

KEY TO THE SUBFAMILIES OF SILVANIDAE

1. Antenna short, scape rather small and club more or less distinct; head without fronto-clypeal suture, antennal insertions hidden under projection of frons; mandible usually with vestigeal cavity and dorsal tubercle absent; dorsal side of head without longitudinal grooves or striae between eyes; tarsi simple or slightly lobed; elytra with nine rows of strial punctures. Silvaninae

Antenna long and slender, scape large and club not distinguishable; head with fronto-clypeal suture, antennal insertions somewhat dorso-lateral and exposed; mandible with well-developed cavities and dorsal tubercles; head with a pair of longitudinal grooves or striae between eyes; tarsi strongly lobed below; elytra with ten rows of strial punctures.2

2. Apical segments of labial and maxillary palpi securiform or strongly transverse; head without curved transverse groove on anterior part of gular region; elytra devoid of scutellary striole. Psammoecinae

Apical segments of labial and maxillary palpi elongated and more or less fusiform; head with a distinct curved transverse groove on anterior part of gular region; elytra with distinct scutellary striole.
..... Cryptamorphae

KEY TO THE GENERA OF SILVANIDAE FROM INDIA

1. Head without fronto-clypeal suture and devoid of longitudinal grooves or striae, antennal insertions hidden under projection of frons, antenna with more or less distinct club; each elytron with 9 rows of strial punctures.2

Head with distinct fronto-clypeal suture and a pair of longitudinal grooves or striae present on vertex (Figs. 205,236), antennal insertions somewhat exposed, antenna with club not distinguishable; each elytron with 10 rows of strial punctures.12

2. Lateral margin of prothorax finely serrated and without large teeth or denticles (Figs.21,53).3

Lateral margin of prothorax with more or less large teeth or denticles (Figs.127,163,193).8

3. Anterior spine of prothorax moderately large and its apex broadly rounded, lateral margin of prothorax and elytra not wavy (Figs.107,122).4

Anterior spine of prothorax small to large and its apex more or less pointed, lateral margin of prothorax and elytra more or less wavy (Figs. 21,88).5

4. Prothorax transverse, lateral margin outwardly curved, anterior angles produced and callosity-like, sterno-pleural suture of prothorax extending to anterior angle; antennal joint 9 distinctly narrower than joint 10; elytra ovoid (Fig. 107); femoral lines on ventrite 1 open (Fig. 108). ..
..... Ahasversus Gozis

Prothorax elongated, almost parallel-sided, anterior angles slightly produced laterally and not forming any callosity-like structure, sterno-pleural suture of prothorax extending to lateral margin; antennal joint 9 slightly narrower than joint 10; elytra parallel-sided (Fig. 122); femoral lines on ventrite 1 closed (Fig. 123).
..... Cathartus Reiche

5. Species markedly flattened; sterno-pleural suture of prothorax extending to lateral margin, front coxae widely separated (Fig.94); apical segments of maxillary and labial palpi shorter than segment 2 (Figs.101,102); antennal joints 9 and 10 usually bear apical spines; 7th elytral interstice more or less carinate Protosilvanus Grouvelle

Species moderately flattened; sterno-pleural suture of prothorax extending to anterior spine, front coxae less widely separated (Fig.37); apical segments of maxillary and labial palpi longest (Figs.44,45); antennal joints 9 and 10 devoid of spines; elytral interstices not carinate...
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6. Apex of anterior spines of prothorax lying beneath front margin of prothorax; antennal joints 4 to 8 about as broad as long (Fig.85); femoral lines on ventrite 1 opened (Fig.86); dorsal surface of head and prothorax rather sparsely punctured and somewhat shiny; apex of paramere with more than one long seta. Silvanoides Halstead

Apex of anterior spines of prothorax almost in a same level or above front margin of prothorax; antennal joints 4-8 elongated (Figs.21,59); femoral lines on ventrite 1 closed (Fig.35); dorsal surface of head and prothorax with dense and coarse punctures and rather dull; apex of paramere with one long seta.7

7. Tarsal segment 3 strongly lobed below (Fig.68)....
 Silvanoprus Reitter

Tarsi simple (Fig.39)..... Silvanus Latreille

8. Lateral margin of prothorax with 6 distinct teeth or denticles (Figs.1,140).9
- Lateral margin of prothorax with atleast 8 teeth or denticles (Figs.160,190).11
9. Pronotum with three distinct longitudinal carinae; lateral margin of mesosternal process simple and not notched (Fig.6)Oryzaephilus Ganglbauer
- Pronotum devoid of longitudinal carinae; lateral margin of mesosternal process usually notched (Figs.129,147).10
10. Antenna short, antennal joint 9 slightly wider than joint 8 and distinctly narrower than joint 10 and club somewhat 2-jointed; tarsal segment 3 slightly lobed below (Fig.146).....
- Silvanopsis Grouvelle
- Antenna moderately long, antennal joint 9 distinctly wider than joint 8 and slightly narrower than joint 10 and club clearly 3-jointed; tarsal segment 3 strongly lobed below (Fig.128)
- Silvanolomus Reitter

