

Thysanopterologica Indica—I

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The present paper deals with ten species of Tubuliferous Thysanoptera from South India. The genera, *Oedaleothrips* Hood, *Strepterothrips* Hood, *Malacothrips* Hinds and *Nanothrips* Faure, are being recorded for the first time from the Oriental region and the species referred to them are discussed below as new. Four genera are herein described as new to science — *Carissothrips*, *Loyolaia*, *Stannardiana* and *Pyknothrips*. Of the genera treated here, only *Loyolaia* belongs to the Megathripinae, while the rest are phlaeothripine forms. Significant variations in *Hoplandrothrips indicus* (R. & M.) and *H. graminis* Ananthakrishnan are also discussed.

Grateful thanks are due to the U.S. Department of Agriculture for the P.L.480 assistance, during the tenure of which this work was carried out.

Genus *Carissothrips* nov.

Head about as long as wide, distinctly longer than the pronotum, a little produced in front; cheeks convex, widest at middle. Eyes flat, narrower in front; ocelli well developed, reduced in the brachypterous forms; postoculars vestigial. Mouthcone short, broadly rounded at apex; maxillary stylets retracted more orad. Antenna 8-segmented, normal. Pronotum much shorter than head, sides arched; praepectus absent; epimera partly fused with pronotum; prothoracic bristles poorly developed, pointed; forefemora moderately enlarged, foretarsi unarmed in both sexes; wings well developed in the macropterous forms, double fringes lacking; basal wing bristles much reduced. Tube, a little shorter than head.

Type species, *Carissothrips nigrescens* gen. et sp. nov.

The large eyes, unarmed foretarsi, vestigial postoculars, poorly developed major body bristles and the partly fused epimeron, suggest affinities to *Pnigmothrips* Priesner. The latter however, has pelta bell-like, very slender antenna, with segment 8 long, epimeral bristles stout and long and well developed basal wing bristles. From *Eothrips* Hood, the new genus could be distinguished by the nature of the eyes, the antecular prolongation, short mouth cone, poorly developed major body bristles and the partly fused epimeron.

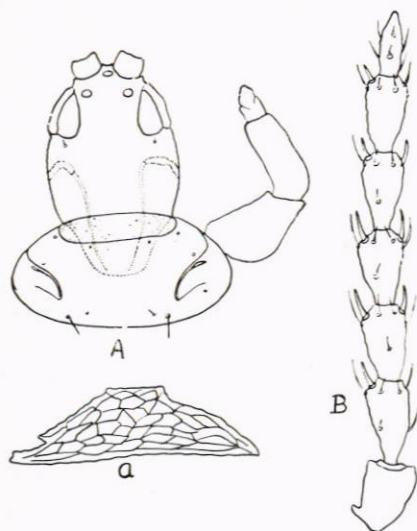


Fig. 1. *Cariissothrips nigrescens* Gen. et. sp. nov. A. Head and prothorax of female; a. pelta. B. Antenna of female (2—8).

***Cariissothrips nigrescens* gen. et. sp. nov.**

Female (Macropterous & Brachypterous)

Colour: dark black brown, except distal $\frac{2}{3}$ of tibiae and tarsi, apex of antennal segment 2 and segments 3—8, pale yellow. Wings clouded.

Head 224—226 long, 154—168 wide across anterior narrow eye region, 196—210 across posterior, 224—252 across cheeks and 210—238 at base; head production short, 10—13 long, 112—128 wide. Eyes large, flat 98—115 long, 58—70 wide. Median ocellus at interantennal projection; lateral ones placed in a level with the anterior third of eyes; median ocellus 16 wide, placed 32 apart from paired ocelli, also 16 wide and 58 apart. Postoculars and other cephalic setae, vestigial; postoculars 16 long. Cheeks practically smooth. Antennal segments, length (width): 38—51 (45—48); 54—64 (38—45); 64—70 (32—35); 54—64 (38—45) 54—61 (35—43); 54—67 (32—35); 58—61 (29); 48—54 (16—19). Mouth cone short, 0.6 times head length, broadly rounded, 168 long, 192—196 wide at base and 98—102 at apex.

Pronotum 140 long, 0.52 times head length, 252—280 wide across anterior margin, 352—392 across posterior; prothoracic bristles reduced, only postangulars moderately long; anteroangulars and anteromarginals 9—13 long, epimerals 13—16 long and postangulars 32—48 long, pointed. Forefemora moderately stout, 84—98 wide, foretarsi unarmed. Pterothorax 280—308 long, 378—448 wide across middle. Forewings 840—952 long, without double fringes; basal wing bristles reduced, 13, 16 and 19 long respectively.

Abdomen 420—448 wide at base, 392—448 at middle, 294—322 across VIII and 154—280 across IX; inner and outer bristles of IX, 115 and 160 long respectively. Tube 168—210 long, 70—91 wide at base, 56—63 at middle and 42 at apex; and setae 70 long.

Total body length, 1.792—2.394 mm.

Brachypterous males

Colour as in females, except that $1/2-3/4$ of segment 2 of antenna is yellow.

Head 210—224 long, 140 wide across anterior eye region, 182 across posterior, 196—224 across cheeks. Eyes 70 long, 42 wide; head production 10 long, 109 wide. Ocelli reduced, median ocellus 10 wide, placed 26 away from lateral ocelli, 13 wide and 32 apart. Postoculars vestigial 10 long. Antennal segments, length (width): 38—42 (43); 58 (35); 58—64 (29); 51 (32—35); 54—58 (32); 51—58 (29); 48—51 (26); 45 (16).

Prothorax 140 long, 238—280 wide across anterior margin, 336—364 across posterior; postangulars 32 long, rest vestigial. Forefemora 84 wide, foretarsus unarmed. Pterothorax, 308 long and 392—406 wide.

Abdomen, 420—434 wide at base, 392—406 at middle, 226—294 across VIII and 182—210 across IX; middle bristle on IX very short, 38 long, inner and outer, 64 and 96 long respectively. Tube 154 long, 70 wide at base, 56 at middle and 42 at apex.

Total body length, 1.722—2.002 mm.

Material: 54 ♀♀ (13 macropterous, 40 brachypterous) and 9 brachypterous ♂♂, on leaves of *Carissa Caranda*, Tirupathi. Types in the author's collection.

Genus *Hoplandrothrips* Hood

HOOD, 1912, Proc. Ent. Soc. Wash., 14: 145.

PRIESNER, 1923, Tijdsch. Ent., LXVI: 97.

JACOT-GUILLARMOD, 1939, J. Ent. Soc. S. Africa, 1: 47.

HOOD, 1941, Rev. de Ent., 12 (37): 547—548.

HARTWIG, 1952, Ent. Mem. Dept. Agr. Univ. S. Africa, 2 (11): 42.

STANNARD, 1957, Ill. Biol. Mon., 25: 53—55.

The genus *Hoplandrothrips* may be characterised by the cheeks little widened, bearing a few conspicuous setae set on weak warts, mouth cone pointed, maxillary stylets retracted oculad, meeting at middle; praepectus absent; forefemora of male invariably with one or two subapical teeth, stronger in the oedymorous forms, weaker in the gynaecoid, occasionally the foretibia at base with a small tooth; pelta small, bell-like. Ramakrishna and Margabandu (1940) described *Phlaeothrips indicus* as new, based on a single female. The recent discovery of several individuals of *H. flavitibia* Moulton (1944) has posed nomenclatural problems, since *indicus* was included under *Phlaeothrips*. It now appears that *H. flavitibia* Moulton is synonymous with *H. indicus* (Ramk. & Marg.) which name has priority.

Body yellowish brown, with or without red pigment. Foretibia in males with tooth at base in the oedymorous forms; forewings with 8—10 accessory fringes. Inhabiting bark and decaying sheaths. *H. indicus* (Ramk. & Marg.).
Body bicolourous, with red pigment. Foretibia in males with a tooth at base; forewings with 2—5 accessory fringes. Grass inhabiting. *H. graminis* Ananthakrishnan.

Hoplandrothrips indicus (Rank. & Marg.)

