. Forewings without accessory fringes.

Type of subgenus, *Podothrips* (*Neopodothrips*) *distinctus* sp. nov.

Except for the deep indentation on cheeks below eyes, and the constriction of head at base, this resembles in every respect a *Podothrips*.

Podothrips (*Neopodothrips*) *distinctus* sp. nov.

Macropterous female:

Colour: Brown, forefemora at apex, all tibiae and tarsi yellow; antennal segment 1 and 2 at base brown, apex of 2 and 3—7 yellow, 8 brown. Wings with a pale infumation.

Head 224—238 long, 168—196 wide across eyes, 182—214 immediately below eyes, across the indented region, and 154—182 at base. Postoculars 64 long, placed 32 below eyes; cheeks with a sharp spine at base 10 long,

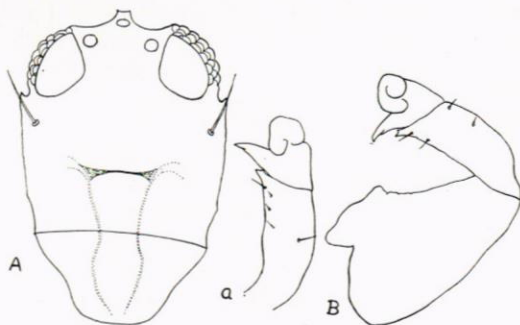


Fig. 4. *Podothrips* (*Neopodothrips*) *distinctus* sp. nov. A. Head and prothorax of female. a. Foretibia and tarsus B. Foreleg of *Podothrips* (*Kentronothrips*) *moultoni* sp. nov.

median ocellus 19 wide placed at interantennal projection, not overhanging; paired ocelli 16 wide. Antennal segments, length (width): 32—35 (32—38); 51—52 (29—35); 51—64 (29—32); 51—58 (29—32); 48—58 (26—29); 48—51 (26); 51—58 (19); 43—51 (10—13). Maxillary stylets retracted at middle, maxillary bridge distinct.

Prothorax 196—238 long, 182—210 wide across anterior margin, 308—434 across posterior; anteromarginals practically vestigial, anteroangulars small, 16—22, postangulars 48—51, epimerals 48—64 long, dilated. Forefemora 98—140 wide, foretibia with a distinct tooth at apex, foretarsi with a well developed tooth. Pterothorax, 336—364 long, 280—350 wide; forewings 742—882 long, without accessory fringes; basal wing bristles 19—32, 35—43 and 32—43 long.

Abdomen 280—322 wide at base, 238—280 across VIII and 150—196 across IX. Tube 140—168 long, 56—70 wide at base, 28—42 at apex, tube setae 210—280 long. Total body length: 2.240—2.730 mm.

Macropterous male:

Head 196 long, 168 across eyes, 182 across cheeks and 154 at base. Post-oculars 64 long, pointed. Antennal segments, length (width): 32 (32); 48 (29); 51—54 (26); 45—51 (26); 45—48 (22); 45—48 (22); 45—48 (19); 43—48 (10). Prothorax 196 long, 182 wide at anterior margin, 308 across posterior. Forefemora 112—126 wide, foretibia with a tooth, as also foretarsus. Anteroangulars 13 and epidermals 45 long. Pterothorax 308 long, 280 wide. Forewings 742 long, without accessory fringes. Abdomen 280 wide at base, 210 across VIII and 112 across IX. Tube 126 long, tube setae 210 long.

Total body length: 1.960—2.044 mm.

Material: — 74 females, 28 males, on grass, Tirupurangundram, (Madura), 16—10—64.

Podothrips (*Kentronothrips*) *moultoni* sp. nov.

This is a striking bicolourous species, with a very prominent forefemoral hump.

Colour: Antennal segments 1—3 yellow, 4—8 brown; all legs yellow. Tube and sides of metathorax brown. Cheeks a little shaded. Head 224 long, 182

wide across cheeks, 168 across eyes. Eyes 64 long, 45 wide. Postoculars 45 long, placed 43 below eyes; median ocellus far forwards, 16 wide, 45 away from paired ocelli, 70 apart. Maxillary stylets retracted halfway, maxillary bridge distinct. Antennal segments, length (width): 38 (38); 51 (38); 54 (35); 54 (38); 54 (35); 48 (29); 54 (26); 35 (13).