11. Pubescence on dorsal surface long and distinct; lateral margin of prothorax with 8 to 15 denticles and each denticle with a posteriorly projected long seta; apical margin of clypeus more or less rounded (Figs.188,190); tarsal segment 3 only strongly lobed below (Fig.191); mandible with 2 apical teeth and a well-developed dorsal cavity (Fig.199); species usually dark brown. Airaphilus Redtenbacher

Pubescence on dorsal surface short and fine; lateral margin of prothorax with 8 to 11 denticles and each denticle with an anteriorly directed short seta; apical margin of clypeus almost straight (Figs.157,160); tarsal segments 2 and 3 strongly lobed below (Fig.158); mandible with 3 apical teeth and dorsal cavity poorly developed (Fig.170); species usually yellowish brown to reddish brown.

..... Monanus Sharp

12. Apical segments of labial and maxillary palpi securiform or strongly transverse; elytra devoid of scutellary striole and ovoid; head without curved transverse groove on anterior part of gular region; sternal fitting between mesocoxae with a narrow short projection from metasternum (Fig.223); tarsal segment 3 lobed below (Fig.219).

..... Psammoecus Latreille

Apical segments of labial and maxillary palpi elongated and more or less fusiform; elytra with distinct scutellary striole and more or less parallel-sided; head with a distinct curved transverse groove on anterior part of gular region; sternal fitting between mesocoxae in a slightly curved line (Fig.251); tarsal segment 3 bilobed (Fig.247).
..... Cryptamorpha Wollaston

Subfamily SILVANINAE

Genus Silvanus Latreille

Silvanus Latreille, 1804, Histoire Naturelle, générale et particulière, des crustacés et des insectes. 11 : 158; Latreille, 1807, Genera Crustaceorum et Insectorum 3 : 19; Ganglbauer, 1899, Die Käfer Von Mitteleuropa 3 : 581; Grouvelle, 1912, Annls Soc. ent. Fr. 81 : 332-340; Halstead, 1973, Bull. Br. Mus. nat. Hist.(Ent.) 29 (2) : 41,47; Pal and Sengupta, 1977, Oriental Ins. 11(2) : 270-271.

Leptus Duftschmidt, 1823, Fauna Austriae 3 : 156.

Type-species : Silvanus unidentata (Olivier)

The genus Silvanus Latreille is comprised of minute and flat beetles ranging from 2.00 to 3.50 mm in length. These

beetles primarily live under bark of trees, found also in mouldy stored food products. Halstead (1973) reported that twelve species are associated with stored food products. Silvanus is widely distributed to all Zoogeographical regions. This genus also occurs abundantly all over India, of which the species S. lewisi Reitter is the most common and widely distributed.

Silvanus is one of the large genus of the subfamily Silvaninae of the family Silvanidae. This genus was proposed by Latreille (1804) for the species Ips unidentata Olivier, later in 1807 he described the genus. Subsequently several unrelated species were described under this genus by various workers. Ganglbauer (1899) first revised the genus Silvanus. Grouvelle (1912) erected four subgenera namely, Microsilvanus, Parasilvanus, Protosilvanus and Cathartosilvanus under this genus. Hetschko (1930) in Junk's "Coleopterorum Catalogus" listed fiftyfive species under Silvanus including three species namely, S. bidentatus (Fabricius), S. lateritius Reitter and S. lewisi Reitter from India. Halstead (1973) while revising the genus Silvanus pointed out that in Junk's "Coleopterorum Catalogus" Hetschko has erroneously included twentyone species. He also established three more new genera namely, Calpus, Pensus and Silvanoides, and given generic status to Grouvelle's subgenera Cathartosilvanus, Parasilvanus

and Protosilvanus and merged the subgenus Microsilvanus with Silvanus. Halstead recognised seventeen valid species, of which five species are recorded from India namely, S. lewisi, S. bidentatus, S. recticollis Reitter, S. difficilis Halstead and S. rossi Halstead and transferred the Indian species S. lateritius to the genus Protosilvanus Grouvelle. Pal and Sengupta (1977) added five more new species from India. In the present study two new species are described.

Definition :

General appearance (Fig.21) elongated, moderately depressed, usually reddish brown to blackish brown.