Phlaeothrips indicus Ramk. & Marg. 1940, Indian J. Ent., 1 (3): 43—44

Phlaeothrips (Hoplandrothrips) flavitibia Moulton, 1944, B. P. Bishop Museum, Honolulu XVII (22): 300—302.

The need for the appraisal of significant variations as greater numbers become available for study and the recognition of the fact that each spe-

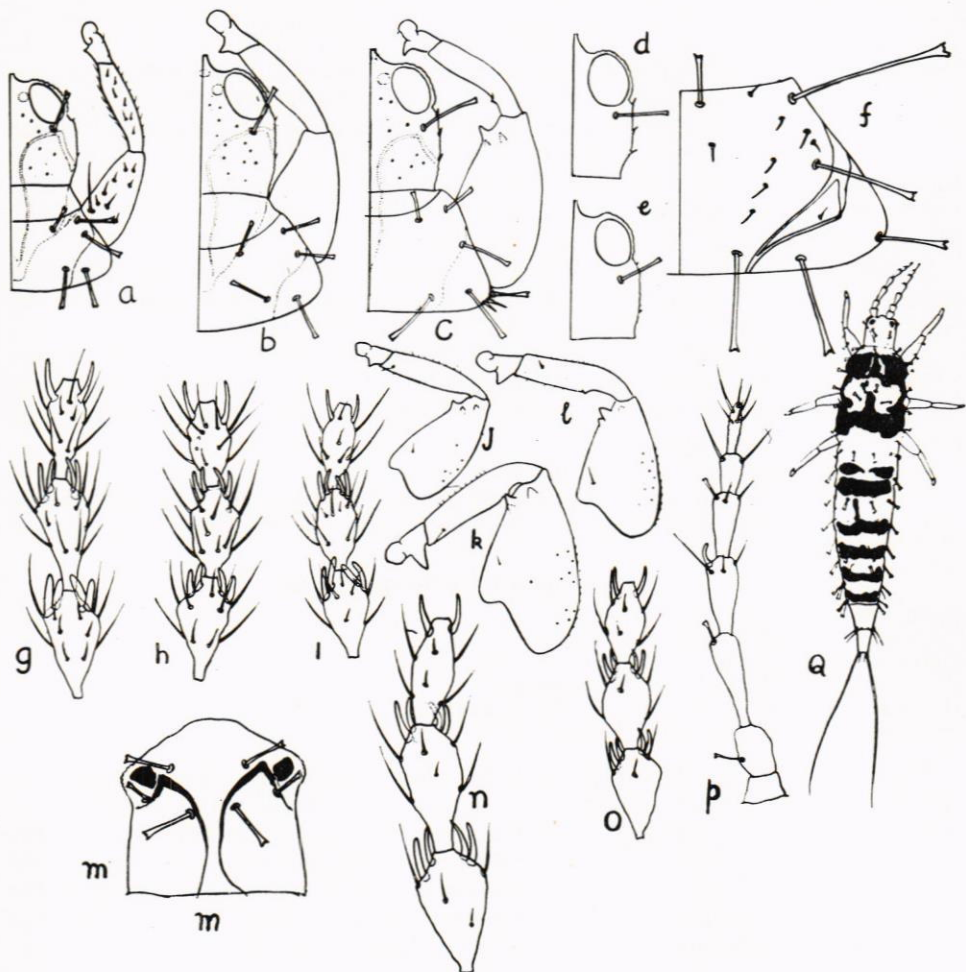


Fig. 2. *Hoplandrothrips indicus* (Ramk. & Marg.) a, Head of a female (smaller size) to show chaetotaxy). b, head of a larger female. c, head and prothorax of oedymereous male. d, e, head of female, to show differences in cheek setae. f, enlarged view of prothorax of a normal male, to show the long anteroangulars. g, h, i, antennals 3, 4, and 5 to show the variations in shape and in the nature of the sense cones. j, foreleg of a gynaecoid male. k, foreleg of an oedymereous male. l, foreleg of a normal male. m, head of II instar nymph. n, antennals 3—5 of an oedymereous male. o, antennals 3—5 of a gynaecoid male. p, antenna of II instar nymph. q, II instar nymph.

cies has its own range of variations for each of its characters have been the basis for a more critical study of this species. An interesting feature of *H. indicus* is its association, almost always, with *Ecacanthothrips sanguineus* Bagnall, particularly in such habitats like the decaying sheaths of coconut, Areca, Banana, etc. The relatively high degree of variation exhibited by both the sexes coupled with the diversity of structure exhibited by the gynaecoid and the oedymereous males offer plenty of scope for re-evaluation of the species. That profound variations are possible even in a smaller number has

been proved by Moulton with reference to the female *Phlaeothrips* (*Hoplandrothrips*) *flavitibia* var. *fuscus* novo, where the head, thorax and the abdomen are uniform brown. Ananthakrishnan (1960) in his studies on *Ecacanthothrips sanguineus* has shown that variation in colour may not be significant and should not always be taken as a criterion for speciation, whether subspecific or varietal. Knowing as we do the enormous range of variations in *Ecacanthothrips sanguineus* and *Hoplandrothrips indicus*, it would appear as if every variant offers the possibility of creating a new variety. It is for this reason that special emphasis is laid here on the presentation of variations involved in large number of individuals collected from different habitats.

Macropterous female:

Total body length 1.720—2.940 mm. Colour-yellowish brown to brown, with or without red pigment. Red pigment scattered between eyes, on thorax and I abdominal segment or more diffuse on head, thorax and I and VI—X abdominal segments; metathorax and I abdominal segment yellowish, rest brown, with red pigment or body uniform brown with very little or no red pigment. Antennal joints 1 and 2 yellow at base, dark along sides; 3 yellow with little grey at apex, 4, 5 and 6 yellow at extreme base, rest brown, 7 and 8 darker brown; or base of 1 yellow, rest brown, 2 brown, 3 yellow at base, rest brown, 4 yellow on pedicel, rest of 4 and 5—8 brown; or 3 and basal half 4 yellow, 5 and 6 yellow at extreme base, 7 and 8 brown; or 3 uniform bright yellow, extreme base of 4, 5, 6, and 7 yellow. All femora uniform brown, except the forefemora, yellowish brown; all tibiae yellow.

All measurements in μ unless otherwise specified.

Head 210—252 long (all measurements in μ unless otherwise specified) 196—210 wide across eyes, 224—252 across cheeks and 196—238 at base. Cheek spines 6—16 long, the basal one the longest. (In one female 4 cheek spines were present, all of them subequal). Eyes 84—98 long, 56—70 wide. Postoculars 64—96 long. Antennal segments, length (width): 32—48 (28—38); 58 (28—32); 70—96 (31—35); 70—99 (28—32); 68—93 (29); 64—78 (22—26); 51—64 (22); 38—45 (13). Sense cones very characteristic: on 3, 26—38 long, 9—10 wide, blunt and thick in a few, more pointed in others.

Thorax: Prothorax, 140—168 long, 238—308 wide across anterior margin and 322—448 wide across posterior, inclusive of coxae. Prothoracic bristles expanded at apex. Anteromarginals 58—61; anteroangulars 60—80; midlaterals 64—68; postangulars 68—93 and epimerals 70—93 long. Pterothorax 392—518 wide; forefemora 84—112 wide; forewing with 8—10 accessory fringes.

Abdomen 364—420 wide at base, 280—294 wide across segment IX, 154—196 across X. Tube 154—182 long.

Macropterous male: Total body length 1.638—2.310 mm.

The variations are more striking in the males in view of the presence of gynaecoid and oedymorous individuals. An unusual feature, however, is the exceedingly long anteroangulars in the males tending to be oedymorous. In the females, the anteroangulars are shorter than the posterangulars, while in the males they may be shorter or as long or longer. The anteromarginals do not show any such variation.

Colour — Body more uniform brownish than in the females and with a lesser yellowish tinge. Red pigment scattered all over but in oedymorous forms tend to accumulate in flakes. One third of antennal 3 and extreme base of 4 and 5 pale, rest uniform brown or 3 more than half yellowish, rest suffused yellow and brown.