Prothorax 168 long, 210 across anterior margin and 322 across posterior; midlaterals 38, epimerals 48 and postangulars 42 long, pointed. Forefemur strong, 140 wide at base, with a strong hump, foretibia with a distinct tooth and foretarsus with a strong tooth 42 long. Pterothorax, 350 long, 322 wide. Forewings 840 long, without double fringes. Abdomen 308 wide at base; 154 across IX. Tube 140 long, 70 wide at base, 42 at middle and apex; tube setae 182 long.

Material: — *Holotype* female, on grass, Tirupathi, 6—9—64. Named in honour of the late Dudley Moulton who first recorded this subgenus.

Podothrips (Kentronothrips) lucasseni (Kruger).

Priesner 1937, Bull. Soc. Roy. Ent. d'Egypte: 68—72. (All previous references cited).

The subgenus *Kentronothrips* characterised by the presence of a hump on the forefemora at base within, is recorded for the first time from the Indian mainland. The more common species *P. oryzae* and *P. graminis* belong to the subgenus *Melampodothrips* Priesner, while *P. bicolor* belongs to *Podothrips* s.str.

Material: — 2 females, wild cane sheaths, Conjeevaram, 25—5—63.

Malacothrips lucidus sp. nov.

Macropterous female:

Colour, yellow (with plenty of scattered red hypodermal pigment); tube brown, as also a lateral pterothoracic patch and margins of cheeks. Wings light brown except for 3 pale patches at base, middle and apex, appearing as if banded. Antennal segments 1 and 2 yellow at middle, laterally brown, 3 yellow, 4—7 yellow at base, rest brown, the brown colour increasing with segments 5—7; 8 brown.

Head 210 long, 182 wide across eyes, 168 at constricted region behind eyes and 196 across cheeks. Eyes large, 84 long, 70 wide; postoculars 64 long, expanded at apex; median ocellus placed forwards, 13 wide, lateral ocelli 16 wide. Antennal segments, length (width): 43 (35); 54 (32); 70 (29); 64 (29); 64 (26); 54 (22); 38 (13). Mouth cone rounded.

Prothorax, 140 long, 210 wide across anterior margin, and 308 across posterior; anteroangulars 54, anteromarginals 43, midlaterals 54, postangulars 54 and epimerals 58 long, all expanded at apex. Forefemora 70 wide, foretarsus unarmed.

Pterothorax 308 long, as wide; forewings 602 long with 5 double fringes. Abdomen, 308 wide at base and middle, 238 across VII and 168 across VIII. Setae on IX almost subequal, 128 long. Tube 140 long, tube setae 98 long. Total body length: 1.960 mm.

Macropterous male:

Colour as in the female except that the pterothoracic brown patch is absent.

Head 196—210 long, 154 wide across eyes, 140 at constricted region and 168 across cheeks. Antennal segments, length (width): 38 (32); 48 (26); 65—67 (26); 61—64 (29); 58 (22); 54 (19); 48 (16); 38 (13).

Prothorax 98 long, 168 wide at anterior margin and 210 across posterior. Forefemora 70 wide; Forefemora and foretibia unarmed; *foretarsus with a small tooth*; surface of forefemora and tibia clotted with fine setae. Anteroangulars 38—43, anteromarginals 32, midlaterals 43, epimerals 48, postangulars 43—48 long. Forewings 560—588 long, 3—5 accessory fringes. Abdomen 182 wide at base and middle, 98 wide across IX. Tube 112—126 long, 42 wide at base and 28 at tip; tube setae 84 long.

Total body length: 1.428—1.652 mm.

Material: — 1 female and 10 males, on grass, Trivandrum, 22—6—64.

From *M. madrasensis* Ananthakrishnan it differs in several respects, including the mostly yellowish body colour and in particular the armed foretarsus of the male.

Odontoplothrips cecidii sp. nov.*Macropterous female:*

Colour, dark brown; antennal segments 1, 2 and 7 and 8 (2 at middle and outer margin, yellow dark brown; 5 at apex suffused, 6 beyond middle brown; foretibia paler brown, suffused yellow, all tarsi yellow brown.