Head (Fig.36) elongated, front margin of clypeus almost straight, eyes moderately large and coarsely faceted, temple often flattened beneath eye, transverse impressed line on vertex behind eyes present, tentorium with two long tentorial arms and a transverse bridge near middle. Antenna moderately long and slender, antennal insertions hidden under projection of frons, 11-jointed, scape broadly elongated, joints 2(pedicel)-8 subequal and narrower than scape, club loose and 3-jointed. Mandible (Fig.43) elongated, with 3 apical teeth, mola well-developed and a trace of dorsal mandibular cavity present near base. Maxilla (Fig.44) with lacinia narrow, elongated and without apical spine; galea short and broad and its apex densely hairy; palpi fringed with few setae, palpi

with segment 2 slightly longer than segment 3, apical segment longest and fusiform. Labium (Fig.45) with mentum triangular, palpi with apical segment longest and fusiform. Labrum (Fig.46) with apical margin slightly rounded.

Prothorax (Fig.37) usually longer than broad, front angle with a prominent spine, side margins finely serrated, pronotum with a median disc usually demarcated by shallow lateral depressions, prosternal process broad at apex and its apical margin straight, front coxae moderately widely separated, coxal cavities rounded, cavities broadly closed behind externally and internally, sterno-pleural sutures extending to front angles.

Meso-metathorax (Fig.39): Mesocoxae narrowly separated, cavities broadly opened outwardly, lateral margin of mesosternal process notched at middle, sternal fitting between mesocoxae almost in a straight line. Metasternum about as broad as long, median impressed line on metasternum extends anteriorly almost upto apex, hind coxae more widely separated. Metendosternite simple and represented by two appophyses.

Wing and Elytra : Wing (Fig.42) with single anal vein and radial cell, without anal cell and subcubital fleck. Elytra somewhat parallel-sided, usually slightly sinuate across anterior one-third, each elytron (Fig.41) with 9 rows

of strial punctures, without scutellary striole, single and double rows of pubescence on alternate interstices, epipleura narrow and complete upto apex.

Legs (Fig.38) moderately long, trochanters short and simple, femora usually swollen towards middle, tibiae not broadened at apex and with two apical spurs, tarsal formula 5-5-5 in both sexes, tarsi simple, tarsal segment 1 long, segments 2 and 3 shorter and subequal, segment 4 shortest, claws simple.

Abdomen (Fig.40) elongated, ventrite 1 longest, intercoxal process broad and its apical margin broadly pointed, femoral lines closed. Aedeagus (Fig.48) with median lobe broad; median sturt single, elongated and its apex spatulate; parameres well-developed, slender, elongated and its apex bilobed. Ovipositor (Fig.47) with well-developed paraprocts, valvifers, coxites and long styli attached on outer margin of apex of coxites.

Habitat : So far recorded under bark, rarely in haystack.

Distribution : All Zoogeographical regions.

KEY TO THE SPECIES OF SILVANUS FROM INDIA

1. Temple not distinctly flattened beneath eye to form a platform, eyes small with fewer facets; anterior spine of prothorax directed more towards front and its tip markedly blunt (Fig.25).
..... recticollis Reitter
Temple distinctly flattened beneath eye to form a platform, eyes moderately or markedly large and with many facets; anterior spine of prothorax directed slightly outwards and its tip more or less pointed.2
2. Temple markedly short and represented by a thin platform, length of temple shorter than the width of one eye facet and its outer apical angle pointed (Figs.21,22, 24). 3
Temple distinct and thick, length of temple longer than the width of one eye facet and its outer apical angle somewhat broad.(Figs.23,26).5
3. Prothorax broad and short, prothorax hardly longer than broad excluding anterior spines (1.00:0.98), anterior one-third of lateral margin of prothorax not sinuate before formation of anterior spine (Fig.22).
..... imitatus Pal and Sengupta

Prothorax distinctly elongated, prothorax distinctly longer than broad excluding anterior spines (1.00:0.84 to 0.88), anterior one-third of lateral margin of prothorax sinuate before formation of anterior spine (Figs.21,24).4

4. Anterior spine of prothorax moderately large and about as long as half of length of eye (Fig.21); aedeagus with outer apical lobe of each paramere bears two setae and of which the outer one shorter (Fig.48). lewisi Reitter

Anterior spine of prothorax short and as long as one-third of length of eye (Fig.24); aedeagus with outer apical lobe of each paramere bears two setae and of which outer one longer (Fig.49). indicus sp.nov.