For a clearer understanding of the range of variations, the measurements of the recognised characters in a gynaecoid male, a normal male and an oedymorous male are tabulated as under:

	Gynaecoid	Normal	Oedymorous ¹
Total body length	1.638	2.072	2.240
Head, length	196	224	252
Width across eyes	168	182	224
Width across cheeks	182	210	238
Eyes — length	70	84	98
Postoculars, length	64	102	122
Antennal segments, 3, 4, and 5 length/width	69 68 58 32 32 26	77 74 67 35 35 29	102 90 87 48 43 29
Prothorax, length	126	168	196
Anterior width	210	252	266
Posterior width	308	364	406
Anteroangulars	58	86	96
Anteromarginals	42	45	9
Midlaterals	54	70	96
Postangulars	64	73	90
Epimerals	64	70	90
Coxal bristle	48	60	80
Forefemoral width	84	112	168
Basal wing bristles	54, 61, 61	64, 74, 64	64, 74, 64
Width of IX segment	112	126	154
Tube, length	126	140	168

¹ A single oedymorous male had an apical tibial tooth also.

	'Gynaecoid' only one small seta 6 long	'Normal' three strong setae 16 long	'Oedymorous' all three very strong, basal longer, 19 long.
Cheek spines			

Antennal segments, length/width of a gynaecoid, normal and oedymorous individuals: —

Gynaecoid	<u>32</u> , <u>48</u> , <u>69</u> , <u>69</u> , <u>58</u> , <u>54</u> , <u>48</u> , <u>38</u>
Normal	<u>32</u> , <u>29</u> , <u>32</u> , <u>32</u> , <u>26</u> , <u>22</u> , <u>19</u> , <u>13</u>
Oedymorous	<u>38</u> , <u>54</u> , <u>77</u> , <u>74</u> , <u>67</u> , <u>58</u> , <u>51</u> , <u>43</u>
	<u>32</u> , <u>32</u> , <u>35</u> , <u>35</u> , <u>29</u> , <u>29</u> , <u>22</u> , <u>13</u>
	<u>43</u> , <u>64</u> , <u>102</u> , <u>90</u> , <u>87</u> , <u>73</u> , <u>54</u> , <u>43</u>
	48 38 48 43 29 26 22 16

Material studied:

15 females, 4 males from decaying coconut sheaths, Madras; 10 females, 4 males from wild palm sheaths, Madras 19—4—63; 3 females under decaying calyx of fruit of *Borassus flabellifer*, Pollachi 10—6—63; 24 females, 6 males in decaying sheaths of Areca, Burliar 7—6—63; 3 females and 6 males on decaying guava, Madras 3—5—63; 2 females on decaying banana sheaths, Madras; 45 females and 18 males from litter and dry-twigs, Madras 24—1—64; 32 females and 13 males from fallen areca sheaths, Trichur 18—10—63.

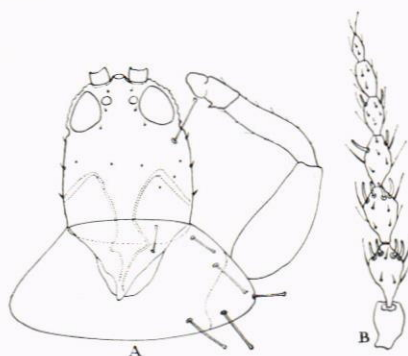


Fig. 3. *Hoplandrothrips graminis* Ananthakrishnan.
A. Head and Prothorax of ♀. B. Antenna of ♀.

***Hoplandrothrips graminis* Ananthakrishnan nom. nov.**

Hoplandrothrips priesneri Ananthakrishnan, 1956, Proc. R. Ent. Soc. Lond (B) 25: 75—76.

Hoplandrothrips indicus Ananthakrishnan, 1959, Zool. Anz., Bd. 162, 9/10; 320—321.

As mentioned earlier, *H. indicus* Ananthakrishnan, 1959, needs redesignation in view of *H. flavitibia* Moulton becoming synonymous with *phlaeothrips indicus* Ramk. & Marg. Only the male of this species, described under *H. priesneri* has been known. The females are being described for the first time and the species is of interest because they are grass inhabiting forms.

Macropterous female: — Total body length, 1.750—2.618 mm.

Colour: — Body clearly bicolourous; head little pale brown with red pigment, prothorax paler brown; pterothorax and abdominal segment VII—X darker brown; rest of the body yellow; all legs clear yellow. Antenna as in male. The head and prothorax are darker in individuals with less of red pigment. Head 224 long, 154—182 wide across eyes, 196—210 across cheeks and 182 at base. Eyes 64—84 long, 42 wide; postoculars 68—90 long.

Antennal segments, length/width:

32—48,	58—64,	74—86,	70—84,	64—67,	48—58,	45—54,	42—51
32—45	35—38	38—45	42	32—35	25—26	22—26	16

Prothorax, 140—168 long, 210—252 wide across anterior margin, 336—406 across posterior. Anteromarginals 38; anteroangulars 48—64; midlaterals 48—67; epimerals 64—80; postangulars 58—64; coxals 58—70; forefemora 84—112 wide at middle, foretarsus with a very small tooth.

Pterothorax, 322—420 long and 336—448 wide at middle. Forewings 840 long with 2—5 accessory fringes; Basal wing bristles 45, 52 and 54 long respectively.

Abdomen, 322—448 wide at base, 266—336 across VIII, 168—210 across IX; Tube 140—154 long and 56—84 wide at base.

Macropterous male: — Total body length, 1.834—2.324 mm. Colouration almost as in the female, except for the variations in the distribution of the red pigment. As in the case of *H. indicus*, the anteroangulars are very well developed. The presence of the foretibial tooth at base is more characteristic of this species and is small in the gynaecoid forms, reasonably well developed in the oedymorous.

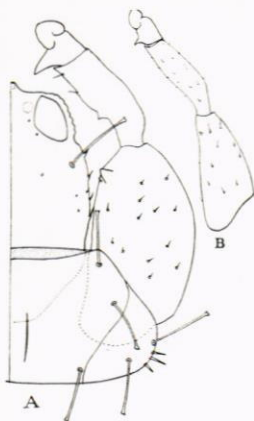


Fig. 4. *Hoplandrothrips graminis* nom. nov. A. Head of prothorax of Oedymorous male (one side only). B. foreleg of gynaecoid male.

Comparison of the gynaecoid, normal and oedymorous males of *H. graminis*.

	gynaecoid	normal	oedymorous
Total body length	1.834	2.030	2.324
Head, length	210	238	238
Width across eyes	140	154	168
Width across cheeks	168	182	196
Eyes, length	70	84/56	84/56
Postoculars, length	64	90	90
Antennal segments 3, 4, 5	64, 64, 61	74, 71, 67	77, 77, 67
length/width	35 35 26	38 38 29	38 42 32
Prothorax, length	140	140	168
Anterior width	182	210	224
Posterior width	280	350	378
Anteroangulars	42	80	90
Anteromarginals	42	48	48
Midlaterals	42	67	87
Postangulars	45	70	80
Epimerals	48	70	80
Coxal bristles	38	70	77
Forefemoral width	70	112	140
Foretarsal tooth, length	6	28	42
Basal wing bristles	38, 45, 45	54, 67, 67	54, 67, 67
Width of VIII segment	182	210	238
Width of IX segment	126	154	154
Tube, length	119	126	140

Material studied: 12 females and 14 males on grass. Madras 31—7—63; one female on grass, Conjeevaram.

Genus *Loyolaia* nov.

Apterous forms without ocelli; antenna 8-segmented, segment 8 elongate, slender, not broadly attached to 7, terminal segments pedicellate. Head, a little produced in front, clearly incut behind eyes; eyes small, postoculars long and pointed. Mouth cone broadly rounded, maxillary stylets, widely separate, 'V'-like in disposition. Praepectus absent; epimeral suture complete; prothoracic bristles comparatively short, pointed; pterothorax reduced,

narrower than abdomen; forefemora of male enlarged, inner margin of major forms, tending to be concave; foretarsus with a tooth in both sexes, stronger in the males. Abdomen broader than metathorax; tube heavy, $\frac{3}{5}$ wide at base, as long; setae on IX fine, longer than tube.

Type species; *Loyolaia indica* gen. et. sp. nov.