Head 252—280 long, 224—238 wide across eyes, 252—266 across cheeks. Eyes large, 112 long, 84 wide; ocelli well developed, median ocellus placed forwards at interantennal projection. Postoculars long, pointed, 84—96 long. Cheeks senate, with 2—3 sharp spines arising from warts. Antennal segments, length (width): 51 (48); 70—80 (38—45); 81—96 (38—43); 81—90 (45); 80—83 (43—45); 70—77 (35—38); 58—60 (32); 32—35 (16). Mouth cone very long, almost rounded at apex.

Prothorax heavy 252—280 long, 308—350 wide at anterior margin and 518—560 across posterior. Anteroangulars 48—54, epimerals 144—176 long, pointed. Forefemur 140—154 wide, *foretibia at apex within a very small hump*, tarsal tooth well developed.

Pterothorax 560—588 long, 560—630 wide. Forewings 1260—1400 long, with 22—25 accessory fringes; basal wing bristles 64—73, 74—73 and 70—80 long, in a straight line, 1 and 2, 32 apart and 2 and 3 very close, 22 apart.

Abdomen at base, wider than pterothorax, 630—770 wide, 420—448 across VII, 238—280 across IX. Bristles on IX 176—180 long, pointed; Tube 280—304 long, 112, 84 and 56 wide respectively at base, middle and apex; anal setae very weak, shorter than tube, 140—154 long.

Total body length: 3.220—3.612 mm.

Macropterous male:

Colour as in the female.

Head 252—266 long, 224—238 wide across eyes, 238—252 across cheeks. Eyes 112 long, 84 wide; postoculars 96 long; Antennal segments, length

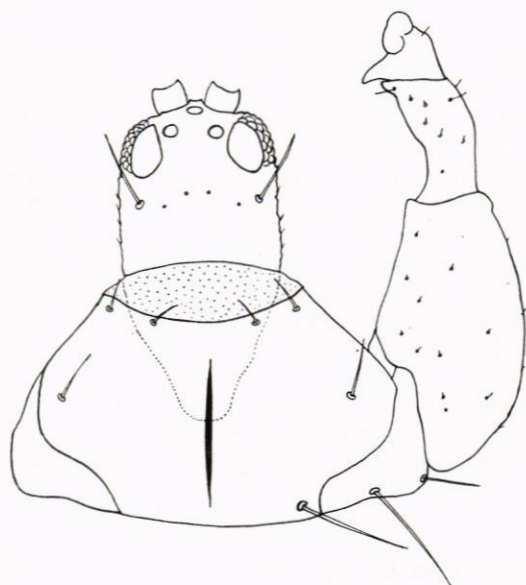


Fig. 5. *Odontoplothrips cecidii* sp. nov.
Head and prothorax of female.

(width): 45 (48); 73 (45); 93—105 (43); 93—102 (45); 86—93 (43); 77 (38); 64 (32); 43 (16).

Prothorax 308—322 long, 350—378 wide antennals and 602—672 across posterior. Anteroangulars 48, postangulars 126 and epimerals 126 long. Fore-femur 168—210 wide, foretibial hump stronger as also foretarsal tooth. Pterothorax 602—686 wide, 560—602 long; forewings 1232—1260 long with 25 accessory fringes.

Abdomen 630—700 wide at base and middle, 350—364 across VIII and 210—224 across IX. Tube 280 long, tube setae 210 long.

Material: — 9 females, 3 males, ficus leaf rolls, Waltair 16—9—64.

Hoplothrips-like individuals, with elongate mouth cone, with a small, hump-like tooth on foretibia at apex of inner margin, belong to the subgenus *Odontoplothrips* Priesner (Type of subgenus *Trichothrips calcaratus* Hood, by original designation).

***Eurhynchothrips (Nephothrips) bipunctatus* Priesner.**

Priesner 1939, Rev. Zool. Bot. Africa: 55.

Faure 1961, Rev. Zool. Bot. Africa, LXIII (1—2): 84.