5. Inner margin of anterior spine of prothorax distinctly curved outwardly (Fig.23). rossi Halstead

Innder margin of anterior spine of prothorax usually almost straight6

6. Prothorax hardly longer than broad (1.08:1.00), prothorax very little longer excluding anterior spines (1.15 : 1.00) and slightly convergent posteriorly behind middle; antennal joint 9 about as long as broad (Fig.27)

..... difficilis Halstead

Prothorax longer than broad (1.10 to 1.30:1.00) and distinctly elongated excluding anterior spines (1.20 to 1.33:1.00), prothorax distinctly convergent posteriorly behind middle; antennal joint 9 distinctly transverse (Figs.26,28) or if not, outer margin of anterior spine of prothorax curved somewhat inwardly and its tip projected in front (Fig.34).7

7. Anterior spine originates rather abruptly from lateral margin of prothorax, and meeting point of outer margin of anterior spine and lateral margin of prothorax forms obtuse angle (Fig.28).
. gibbus Pal and Sengupta

Anterior spine originates not abruptly from lateral margin of prothorax, meeting point of outer margin of anterior spine and lateral margin of prothorax not forms an angle but distinctly concave (Figs.26, 29,31).8

8. Outer margin of anterior spine of prothorax curved inwardly and its tip projected somewhat inwardly and towards front, prothorax somewhat elliptical excluding anterior spines; antennal joint 9 elongated (Fig.34). curvispinus Pal and Sengupta

Outer margin of anterior spine of prothorax straight and directed more outwardly, prothorax not elliptical excluding anterior spines and distinctly narrowed posteriorly; antennal joint 9 distinctly transverse (Figs. 26,29,33).9

9. Eyes distinctly shorter than half of length of head, distance between two eyes on ventral side of head more than two times wider than length of each eye; anterior spine of prothorax short, narrow and its tip pointed; posterior one-third of elytra distinctly narrowed towards apex (Fig.26), hind trochanter of male with a distinct spine. bidentatus (Fabricius)

Eyes larger and about half as long as head, distance between two eyes on ventral side of head less than 1.5 times of length of each eye; anterior spine of prothorax short or long but distinctly broader and less pointed; posterior one-third of elytra slightly narrowed towards apex (Figs.29,31); hind trochanter of male devoid of any spine10

10. Anterior spine of prothorax short and about one-third of length of each eye (Fig.33).....
..... andamanicus sp.nov.

Anterior spine of prothorax distinctly longer and about half as long as eye or longer (Figs.29,31). 11

11. Anterior spine of prothorax large, distinctly longer than half of length of each eye, anterior spine slightly narrow and its tip somewhat pointed, lateral margin of prothorax sinuate before posterior angle to form a short spinous projection; antennal joint 7 not longer than joint 6 (Fig.31); hind femora widest before middle (Fig.32); colour blackish brown
..... nigrans Pal and Sengupta

Anterior spine of prothorax moderately large and about half of length of each eye, anterior spine comparatively broader than above and its tip blunt, lateral margin of prothorax not or little sinuate before posterior angle and without spinous projection; antennal joint 7 slightly longer and broader than joint 6 (Fig.29); hind femora widest at middle (Fig.30); colour reddish brown. ruficorpus Pal and Sengupta

1. Silvanus lewisi Reitter

Silvanus lewisi Reitter, 1876, Col. Hefte 15 : 76; Grouvelle, 1908. Annls Soc. ent. Fr. 77 : 491; Halstead, 1973, Bull. Br. Mus. nat. Hist. (Ent.) 29(2) : 53; Pal and Sengupta, 1977, Oriental Ins. 11(2) : 272-273. (Type-loc. : Japan).

Silvanus (Silvanus) lewisi Reitter : Grouvelle, 1912, Annls Soc. ent. Fr. 81 : 338.

Reitter (1876) described this species from Japan, Grouvelle (1908) first time recorded this species in India from Nilgiri Hills. Halstead (1973) reported it from Sendhara (Madhya Pradesh), Cinchona, Anaimalai Hills, Coimbatore (Tamil Nadu), Dohnavar, Kanara, Mysore (Karnataka). He recorded this species from various stored food products and dunnage, at light, under bark of tree stumps. S. lewisi is a rather distinct species and can be easily distinguished from other Indian species of Silvanus in having large eyes, temple shorter than one eye facet and with pointed outer apical angle; prothorax elongated and slightly convergent posteriorly, with anterior spine about half as long as eye and its tip pointed; aedeagus (Fig. 48) with apex of each paramere bilobed, outer apical lobe with two setae of which the outer one is comparatively shorter.

General appearance (Fig. 21) elongated, moderately depressed, uniformly yellowish to reddish brown; covered with short, semi-erect, golden pubescence.