The new genus is closely allied to *Pseudocryptothrips* Priesner, *Illinothrips* Stannard and *Goetothrips* Priesner. All the three are apterous, have broadly rounded mouth cones, widely separate maxillary stylets and 8-segmented antennae. *Pseudocryptothrips* has a clear praepectus, foretarsus without teeth in both sexes, and epimeral suture incomplete. *Illinothrips* has the characteristic bulging eyes, longer head and the males possess a mesothoracic spur and foretarsi unarmed. *Goetothrips* also has unarmed tarsi in both sexes, cheeks not incut and possess a furrowed head process. *Loyolaia* is therefore clearly different from the above genera.

Loyolaia indica gen. et. sp. nov.

Apterous female:

Colour: Body distinctly bicolourous; entire abdomen, antennal segments 5—8 and tarsi of legs dark blackish brown, rest of the body clear yellow. Three individuals possess an yellowish brown thorax.

Head 210—224 long, 210 wide across eyes, 196 across incut region of cheeks, 210—224 across cheeks and 196 at base. Eyes reduced, 70 long, 56 wide. Head production very slight, 13 long, 122 wide. Postoculars 112—128 long, pointed, placed 35 from cheeks and 26 from posterior eye margin; interoculars well developed, 77—90 long, pointed. Cheek setae weak, 3—4 pairs, 13—22 long. Antennal segments, length (width): 48—58 (43—48); 70—73 (43—45); 83—86 (38—43); 77—80 (43): 73—77 (38); 67—74 (35); 48—54 (26—29); 38—48 (13). Mouth cone broadly rounded, 140 long, 196 wide at base and 126 at apex.

Prothorax 182—210 long, 238—280 wide across anterior margin and 378—406 across posterior; anteroangulars and anteromarginals subequal, short, pointed, 26—43 long, midlaterals 45—64 long, epimerals 77—96 and post-angulars 64—74 long; pterothorax 224—266 long, 364—420 wide; Fore-femur 98—126 wide, foretarsus with a small tooth, 10 long.

Abdomen widest at middle, 504—588 wide at base, 560—630 at middle, 420—462 across VIII and 210—266 across IX; bristles on IX longer than tube; inner and outer measuring 256 and 304 long respectively. Tube 210—238 long, 126—128 wide at base, 102—112 at middle and 64—70 at apex; anal setae 196—256 long.

Total body length, 2.044—2.688 mm.

Apterous male:

Colouration as in the female, but with occasional patches of dark pigment on thorax.

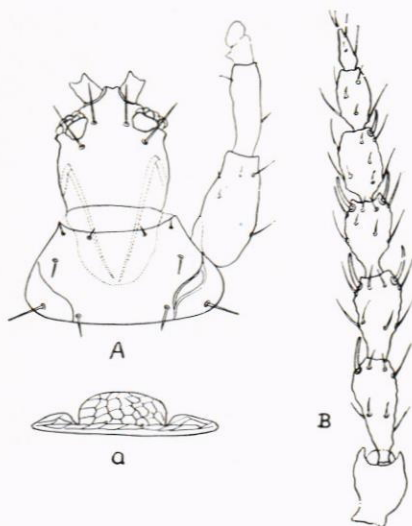


Fig. 5. *Loyolaia indica* Gen et. sp.nov. A. Head and prothorax of female; a. pelta. B. Antenna segments 2—8 of female.

Head 210 long, 182 wide across eyes, 170 across incut region of cheeks, 189 across cheeks and 182 at base. Postoculars 80—96 long, interoculars 64—70 long, pointed. Antennal segments, length (width): 43—51 (43—45); 58—64 (38—43); 70—83 (32—35); 67—74 (38); 67—70 (38); 67 (35); 45—51 (26); 35 (13).

Prothorax 182—210 long, 224—238 wide across anterior margin and 350—364 across posterior; anteroangulars and anteromarginals 38, midlaterals 43, postangulars 52 and epimerals 70—80 long, pointed. Pterothorax 154—224 long, 322—350 wide; forefemur 126—140 wide, with a slight concavity on inner margin; foretarsal tooth strong, 28 long.

Abdomen 392—420 wide at base, 476—490 across middle, 266—336 across VIII and 182—210 across IX. Tube 140—210 long, 102, 98 and 70 wide at base, middle and apex respectively, anal setae 160 long.

Total body length, 1.638—2.176 mm.

Material: 50 females and 25 males, all apterous, taken from decaying twigs and other vegetation, Madras, 6—10—1963 and other dates. Types in the author's collection.

Genus *Malacothrips* Hinds.

HINDS, 1902, Proc. U.S. Nat. Mus., 26: 200.

HARTWIG, 1952, Ent. Mem. Dept. Agr. Univ. S. Africa, 2 (11): 447.

STANNARD, 1955, Trans. Amer. Ent. Soc., LXXXI: 78.

STANNARD, 1957, Ill. Biol. Mon., 25: 63.

The genus *Malacothrips* has head weakly reticulate, eyes bulged, cheeks incut or notched, mouth cone broadly rounded, maxillary stylets placed close together, postoculars and the major body bristles long and well developed; praepectus absent, forewings slightly narrowed at middle and with accessory fringes.

This genus is being reported for the first time from the Indian region, though the species *Malacothrips hispanicus* Bagnall, is on record and on the basis of the examination of the types by the author, it has been established that *hispanicus* does not belong to *Malacothrips* (Ananthakrishnan 1964, in press). The species described below as *Malacothrips madrasensis*, sp. nov. is a bicolourous form, different from other species of the genus.

Malacothrips madrasensis sp. nov.

Female: — Body bicolourous in the brachypterous females; Head dark grey brown, Pro- & pterothorax yellowish grey brown with plenty of red pigment; abdominal segments II—IV light grey brown, VI—X darker; V yellow; antennal segments 1 and 2 concolourous with head, segment 3 yellow, as also pedicel of 4, rest grey brown. In one individual, segment 3 and most of 4 and extreme base of 5th antennal segment yellow; prothorax greyish yellow; pterothorax yellow. In macropterous females, the colouration is almost as above, except that segment V of abdomen is not clear yellow, but tends to be darker.

Head 210—252 long, 168 wide across eyes, 182—196 across cheeks. Eyes large, 70—84 long, 42—46 wide; Ocelli well developed, median ocellus 13 wide, placed 32 away from lateral ocelli, 16 wide and 35 apart. Postoculars 93—108 long, dilate, placed 29 from cheeks; antecellars short, 38 long; postocellars 26—32 long; cheek setae 19—22 long. Antennal segments, length (width) 38—45 (38—48); 58 (32—38; 74—86 (35—38)); 71—77 (32); 77—83 (26—29); 67—70 (26); 51—60 (22); 45—48 (13). Mouth cone 140 long, 168 wide at base and 98 at apex, broadly rounded.

Prothorax 168 long, 224—238 wide across anterior margin, 350—398 across posterior. Anteroangulars 70—86, anteromarginals 67—70, midlaterals 77—90, epimerals 80—96, postangulars 64—90 long. Forefemur 70 wide, foretarsus unarmed. Pterothorax 336—350 long, 350 wide at middle. Forewings 700—770 long, with 7 double fringes; basal wing bristles in a line, 74, 80 and 86 long respectively; bristles 1 and 2, 32 apart, 2 and 3, 48 apart.

Abdomen 377—448 wide at base, 364—420 at middle, 252—294 across VIII and 182—210 across IX; inner, middle and outer bristles of IX, 182, 112 and 185 long respectively. Tube 154 long, 70, 56 and 42 wide respectively, at base, middle and apex; anal setae 140 long.

Total body length: macropterous females, 2.310—2.590 mm.

Brachypterous females, 2.176—2.590 mm.

Brachypterous males:

Colour, typically bicolourous as in brachypterous females. Head 224 long, 140—150 wide across eyes, 168 across cheeks. Eyes 70 long, 56 wide; median ocellus 13 wide, placed 19 from lateral ocelli, 16 wide and 22 apart; postoculars 82—86 long, antecellars 16 long, interocellars 19 long, postocellars 16 long; cheek setae weak, 13 long. Antennal segments, length (width): 35 (38); 58—61 (32); 67—73 (32); 64 (32); 67—70 (29); 58 (26); 43—51 (19—22); 32—38 (13—16). Mouth cone 112 long, 154 wide at base and 70 apex.