The subgenus *Nephothrips* is being reported as a new record to India, differing from *Eurhynchothrips* s.str. in the presence of a single epimeral bristle, the tarsi of the female with a small tooth and wings with a short, dark, cross band. The material under study has postoculars 67—70, anteroangulars 48, anteromarginals 35, midlaterals 51, postangulars 64 and epimeral bristles 67 long; accessory fringes on forewing, 11—12. This species was originally recorded from Congo.

Material: — 3 females; beating wild vegetation, Alathur (Kerala), 6—11—1963.

Aleurodothrips fasciapennis (Franklin).

Ananthakrishnan 1964, Opuscula Entomologica Suppl. XXV: 26 (for further references).

It was mentioned in the above paper that this species has not been recorded from the Indian mainland. Several individuals of both sexes have since been obtained mostly from Bamboo.

Material: — 15 females, 13 males, on bamboo, Calicut, 5—10—63, Chalakudi, 5—12—63, Trivandrum, 23—6—64.

Treherniella inferna Priesner.

Trichothrips (?) *infernus* Priesner 1922, Wiener Ent. Zeit. 39: 106.

Trichothrips infernus Priesner, 1925, Konowia IV: 153.

Holothrips infernus Priesner 1927, Thys. Eur.: 551.

Treherniella inferna Priesner 1932, Rev. Zool. Bot Afr., XXII (2): 196—197.

Treherniella inferna Priesner 1935, Bull. Soc. Roy. Ent., Egypte: 321.

This genus, also recorded for the first time from the Indian mainland, has rounded cheeks, wholly black antennae, segment 8 subpedicellate, foretarsi in both sexes with a conspicuous tooth.

The present material, also collected from grass, agrees with the material recorded from Africa, in most respects, segment 3 of antenna being 2.12 times as long as wide (Priesner 2.1—2.2 times) being 83—88 long, the postangulals and epimerals 84—102 long (110 in Priesner's), Tube 2.4 times as long as wide and the number of double fringes 16—18 (17—19 in Priesner's).

Material: — 10 females, on grass, Trivandrum, 23—6—64.

Neurothrips indicus Ananthakrishnan.

Ananthakrishnan 1964, Opuscula Entomologica Suppl. XXV: 69—72.

More examples of this interesting species have been collected, the females showing a variation of 1.708—1.946 mm in length and the males 1.260—1.638 mm. The antennal segments 1—8 also show the following variations in their length: Females — 32—38; 48—58; 48—64; 48—58; 45—54; 45—51; 32—35; 22—29; Males — 26—35; 45—48; 43—61; 43—54; 38—54; 49—51; 26—35; 22—26. The tube in the females measure 168—210 long, the tube setae 630—756 long, while in the males they are 140—154 and 490—700 long respectively. Gynaecoid and oedymorous males are met with in good numbers in the series collected.

Material: — 11 females, 6 males near Periakulam, Periyar-cumbum road, on beating Clusters of *Carissa* and *Flacourtia*, 8—12—1963; 12 females, 10 males on the same host, near Madura, 12—10—1964.

Haplothrips (Trybomiella) talpa Priesner.

Priesner 1930, Bull. Soc. roy. ent. d'Egypte: 243.

.. 1936, Ibid: 63.

.. 1938, Ibid: 212.

.. 1950, Bull. Soc. fouad Ier. Entom., 34: 90, 93.

Faure 1955, Journal Ent. Soc. S. Africa, 18(2): 230—234.

Pelikan 1963, Acta Soc. ent. Cechoslov: 112.

This is an interesting species in that the head is rather long, 1.3—1.5 times as long as wide and 1.5—1.8 times as long as pronotum. Anteromarginals very weak, all other prothoracic setae pointed. Foretarsi with a very small tooth in the females.

The specimens on hand show the head 1.3 times as long as wide (252 long and 196 wide across cheeks) and 1.8 times as long as the pronotum. The prothoracic chaetotaxy; anteroangulars 26—28; anteromarginals 6—9, epimerals 38—43 long. Tube much shorter than head, 126 long.

Material: 5 females, Trivandrum, grass, 23—6—64.

Nesothrips formosensis var. *karnyi* Priesner.

Neosmerinthothrips formosensis Priesner 1935, Phillip J. Sci. 57(3): 368—370.