Head : Exposed part of head wider than long, eyes large and about half as long as head, length of temple shorter than length of one eye facet, temple extended laterally beneath eye and its outer apical angle pointed, puncturation on vertex coarse and dense and that of near anterior margin of clypeus finer, setae short and projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel about as long as scape and slightly narrower, joint 3 slight shorter and narrower than pedicel, joints 4 and 5 equal and slightly shorter than joint 3, joint 6 shorter than joint 5, joint 7 longer than joint 6, joint 8 slightly shorter than joint 7, joints 9 and 10 transverse and joint 11 about as broad as long. Prothorax convex, elongated, width across anterior spines greater than across middle (1.13-1.20:1.00); anterior spines originate rather gradually from sides, moderately large and about half as long as each eye and its tip pointed; lateral margin of prothorax curved and with few small denticles, lateral depressions on pronotal disc slightly marked, puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, transverse and pubescent. Elytra about two times as long as broad, widest near middle, lateral margins wavy and explanate, rows of punctures on elytra deep and large and setae projected posteriorly. Puncturation on ventral side finer than on dorsal side. Aedeagus (Fig.48) with

apical projection of median lobe short; apex of each paramere bilobed, inner lobe long with a long seta, and outer lobe short with two short setae, of which the inner one comparatively longer.

Measurements : Total length 2.08-2.47 mm, width of head across eyes 0.44-0.48 mm, length of antenna 0.67-0.87 mm, width of prothorax across middle 0.44-0.48 mm, length of elytra 1.25-1.44 mm and width across middle 0.63-0.70 mm.

Materials examined : 34 ex. INDIA: ASSAM, Phulbari, 4 ex., 24.xi.1974, T. Sengupta, under bark of Shorea robusta; 1 ex., 24.xi.1974, T. Sengupta, under bark of Bombax sp.; MEGHALAYA, Dainadubi Reserve Forest, Garo Hills, 3 ex., 18.xi.1974, T. Sengupta, under bark of fallen Shorea robusta tree; WEST BENGAL, Sukna, 1 ex., 5.v.1976, T.K. Pal, under bark; Calcutta (Ultandanga and Chetla), 2 ex., 16.iii.1975, T.K. Pal, under bark; 3 ex., 12 & 20.iv.1975, T.K. Pal, under bark of Bombax sp.; UTTAR PRADESH, Dehra Dun, Lakshibag, 2 ex., 10.vi.1975, T. Sengupta, under bark; Dehra Dun, Jhajra, 1 ex., 18.viii.1926, F. Ent., ex. Shorea robusta; KERALA, Walayar Forest, 1 ex., 1.xii.1971, T. Sengupta, under bark; ANDAMAN Is., S. Andaman, Chatham, 8 ex., 5.xii.1928, under bark of Sterculia campanulata (3 ex.), ex. Terminalia bialata (4 ex.), ex. Shorea robusta (1 ex).

Distribution : INDIA: Assam, Meghalaya, West Bengal, Uttar Pradesh, Tamil Nadu, Karnataka, Kerala, Andaman Is.; SRI LANKA; VIETNAM; TAIWAN; JAPAN; MALAYSIA; SINGAPORE; INDONESIA; PHILIPPINES; NEW GUINEA; SOLOMON Is.; AUSTRALIA; CONGO; GHANA.

2. Silvanus imitatus Pal and Sengupta

Silvanus imitatus Pal and Sengupta, 1977, Oriental

Ins. 11(2): 273

(Type-loc. : Assam:India).

This species is near S. lewisi but can be easily separated by its prothorax comparatively broader, excluding anterior spines the prothorax hardly longer than broad (1.00: 0.98), anterior one-third of lateral margin of prothorax not sinuate before formation of anterior spine, puncturation on head and pronotum slightly coarser and lateral margins of elytra more distinctly wavy at middle.

General appearance (Fig.22) elongated, moderately depressed, uniformly reddish brown and covered with short, semierect, golden pubescence.

Head : Exposed part of head wider than long, eyes large and length of eye about half as long as head, length of temple shorter than length of one eye facet, temple extended laterally

beneath eye and its outer apical angle pointed, puncturation on vertex coarse and dense and that of near anterior margin of clypeus finer, setae short and projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel about as long as scape but slightly narrower, joint 3 slightly shorter and narrower than pedicel, joints 4 and 5 equal and shorter than joint 3, joint 6 shorter than joint 5, joints 7 and 8 equal and slightly shorter than joints 6, joints 9 and 10 transverse and joint 11 elongated. Prothorax convex, almost equal in length and breadth, width across anterior spines greater than width across middle (1.10:1.00); anterior spines originate rather gradually from sides, moderately large and its length slightly less than half of length of each eye and its tip pointed; lateral margin of prothorax curved and with few small denticles, lateral depressions on pronotal disc slightly marked. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, transverse and pubescent. Elytra about two times as long as broad, widest near middle, lateral margins wavy and explanate, rows of punctures on elytra deep and large and setae projected posteriorly. Puncturation on ventral side finer than on dorsal side.