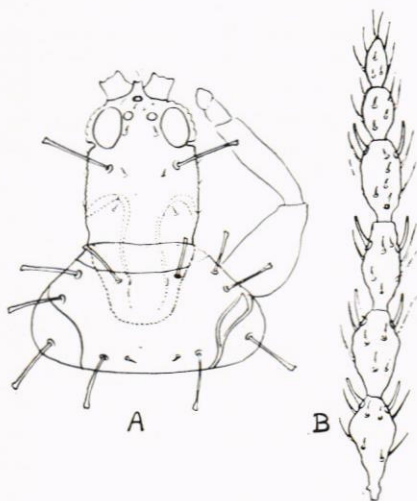


Fig. 6. *Malacothrips madrasensis* sp. nov. A. Head and prothorax of female; B. Antenna segments 3—8.

Prothorax 140 long, 210 wide at anterior margin, 252 across posterior; anteroangulals 58—74, anteromarginals 58—64, midlaterals 64, epimerals 64—70 long; forefemur 70 wide, foretarsus unarmed. Pterothorax 280 long, 280 wide across mesothorax and 252 across metathorax. Abdomen 280 wide at base, 252 at middle, 182 across VIII and 112 across IX; inner, middle and outer bristles on IX, 58, 102 and 160 long respectively. Tube 140 long, 70, 56 and 42 wide respectively at base, middle and apex; anal setae 160 long.

Total body length: 1.820—1.862 mm.

Material: 36 brachypterous females, 8 macropterous females and 16 brachypterous males on decaying twigs and other vegetation, Madras, 6—10—1963 and other dates, taken along with *Loyolaia indica* and *Hoplandrothrips indicus* (Ramk. & Marg.). Types in the author's collection.

Genus *Oedaleothrips* Hood.

Oedaleothrips, 1916, Hood, Bull. Brooklyn Ent. Soc., 11: 64—65.

Myrmecothrips, 1920, Watson, Florida Ent., 4: 20.

Myrmecothrips, 1926, Priesner, Me. Soc. Cientifica, Mexico, 44: 485.

Formicothrips, 1926, Priesner, Die. Thys. Europas: 479.

Leptogastrothrips, 1951 Hartwig, Ent. Mem. Dept. Agr. U.S. Africa, 2 (II): 425.

Oedaleothrips, 1957 Stannard, Ill. Biol. Mon., 25.

Type species, *Oedaleothrips hookeri* Hood.

The genus *Oedaleothrips* comprising ant-like Tubulifera, with swollen head, reduced prothorax and enlarged abdomen, is known from the Nearctic, Neotropical, Palaearctic and Ethiopian regions. About twenty species have been recognized and it is of interest to record a representative of this genus for the first time from the Oriental region. Among the striking peculiarities of this genus are, the nature of the head, broadest across eyes, much narrow-

ed at base, eyes flat, produced ventrally mouth cone short and broadly rounded and antennal segments 4—6 with a ventral prolongation at apex.

Reviewing the known species, it is seen that the head length varies from 1.43 in *O. bradleyi* Hood to 2.1 and 2.2 respectively in *O. bicolor* Hood and *congoensis* Hood. The head prolongation may vary from 10 long in *O. compestris* Hood to 43 long, in *O. congoensis*, *O. recticeps* Hood etc; it is hardly present in *O. baileyi* Hood and is totally lacking in *O. bradleyi*. The colour of the body in most species varies from coal black to blackish brown or chestnut brown. In very few species such as *O. bradleyi*, the colour is pale yellowish brown and even here, the head is darker. The species described below as *O. ramamurthii* n.sp. is predominantly yellow (suffused with brown in some region). In most species including the one under discussion, the ventral tubercle on antennal segment 4 is very distinct, while in a few like *O. congoensis*, it is absent.

Oedaleothrips ramamurthii n. sp.

Apterous female:

General colour predominantly yellow, with vertex, interocular region, parts of pro- and pterothorax, abdominal segments III, IV and VII—X suffused with brown; legs yellow, tarsi paler; antennal segments 1—4 pale yellow, 1 and 2 paler, 6—8 blackish brown; basal half of 5 yellow, rest blackbrown. A net work of red pigment is often seen on vertex.

Head 1.53 times as long as greatest width, 420—448 long, 280—294 wide across eyes, 238—266 across cheeks, 224—238 at base, distinctly produced in front; head production 49 long, 168—196 wide, with a pair of well developed setae 48 long, almost dilate at tip; dorsum of head elevated, faintly reticulate and at base polygonally subreticulate. Eyes 182—196 long, 70 wide, clearly produced ventrally. Postoculars small, dilate at tip, 32 long. Antennal segments typical of the genus, segments 5 and 6 with a lobe-like ventral prolongation and joint 4 with a distinct ventral tubercle; antennal segments, length (width): 67—70 (48); 86—90 (43); 160—173 (43—45); 115—118 (43—45); 102 (38); 74—83 (38); 54—58 (29—32); 51—58 (19). Sensecones short, on 3, 19 long. Mouth cone short, broadly rounded at apex, 140 long, 210 wide at base and 84 at apex; maxillary stylets retracted well oculad, spaced far apart.

Prothorax 168—196 long at middle, about 0.4 times head length, 238 wide across anterior margin and 334 across posterior; praepectus absent; prothoracic bristles short, dilated as postoculars, hardly conspicuous, anteroangulars 13, midlaterals 13, postangulars 22 and epimerals 35 long; forefemora 84—98 wide at middle, foretarsal tooth moderately developed, 19—22 long. Pterothorax small, 392 long, 252—266 wide across merothorax and 252—280 across metathorax; metanotum with concentric striae.

Abdomen broad and heavy, 308—350 wide at base, 490 across middle, 420 across VIII and 238—252 across IX; inner and outer bristles of IX subequal, much longer than tube, 208—240 long. Tube 140 long, 91—98 wide at base, 77—84 at middle and 56—70 at apex; anal setae 148—154 long.

Total body length 2.380—3.010 mm.

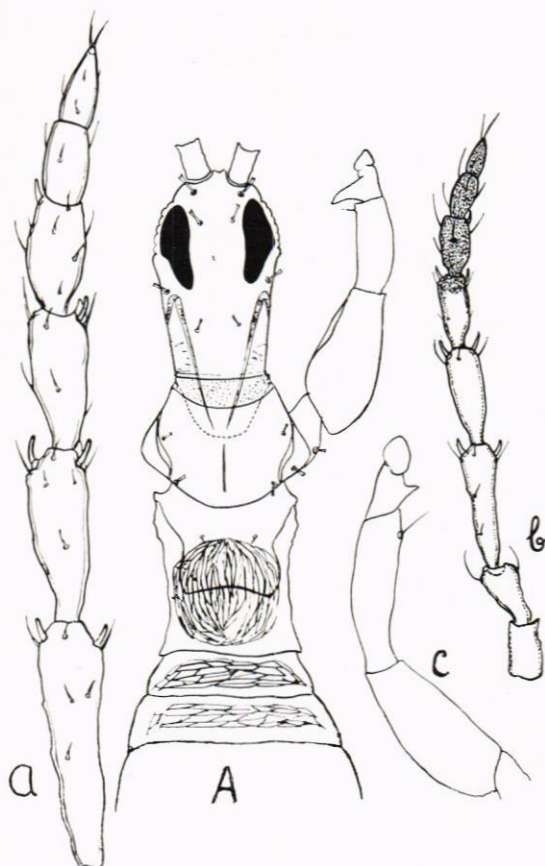


Fig. 7. *Oedaleothrips ramanurthii* sp. nov. A. Head, thorax and basal abdominal segments of male; a, antennal segments 3—8 enlarged; b, antenna of male; c, foreleg of female.

Apterous male:

General colour as in the female, but with dark blackish blotches at sides of abdomen, anterolateral corners of mesothorax and outer margin of fore-femora.