Nesothrips formosensis var. *karnyi* Ananthakrishnan 1964, Opuscula Entomologica suppl. XXV: 102.

Macropterous female:

Colour as described by Priesner (1935). Wings with a brownish infumation, with a dark longitudinal streak at middle.

Head 182 long, 224 wide across eyes, 210 at base. Postoculars 64—84 long. Antennal segments, length (width): 43 (35); 64 (38); 81 (32); 70 (35); 67 (32); 54 (32); 38 (26); 29 (16). Prothorax 140 long, 266 wide at anterior margin and 364 across posterior. Anteroangulars 32, anteromarginals 22, midlaterals 38, epimerals 76, postangulars 64—70 long. Forewings 756—840 long, with 5—8 double fringes, basal wing bristles 43, 54 and 84 long, pointed. Tube 168 long, 90, 78 and 56 wide respectively, at base, middle and apex. Tube setae short, 84 long.

Total body length: 2.044—2.072 mm.

Hemimacropterous female:

Head 168 long, 210 wide across eyes and cheeks, 196 at base; Eyes small, 56 long; Postoculars 58 long. Antennal segments, length (width): 38 (32); 54 (32); 70 (32); 64 (32); 58 (32); 38 (22); 22 (13).

Prothorax 98 long, 230 wide at anterior margin and 294 across posterior. Anteroangulars 29, anteromarginals 16, midlaterals 35, postangulars 45 and epimerals 67. Forefemur very thin, 56 wide. Forewings only 490 long, fringes sparsely developed, basal wing bristles 32, 38 and 64 long. Tube 168 long. Total body length: 1.750 mm.

The male of this species is being recorded for the first time.

Brachypterous male:

Colour as in the female. Head 168 long, 196 wide across eyes and cheeks and 184 at base. Postoculars 96 long, pointed. Antennal segments length (width): 38 (32); 58 (32); 77 (32); 70 (32); 64 (32); 58 (32); 43 (22); 29 (13). Prothorax 182 long, 280 wide across anterior margin and 376 across posterior; anteroangulars 32, midlaterals 70, postangulars 62, epimerals 72 long. Forefemora strongly curved at inner margin, 140 wide, foretarsus with a strong tooth. Pterothorax 280 long, 350 wide. Wing pads 308 long, with 2 basal

bristles developed. Tube 154 long, 70, 56 and 42 wide at base middle and apex respectively. Total body length: 1.820 mm.

Material: — 4 macropterous females, 1 hemimacropterous female and a brachypterous male, wild plants beatings, Nagarjunasagar, 7—8—1964.

Oedaleothrips congoensis Hood.

Hood, 1952, Rev. Zool. Bot. Afr., XLV (3—4): 204—209.

This is the second species of *Oedaleothrips* to be recorded from India, the first being *O. ramamurthii* Ananthakrishnan. *O. congoensis* is a glistening coal black (including the antenna) species with a conspicuous broad whitish area occurring on entire abdominal tergite I and with a similarly coloured spot at the sides of tergum V. These markings extend down to the sides of the segment.

This species comes very near *O. uzeli* Hood, the latter also possessing a coal black body and chalky white areas on abdominal terga I, II and V, but the third antennal segment is golden yellow and the head production is very slight.

The material under discussion has the following measurements.

Head production 67 long, 118 wide at middle in males, 83 long, 134 wide at middle in the females. Head 2.05 times as long as greatest width, 518 long and 252 wide in the females; 2.14 times as long as wide, 490 long and 224 wide in males. (Hood's material ranges from 2—2.2 times). Antennal segments length:

Females: 70, 84, 168, 126, 112, 84, 56, 56.

Males: 70, 84, 160, 112, 112, 84, 54, 56.

The third antennal segment is 3.66 times as long as wide in the females and 2.66 times in the males; the 4th segment is 2.66 times as long as wide in the females, as well as males.

The Indian material shows variation in the size of the head production and in the proportion of antennal segments 3 and 4. The ventral bisetose tubercle on antennal segment 4 is absent, and segments 5 and 6 possess the usual lobe-like projections.

Material: — 3 males and 2 females, Grass, Pykara (Madura), 15—10—64.

Ischyrothrips crassus Schmutz.