Measurements of holotype : Total length 2.41 mm, width of head across eyes 0.52 mm, length of antenna 0.80 mm, width

of prothorax across middle 0.54 mm, length of elytra 1.50 mm and width across middle 0.75 mm.

Material examined : Holotype, INDIA:ASSAM, Phulbari, 24.xi.1974, T. Sengupta, under bark of log (in Zoological Survey of India, Calcutta).

Distribution : INDIA : Assam.

3. Silvanus indicus sp.nov.

General appearance of this species closely resembles Silvanus lewisi Reitter and S. difficilis Halstead but can be easily differentiated from the former by its anterior spine of prothorax shorter and about one-third of length of eye; aedeagus with outer lobe of paramere bears two setae and unlike lewisi the outer seta is longer than the inner one, apical projection of the median lobe slightly less tapered. It may be distinguished from the latter species by its temple shorter than the width of one eye facet and its outer apical angle pointed, anterior spine of prothorax slightly shorter, lateral margin of prothorax not sinuate before formation of anterior spine; aedeagus of this species with lateral margin of median lobe not wavy near middle, outer lobe of paramere distinctly shorter than inner one and bears two setae of which the outer one is longer.

General appearance (Fig.24) elongated, moderately depressed, uniformly reddish brown and covered with short, semierect, golden pubescence.

Head: Exposed part of head wider than long, eyes large, length of eye slightly less than half of length of head, eyes coarsely faceted, length of temple shorter than width of one eye facet, temple extended laterally beneath eye and its outer apical angle pointed, puncturation of vertex coarse and dense and that of near anterior margin of clypeus finer, setae short and projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel about as long as scape but slightly narrower, joint 3 about as long as pedicel and slightly narrower, joints 4 and 5 almost equal and slightly shorter than joint 3, joint 6 slightly shorter than joint 5, joint 7 about as long as joint 6 and slightly wider, joint 8 shorter than joint 7, joint 9 and 11 about as long as broad and joint 10 transverse. Prothorax slightly elongated, width across anterior spines greater than width across middle (1.12 : 1.00); anterior spines originate rather gradually from sides, short and its length about one-third of length of an eye and its tip somewhat pointed; lateral margin curved and with few small denticles, lateral depressions on pronotal disc slightly marked. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, transverse and pubescent. Elytra about two times as long as broad, widest near middle, lateral margins wavy and explanate,

rows of punctures on elytra deep and large and setae projected posteriorly. Puncturation on ventral side finer than on dorsal side, Aedeagus (Fig.49) with median lobe slightly broader behind middle and its apical projection short; apex of each paramere bilobed, inner lobe longer and with a long seta and outer lobe with two shorter setae.

Measurements of holotype : Total length 2.26 mm, width of head across eyes 0.45 mm, length of antenna 0.86 mm, width of prothorax across middle 0.47 mm, length of elytra 1.33 mm and width across middle 0.66 mm.

Holotype ♂ INDIA : BIHAR; Hazaribagh, 26.iii.1931, F. Economist, ex. Boswellia serrata (under bark). Aedeagus dissected and mounted on cover slip and pinned with the holotype. (in Forest Research Institute, Dehra Dun); Paratypes 2 ex., KERALA, Calicut ('Madras' in label), Perry's Timber Depot, 31.v.1941, B.M. Bhatia, Crawling about between planks (1 Paratype in Zoological Survey of India, Calcutta and 1 Paratype in Forest Research Institute, Dehra Dun); Paratypes 3 ex., KERALA, Trivandrum, 21.xi.1957, C.N.O., on stored wood (in Zoological Survey of India, Calcutta).

Distribution : INDIA : Bihar, Kerala.

4. Silvanus rossi Halstead

Silvanus rossi Halstead, 1973, Bull. Br. Mus. nat. Hist. (Ent.) 29(2) : 54; Pal and Sengupta, 1977, Oriental Ins. 11(2) : 274-275. (Type-loc : India, Thailand, New Guinea).

Halstead recorded this species in India from W. Almorah Divn., Kumaun : Uttar Pradesh. General appearance of this species is apparently similar to S. lewisi and can be separated from the latter species in having temple of head about as long as one eye facet and its outer apical angle blunt, eyes slightly smaller, pedicel slightly longer than antennal scape, inner margin of anterior spine of prothorax slightly curved, scutellum about as broad as long, lateral margin of elytra more wavy.