Head 364—406 long, 238—252 wide across eyes, 224 across cheeks, 196 at base and 154—168 across head production, the latter 42 long. Eyes 168 long, 70 wide. Postoculars 29 long; anteoculars 48 long, dilated. Antennal segments, length (width): 70 (43); 86 (38); 154 (43); 106 (38); 93 (35); 67 (32); 58 (29). Mouth cone 126 long, 168 wide at base and 84 at apex.

Prothorax 140—154 long at middle, 224—238 wide across anterior margin, 336—350 across posterior; midlaterals 13, postangulars 19 long; fore-femora 126 wide and in one individual, it is 112 on the left and 98 on the right; so also the left and right foretarsal teeth are 54 and 22 long, respectively; normal length of foretarsal tooth, 58. Pterothorax 350 long, 266 wide across mesothorax and 238 wide across metathorax.

Abdomen 250—294 wide at base, 420—462 at middle, 350—364 across VIII and 196—210 across IX. Tube 140 long, 84 wide at base and 70 at middle and 56 at apex; anal setae 148—160 long.

Total body length, 2.170—2.394 mm.

Material: — 3 females and 11 males, on grass, Kalahasti, 16—10—1963; 4 females and 1 male on grass, Kodaikanal Hills, 3000', 9—12—1963. Types in the author's collection.

The species *O. hookeri*, *O. baileyi* and *O. campestris* have also head 1.5 times as long as wide, but the general body colour is brown to dark coal blackish brown. *O. bradleyi* however, has a pale yellowish brown body, with antennals 1 and 2 pale, 3 and 4 yellowish and the head is 1.43 times as long as wide and the prothorax is 0.56 times head length. *O. ramamurthii* is a distinct species, coming close to *O. bradleyi* Hood, and has head 1.53 times as long as wide, head produced in front, (49 long), body predominantly yellowish and segment 4 of antenna with the ventral apical tubercle.

Genus *Pyknothrips* nov.

Body polygonally reticulate, the head distinctly so; tube not reticulate. Head longer than wide; cheeks with strong warts bearing spines; antenna 8 segmented, 8 broadly united to 7; sense cones long and slender; eyes large; median ocellus over hanging head process which is clearly furrowed; postoculars vestigial. Mouth cone elongate, roundly pointed; maxillary stylets more orad, meeting at middle. Prothorax shorter than head; praepectus absent; epimeral suture complete; epimeral bristles originating from a large prominence; mesopraesternum distinct, but reduced; forelegs simple, foretarsi unarmed in both sexes. Wings well developed, not constricted at middle; double fringes present; basal wing bristles reduced. Abdomen normal; bristles on IX short. Tube as long as or a little longer than head.

Type species: *Pyknothrips reticulatus* gen. et. sp. nov.

Stannard (1955) in an excellent discussion on some reticulate-headed genera belonging to the Tribe Glyptothripini, includes several genera characterised in general by the possession of broadly rounded mouth cone, maxillary stylets wide apart, presence of praepectal plates, reduced prothoracic anteromarginal seta, never having double fringes on forewing, cheeks incut behind eyes, etc. *Pyknothrips* in view of the possession of diametrically opposite traits, viz. a roundly pointed mouth cone, maxillary stylets meeting at middle, praepectus absent, double fringes present and cheeks not incut behind eyes, certainly does not belong to the Glyptothripini. The furrowed head process, the epimerals originating from very large prominences and the vestigial postoculars are features of importance in this genus. *Thilakothrips* Ramakrishna has head entirely polygonally reticulate and as in *Pyknothrips* possesses maxillary stylets meeting at middle, praepectus absent and tube not reticulate. But the postoculars and all the major thoracic bristles are very well developed and expanded, basal wing bristles arising from costal margin, long and clubbed, foretarsi armed and the tube is constricted at middle.

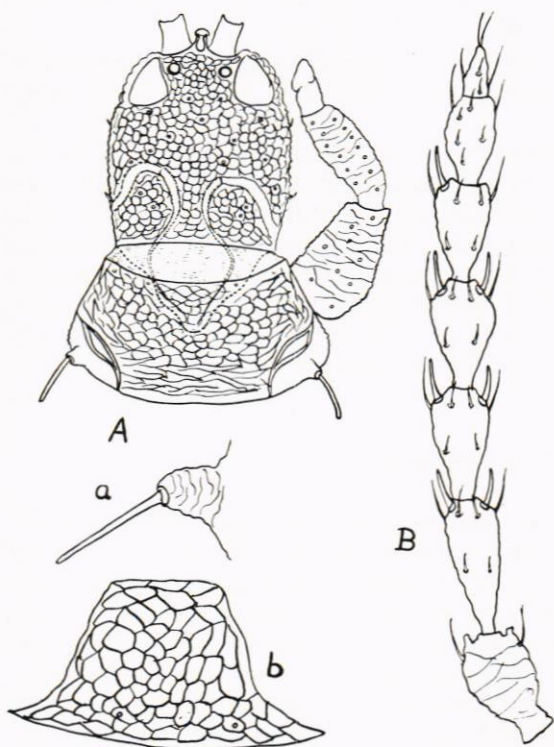


Fig. 8. *Pyknothrips reticulatus* Gen. et. sp. nov. A. Head and prothorax of female; a, epimeral bristle originating from a prominence; B. antennal segments 2-8 of female; b. pelta.

***Pyknothrips reticulatus* gen. et. sp. nov.**

Macropterous female:

General colour, uniform dark brown; only tarsi yellowish brown; antennal segments, 3, 4, 5 and basal $\frac{2}{3}$ or 6, yellow, rest brown. Wings clouded.

Head 280-308 long, 210-238 wide across eyes, 238-280 across cheeks and 224-266 at base; cheeks with strong warts, carrying spines, basal one usually well developed 19-29 long. Eyes 84 long, 56 wide; median ocellus overhanging vertex, 26 wide, placed 42 away from paired ocelli, 42 apart and 21 in diameter; postoculars much reduced 30-38 long. Antennal segments, length (width): 45-51 (43-48); 64-80 (13); 86-96 (35-43); 77-83 (38-43); 64-77 (35-38); 61-74 (32-35); 54-54 (26); 32-35 (16).

Prothorax 154 long, 280-322 across anterior margin, 378-434 wide across posterior. Anteroangulars, anteromarginals and midlaterals vestigial; postangulars reduced, 30-38 long; epimerals well developed 80-96 long, placed on a strong prominence; forefemur 98 wide at middle, foretarsus unarmed. Pterothorax 350 long, 420-518 wide; forewings 0.910 mm-1.099 mm. long, uniformly wide with 6-7 double fringes; basal wing bristles arranged in a triangle, 22-26, 32-35 and 38-45 long respectively, blunt.

Abdomen 532-560 wide at base, 476-532 at middle, 254-336 across VIII and 182-238 across IX; bristles on IX short, pointed, inner, middle and outer

measuring 86, 80 and 80 long respectively. Tube 266—308 long, uniformly wide at base and middle, 70—84 wide and 56 wide at apex; anal setae 168 long. Total body length 2.674—3.178 mm.

Macropterous male:

Colour as in the female.

Head 238—294 long, 182—224 wide across eyes, 210—252 across cheeks; cheek spines 13—22 long, eyes 70 long, 56 wide; median ocellus 22 in diameter, placed 32 from lateral ocelli, 22 in diameter and 48 apart. Antennal segments, length (width): 45 (45); 64 (38); 83 (38); 77 (38); 74 (35); 67 (32); 51 (29); 29 (16).

Prothorax, 140 long, 224—280 wide at anterior margin and 308—384 across posterior; epimerals 76—93 long; forefemur 98—112 wide at middle, foretarsus unarmed; prothorax 280—300 long, 350—434 wide; forewings 994—1078 long; basal wing bristles, 32, 26 and 35 long respectively; 5 accessory fringes.

Abdomen 532—602 wide at base, 476—560 at middle, 308—550 across VIII and 182 across IX. Tube 266—308 long, 84—98 wide at base, 56 at apex. Total body length 1.744—2.100 mm.

Material: 23 females and 7 males on leaves of *Flacourtia*, Tirupathi, 14—10—1963. Types with the author.