Ananthakrishnan 1964, Opuscula Entomologica, Suppl. XXV: 97, 98.

This species though known earlier from Ceylon (Schmutz 1913) is being recorded for the first time from the Indian mainland. This is the only species of the genus known, the others being relegated to different genera (Ananthakrishnan 1964).

Two females recorded below show the following measurements:

Head 350 long, 230 wide across eyes and 252 across cheeks. Eyes 98 long; postoculars 134 long; expanded at apex; Antennal segments, length (width): 70 (48); 75 (48); 128 (45); 122 (45); 102 (45); 92 (45); 83 (29); 48 (19).

Prothorax, 280 long, 336 wide across anterior margin, 560 across posterior; epimerals 128 long, expanded. Forefemora strongly enlarged, 280 wide, foretarsus with a very well developed tooth, 84 long. Pterothorax 448 long, 532 wide. Forewings 1008 long, with 11—12 accessory fringes; basal wing bristles, 70, 80, 90, all expanded.

Abdomen 560 wide at base, 448 across VIII and 238 across IX. Tube, 238 long, 98, 84 and 70 wide at base, middle and apex respectively. Tube setae 182—240 long. Total body length: 3.108 mm.

Material: — 2 females, dead twigs, Hyderabad, 6—8—64.

Fulgorothrips faurei Ananthakrishnan.

Ananthakrishnan 1964, *Opuscula Entomologica*, Suppl. XXV: 96—97.

The three males collected recently show the following range of variation in their essential features:

Head 490—504 long including production which is distinctly conical, 126—140 wide at apex and 154—182 wide at base; setae on head production 98—112 long. Head 266—280 wide across eyes and cheeks. Antennal segments 3—8, length: 168—182, 140, 126; 98—112; 56—70; 56. Prothorax 210—224 long, 280—294 wide. Forewings 1162—1190 long, with 12—13 accessory fringes. Abdomen, 398—420 wide at base, 350—372 wide at middle, 252—280 across VIII, 210 across IX. Tube 336 long, 126, 98 and 56 wide respectively at bases middle and apex.

Total body length: 3.430—3.500 mm.

Material: — 3 males (including the Allotype) grass sweep, Trivandrum, 22—6—64.

Meiothrips menoni Ananthakrishnan.

Ananthakrishnan 1964, *Opuscula Entomologica*, XXV: 99—101.

Macropterous female (measurements as compared with the Type).

Head length, including production, 742 long (700); antennal segments 3—8 length: 756 (700); 448 (42); 364 (364); 252; 126; 112. Forewings 2.200 mm long (2.048) with 24 accessory fringes (21); basal wing bristles very characteristic, weak, middle one vestigial 98, 42 and 210 long, knobbed, arranged in a straight line. Tube 1190 long (1134).

Total body length, 6.860 mm (6.650 mm).

Macropterous male:

Head length including production, 686 long, head length alone, 630; width across head production, 112, 224 across eyes, 168 below eyes and 238 at base.

Antennal segments, length; 70, 700, 378, 336, 280, 126—98. Prothorax 210 long, 280 across anterior margin and 448 across posterior; anteromarginals 56; epimerals 126 long; pterothorax 560 long and as wide. Forewings 2.078 long, with 12—14 accessory fringes; basal wing bristles 70, 42 and 140 long respectively. Tube 938 long, 98, 84 and 70 wide respectively at base, middle and apex. Tube setae weak, 140 long. Total body length: 5.60 mm.

Material: — Female and male, beating logs of wood, Trichur, 7—11—63.

Kleothrips agama Priesner.

Priesner 1934, Konowia, Band XIII (3): 201.

Priesner 1935, Konowia, Band XIV (4): 321—327.

This is the first record of a true *Kleothrips* from the Indian mainland, though *K. ceylonius* and *K. gigans* have been reported from Ceylon.

The single male collected has a total body length of 8.54 mm, head production 210 long, 154 wide (greatest width), segment 3 of antenna 434 long, 56 wide at apex, 50 accessory fringes on forewings (ranges from 44—62 as per Priesner's description) and tube 812 long.

Material: — Single male, from loose bark of decaying fungus infested tree, Tenmalai 3000' (Kerala—Madras 13—10—64).