General appearance (Fig.23) elongated, moderately depressed, uniformly reddish brown and covered with short, semierect golden pubescence.

Head : Exposed part of head wider than long, eyes large and length of eye slightly shorter than half of length of head, temple slightly longer than one eye facet, temple extended laterally beneath eye and its outer apical angle broad, puncturation on vertex coarse and dense and that of near anterior margin of clypeus finer, setae short and

projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel slightly longer and narrower than scape, joint 3 shorter than pedicel, joint 4 shorter than joint 3, joint 5 longer than joint 4, joint 6 shorter than joint 5, joint 7 longer than joint 6, joint 8 shorter than joint 7, joints 9 and 10 transverse and joint 11 about as long as broad. Prothorax convex, elongated and slightly narrowed posteriorly, width across anterior spines greater than across middle (1.00 : 0.92); anterior spines moderately large, originate gradually from lateral sides, its length about half as long as each eye, inner margin of anterior spine curved outwardly; lateral margin curved and with few small denticles, lateral depressions on pronotum slightly marked near base. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, slightly transverse and pubescent. Elytra about two times as long as broad, widest near middle, lateral margins wavy and explanate, rows of punctures on elytra deep and large. Puncturation on ventral side finer than on dorsal side.

Measurements : Total length 2.54 mm, width of head across eyes 0.52 mm, length of antenna 0.88 mm, width of prothorax across middle 0.55 mm, length of elytra 1.55 mm and width across middle 0.73 mm.

Material examined : 1 ex. INDIA : HIMACHAL PRADESH, Solan, Happy Valley, 17.vi.1975, T. Sengupta, under bark of Pine log.

Distribution : INDIA : Uttar Pradesh, Himachal Pradesh; THAILAND; NEW GUINEA.

5. Silvanus difficilis Halstead

Silvanus difficilis Halstead, 1973, Bull. Br. Mus. nat. Hist. (Ent.) 29(2) : 73; Pal and Sengupta, 1977, Oriental Ins. 11(2) : 279-280. (Type-loc. : Malaya, India, Sri Lanka, Vietnam, Taiwan, Singapore, Sumatra, Java, Christmas Is., Sarwak, Borneo, Philippines, Moluccas, New Guinea, I. Delcas, Solomon Is., Samoan Is., Australia, West Africa, New Ireland).

Halstead (1973) described this species and mentioned that in this species there are two distinct forms namely, 'Normal form' and 'New Guinea form'. The 'Normal form' differs from the 'New Guinea form' by its short temple, and wider and shorter prothorax. Halstead recorded this species ('Normal form') in India as follows: Cinchona, Anaimalai Hills : Tamil Nadu; Malabar coast, Mahe: Kerala; Kanara : Karnataka; W. Almorah Divn., Kumaun, Kheri Forest : Uttar Pradesh. The specimen studied here is a 'Normal form' of S. difficilis.

General appearance (Fig.27) elongated, moderately depressed, uniformly yellowish brown and covered with short, semi-erect, golden pubescence.

Head : Exposed part of head wider than long, eyes large and length of eye slightly shorter than half of length of head, temple about as long as 1.5 eye facet, temple extended laterally beneath eye and its outer apical angle broad, puncturation on vertex coarse and dense and that of near anterior margin of clypeus finer, setae projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel and joint 3 slightly shorter and narrower than scape, joints 4 and 5 equal and slightly shorter than joint 3, joint 6 slightly shorter than joint 5, joint 7 slightly broader than joint 6, joint 8 slightly shorter than joint 7, joint 9 about as long as broad, joint 10 slightly transverse and joint 11 slightly elongated. Prothorax convex, elongated, width across anterior spines greater than across middle (1.06 : 1.00); anterior spines originate less abruptly from sides, moderately large and its length slightly less than half of length of each eye and its tip less pointed; lateral margin of prothorax curved and with few small denticles, lateral depressions on pronotal disc slightly marked. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large,

transverse and pubescent. Elytra slightly less than two times as long as broad, widest near middle, lateral margin slightly wavy and explanate, rows of punctures on elytra deep and large and setae projected posteriorly, puncturation on ventral side finer than on dorsal side.

Measurements : Total length 2.20 mm, width of head across eyes 0.47 mm, length of antenna 0.85 mm, width of prothorax across middle 0.48 mm, length of elytra 1.38 mm. and width across middle 0.70 mm.

Material examined : 1 ex. INDIA : TAMIL NADU, Madumalai Reserve Forest, 7.xii.1971, T. Sengupta, under bark of log.