Genus *Stannardiana* nov.

Body reticulate, the head in particular with clear polygonal reticulations; tube not reticulate; cheeks and leg margins strongly corrugate, warts on cheeks with short, blunt spines. Head longer than wide; eyes comparatively small, directed forwards; ocelli well developed; postoculars vestigial. Mouth-cone reaching base of prosternum, apex roundly pointed, maxillary stylets retracted far into head, meeting at middle. Antenna 8 segmented, 8 closely attached to 7, forming a unit. Pronotum shorter than head; prothoracic bristles poorly developed; only epimerals moderately long, expanded; praepectus absent; forelegs unarmed in both sexes. Wings in macropterous forms uniformly broad, double fringes present. Abdomen normal; lateral abdominal bristles expanded, those on IX pointed. Tube shorter than head.

Type species: *Stannardiana variegata* gen. et. sp. nov.

For a casual appearance, the rough, corrugated body surface, reminds one of *Dermothrips* Bagnall, which differs in several respects from the present genus, in particular in the very short pronotum, shape of head and the antennal segments 6—8 forming a unit.

In the complete reticulation of the head, maxillary stylets meeting at middle, absence of praepectus, unarmed forelegs, forewings with accessory fringes and non-reticulate tube, *Stannardiana* has more in common with *Pyknothrips*. But the forwardly directed eyes, short, expanded prothoracic bristles, the absence of the strong, warty prominence on the epimeron and the tube shorter than head are characters strong enough to establish *Stan-*

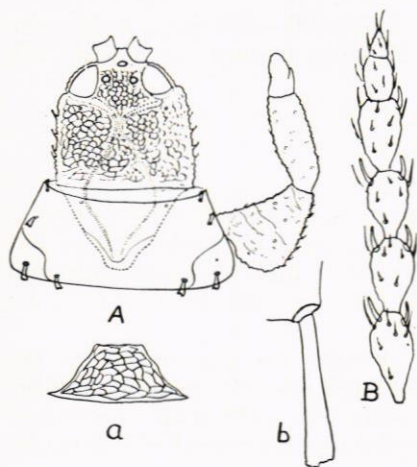


Fig. 9. *Stannardiana variegata* Gen. et. sp. nov. A. Head and prothorax of female; a. pelta. B. Antenna; b. lateral abdominal bristle.

nardiana as a distinct genus. I have great pleasure in naming this genus after Dr. L. J. Stannard of Illinois, for his outstanding contribution towards the study of the Tubuliferous Thysanoptera.

Stannardiana variegata gen. et. sp. nov.

Macropterous female:

Colour: dark blackish brown; tarsi yellowish brown; wings greyish infumate. Antennals 3, 4, 5, basal $\frac{2}{3}$ of 6 yellow, rest dark brown.

Head 294 long, 210 wide across eyes, 266 across cheeks; cheeks strongly corrugate, with strong warts carrying clubbed bristles 10 long; eyes 84 long 70 wide, ocelli well developed, median ocellus in a level with anterior margin of eyes, lateral ocelli in a level with posterior third of eyes. Antenna 8 segmented, length (width) 45 (51); 70 (43); 74 (35); 64 (35); 54 (35); 59 (35); 38 (26); 22 (10).

Prothorax $\frac{2}{3}$ head length, 196 long, 378 wide across anterior margin and 476 across posterior; prothoracic bristles except epimerals reduced; epimerals short, expanded, 43 long. Forefemur 112 wide, foretarsus unarmed. Pterothorax 420 long, 560 wide; forewings uniformly wide, 840 long, 84 wide at middle, with 7 double fringes.

Abdomen 574 wide at base, 588 at middle, 364 across VIII, 210 across IX. Lateral abdominal bristles expanded, 43 long; bristle on IX 43, outer 51 long. Tube 210 long, 70, 56 and 42 respectively wide at base, middle and apex.

Total body length, 2.590 mm.

Brachypterous females:

Colour as in macropterous females.

Head 280—294 long, 196—210 wide across eyes, 210—266 across cheeks; ocelli reduced, median ocelli 13 wide, placed 43 away from lateral ocelli, 16

wide and 48 apart; antennal segments, length (width) 45 (48—51); 64—70 (43—45); 70—74 (35); 61—64 (35); 51—54 (35); 54—59 (35); 32—38 (26); 22 (10).

Prothorax 196 long, 378 wide at anterior margin, 462—476 across posterior; epimerals 39—43 long, expanded; coxals very much reduced 13 long; other prothoracic bristles vestigial. Pterothorax, 350—420 long, 504—560 wide; Abdomen 560—574 wide at base; 548—588 at middle, 350—364 across VIII and 196—210 across IX. Tube 210 long. Total body length, 2.00—2.590 mm.

Apterous female:

Head 238—280 long, 182—196 wide across eyes, 252—266 across cheeks and 266 at base. Eyes 70—84 long, 56—70 wide. Interocular bristles, one pair, clubbed, 54 long. Antennal segments, length (width): 45—48 (48—54); 65—70 (38—48); 64—74 (32—38); 54—70 (35—38); 48—58 (32—35); 51—61 (35—38); 32—38 (26—29); 16—22 (13). Mouthcone 154 long, 224 wide at base and 140 at apex.

Prothorax 196 long, 280—350 wide across anterior margin, 406—434 across posterior; epimerals 29—43 long; forefemur 112 wide, foretarsus without tooth. Pterothorax 294—344 long, 448—532 wide.

Abdomen 476—560 wide at base, 442—546 at middle, 350—364 across VIII, 196—224 across IX; inner and outer bristles on IX, 32—54 and 45—54 long. Tube 196—210 long, 70 wide at base, 56 at middle and 42 at apex. Total body length, 1.890—2.450 mm.

Brachypterous male:

Colour: entire body dark blackish brown, inclusive of tarsi; only antennal segment 3 yellow, 2 and 4 yellowish brown. In very few cases, only apex of 2 and basal $\frac{1}{3}$ of 3 yellow, rest dark.

Head 140—182 long, 126—168 wide across eyes, 168—196 across cheeks and 182—210 at base. Eyes 56—70 long, 42—56 wide, Antennal segments, length (width) 32 (32); 48 (32); 48 (26); 35 (26); 38 (26); 43 (26); 29 (22); 13 (13).

Prothorax 112—126 long, 210—252 wide across anterior margin, 280—322 across posterior; epimerals 22 long; pterothorax 168—196 long, 280—364 wide. Abdomen 308—350 wide at base, 280—322 at middle, 182—210 across VIII and 112—126 across IX; inner and outer bristles on IX, 29 and 48 long respectively. Tube 126—140 long.

Total body length: 1.176—1.982 mm.

Apterous males: 1.176—1.400 mm.

Material: 15 females (2 macropterous, 13 brachypterous) and 4 brachypterous males, on inflorescence of *Euphorbia antequorum*, Tenkasi (Tinnevely district), 17—8—1963; 29 females (22 brachypterous, 7 apterous) and 25 males (21 brachypterous, 4 apterous on *Euphorbia antequorum*, Kalahasti, 15—10—1963, 12 females, 3 males, on drying *Euphorbia* clumps, Madras, 51 females, 8 males on *Euphorbia antequorum*, Mandya (Mysore) 24—3—64.

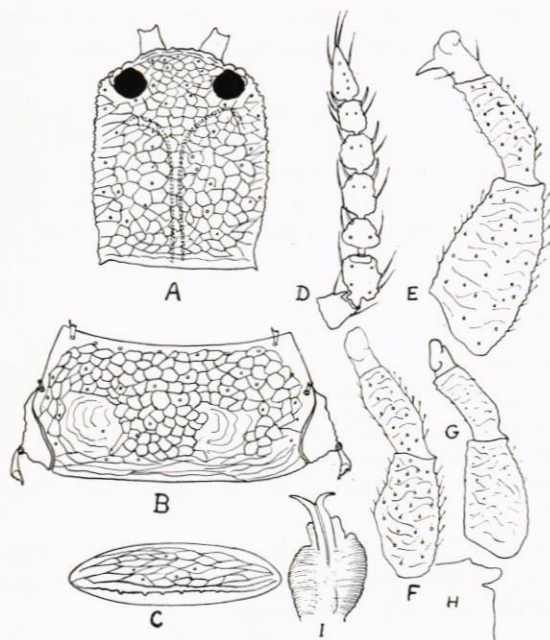


Fig. 10. *Strepterothrips orientalis* sp. nov. A. Head of female; B. Prothorax of female; C. pelta; D. antenna of female; E. foreleg of male; F. foreleg of female; G. foreleg of gynaeoid male; H. mesothoracic spur of male.

Genus *Strepterothrips* Hood.

HOOD, 1933, J. New York Ent. Soc., 41: 407—434.
STANNARD, 1957, Ill. Biol. Mon., 25: 57—58.

Type species: *Strepterothrips conradi* Hood.

This remarkable genus has the body roughly reticulate, antenna 7 segmented, mouthcone pointed, maxillary stylets thin, retracted far into the head, meeting at middle, eyes directed forwards and the major body bristles greatly dilated at lip. Stannard (1957) treats *Strepterothrips* as a subgenus of *Idiothrips* Faure. The males of *Strepterothrips orientalis* described below, possess a distinct anteroangular mesothoracic spur and the presence of an apical tibial tubercle is evident in the major forms. Though the tarsal tooth is very small or even absent in the minor males, the tibial tubercle is distinct, although very minute.

Strepterothrips orientalis sp. nov.

Apterous female:

General colour dark brown, legs paler brown; tube a shade darker; apex of antennal segments 1, 2 and 3 yellow, rest dark brown; setae colourless.

Head 196—224 long, 140 wide across eyes, 196 across cheeks, and 196 at base; eyes small, 43 long, 29 wide; ocelli absent, head setae not prominent. Antennal segments, length (width): 29—35 (26); 48 (38); 32—43 (32—38); 45 (32—35); 35—38 (32); 32—38 (26—29); 51—58 (22—26); shape of an-

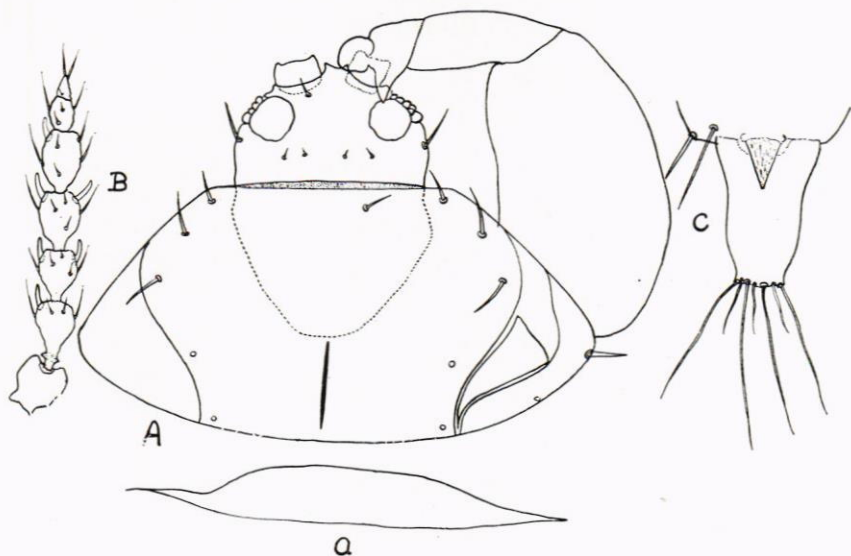


Fig. 11. *Nanothrips typicus* sp. nov.
 A. head and prothorax of oedymorous male; a. pelta.
 B. antennal segments 3-8 of male; C. tooth of IX tergite and tube.

tennal segments, particularly segment 3, very characteristic, as in the figure. Mouthcone pointed 122 long.

Prothorax 140-154 long, 210-238 wide at anterior margin and 294-350 across posterior. Prothoracic bristles short, much expanded at tip; anteroangulars 19; midlaterals 22; epimerals 26 long. Forefemur 70 wide, foretarsus unarmed, pterothorax 140-210 long, 280-322 wide.

Abdomen 364-378 wide at base, 350-364 at middle, 238 across VIII and 126-140 across IX; lateral abdominal bristles dilate, 32 long. Tube 154 long, 56 wide at base, 42 at middle and 28 at apex; anal setae 102 long.

Total body length: 1.330-1.769 mm.

Apterous male:

Colour as in female. Head 182-210 long, 112 wide across eyes, 154 across cheeks and 140 at base. Eyes 32 long, 26-29 wide. Antennal segments, length (width): 32 (26); 43 (35); 32 (35); 45-48 (29); 33-35 (29); 26-32 (26-29); 51-54 (22-26).

Prothorax 126 long, 154-168 wide at anterior margin, 252-280 at posterior; forefemur, 70-84 wide; foretibia of major males with a well developed tubercle and foretarsal tooth very strong; one weak male shows tarsal tooth lacking, but a weak foretibial tooth present.

Abdomen 238-252 wide at base, 224-238 across middle, 140 across VIII and 84-98 across IX; Tube 126-140 long.

Total body length: 1.176-1.260 mm.

Material: 7 females and 5 males (all apterous) on decaying bark, Madras, 6-10-1963; 5 females, 3 males from decaying vegetation, 16-8-64. Types with the author.

Genus *Nanothrips* Faure.

FAURE, 1938, Publ. Univ. Pretoria, Nat. Sci., 3.

PRIESNER, 1949, Bull. Soc. Fouad In Entom., XXIII: 85.

The discovery of this genus, hitherto known only from South Africa, was rather accidental in that two oedymorous males alone were collected during an attempt to obtain *Dichaetothrips indicus* Ananthakrishnan and *Elaphrothrips procer* var. *dallatorensis* Bagnall from dry twigs of *Sesbania grandiflora*. All the same, this is an exciting record of a rather unique genus and is therefore being mentioned here. The short head, the broad, heavy and bluntly rounded mouthcone, the maxillary stylets confined to the mouth cone, the robust pronotum, the short often pointed bristles, the large tarsal tooth and the prominent sharp tooth at the middle of the posterior margin of abdominal tergite IX in males are characteristic of the genus.

Nanothrips typicus sp. nov.*Apterous male:*

Colour: yellowish, with brown; head and forelegs yellow; inner margin of forefemora dark brown; thorax brown; basal half of mid and hind femora and tibiae brown; distal half yellow; antennal segments 1 and 2 yellow, rest light grey; Abdomen more yellowish, but with some brown pigment; abdominal segment IX and tube yellow.

Head: 96—98 long, 128—140 wide across eyes, 144—154 across cheeks and 144 at base. Eyes 43 long, 38 wide; postoculars well developed, pointed, 32—38 long; anteoculars one pair, 29 long; antennal segments, length (width): 29 (29); 43—45 (35); 48—54 (26); 43 (29); 43—48 (29); 51—61 (26—29); 29 (11); 19 (10). Mouthcone broadly rounded, 96 long, 144 wide at base, 80 at apex.

Prothorax: 168—210 long at middle, 182 wide across anterior margin and 352—378 across posterior; anteroangulars 26; anteromarginals 19; midlaterals 38 and epimerals 32 long, all pointed. Forefemur strong, 98 wide, 210 long; foretarsal tooth very strong, 29 long. Pterothorax, 112 long, 294 wide.

Abdomen: 322 wide at base, 350 wide at middle, 182 across VIII and 112 across IX; inner bristles of IX shorter, 64 long, outer 96 long. IX tergite with a median tooth, 29 long and 10 wide; tube 96 long, 64 wide at base, 48 at middle and 32 at apex; Anal setae, 112—128 long.

Material: 2 apterous males, inside dead twigs of *Sesbania grandiflora*, Madras. (Type in the author's collection.)

Only two species of *Nanothrips* are known — *N. parviceps* Faure and *N. breviceps* Faure. *N. breviceps* has short and blunt postoculars (17) and equally short prothoracic bristles; *N. parviceps* also has shorter, but pointed bristles and a totally different body colouration, in particular the antenna, with segments 1—6 wholly yellow, while the present species has 3—8 greyish brown, and 1 and 2 yellow.