Distribution : 'Normal form'. INDIA : Tamil Nadu, Kerala, Karnataka, Uttar Pradesh; SRI LANKA; VIETNAM; TAIWAN; MALAYSIA; SINGAPORE; INDONESIA, PHILIPPINES; MOLUCCAS; NEW GUINEA; I. DELCAS (Off N. Coast of New Britain); SOLOMON Is.; SAMOAN Is.; AUSTRALIA; WEST AFRICA.

'New Guinea form'. NEW GUINEA; NEW IRELAND; AUSTRALIA.

6. Silvanus recticollis Reitter

Silvanus recticollis Reitter, 1876, Col. Hefte 15 : 61;
Halstead, 1973, Bull. Br. Mus. nat. Hist. (Ent.)
29(2) : 55; Pal and Sengupta, 1977, Oriental Ins.
11(2) : 274-275. (Type-loc. : Japan).

Silvanus reflexus Reitter, 1879, Verh. zool-bot. Ges. Wien
29 : 85.

Silvanus vitulus Grouvelle, 1882, Annali Mus. civ. Stor.
nat. Giacomo Doria 32 : 294.

Silvanus (Microsilvanus) vitulus Grouvelle : Grouvelle,
1912, Annls Soc. ent. Fr. 81 : 332.

Silvanus (Microsilvanus) pumilus Grouvelle, 1912, Annls
Soc. ent. Fr. 81 : 332.

Silvanus (Microsilvanus) minimus Grouvelle, 1912, Annls
Soc. ent. Fr. 81 : 334.

Reitter (1876) described this species from Japan; Halstead (1973) redescribed this species and mentioned several synonyms. This species is rather shorter (1.61-1.82 mm) than S. lewisi (2.08-2.50 mm) and can be easily distinguished from other species in having characteristic shape of head and prothorax (Fig.25), eyes small, temple long and not distinctly flattened beneath eye to form a platform; prothorax almost quadrate, anterior spine broad and projected forward and its tip distinctly blunt.

General appearance (Fig.25) elongated, moderately depressed, uniformly yellowish brown and covered with short, semierect, golden pubescence.

Head : Exposed part of head wider than long, eyes small and length of eye shorter than one-third of length of head,

temple about half as long as eye or slightly shorter and its outer margin rounded, puncturation on vertex coarse and dense and that of near anterior margin of clypeus finer, setae projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel shorter and narrower than scape, joint 3 slightly shorter than pedicel, joints 4 and 5 shorter than joint 3, joints 6-8 shorter than joint 5, joint 7 slightly wider than joints 6 and 8, joints 9 and 10 transverse and joint 11 about as long as broad. Prothorax convex, slightly elongated and apparently quadrate, width across anterior spines almost equal or slightly greater than across middle; anterior spines moderately large, about as long as eye or shorter, projected more forward and its tip exclusively blunt; lateral margins rather parallel-sided and slightly narrowed posteriorly, margins slightly explanate and with few small denticles, lateral depressions on pronotal disc indistinct. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, transverse and pubescent. Elytra shorter than twice as long as broad, widest near middle, lateral margins wavy and explanate, rows of punctures on elytra deep and large. Puncturation on ventral side finer than on dorsal side and rather shiny.

Measurements : Total length 1.61-1.82 mm, width of head across eyes 0.25-0.36 mm, length of antenna 0.61-0.66 mm, width of prothorax across middle 0.39-0.44 mm, length of elytra 0.95-1.07 mm and width across middle 0.52-0.55 mm.

Materials examined : 6 ex. INDIA : WEST BENGAL, Calcutta, 5 ex., May-June 1914, F.H.G., at light; Howrah district, Sankrail, 1 ex., 13.i.1976, T.K. Pal, haystack.

5 examples present in the collection of Zoological Survey of India, labelled as Silvanus pumilus Grouvelle have been identified as Silvanus recticollis.

Distribution : INDIA : West Bengal; THAILAND; VIETNAM; LAOS; SULAWESI; JAPAN; TAIWAN (RYUKYU Is.); MAURITANIA; CONGO; ZAIRE; RHODESIA.

7. Silvanus bidentatus (Fabricius)

Dermestes 2 dentatus Fabricius, 1792a, Entomologiae

Systematicae Emendate et Auctae 1(1) : 233

(Type-loc. : Germany).

Colydium sulcatum Fabricius, 1792b, Entomologiae

Systematicae Emendate et Auctae 1(2) : 555.

Silvanus bidentatus (Fabricius): Sturm, 1826, Katalog meiner Insekten Sammlung 1. Käfer : 196; Grouvelle, 1908, Annls Soc. ent. Fr. 77 : 490; Halstead, 1973, Bull. Br. Mus. nat. Hist. (Ent.) 29(2) : 68.

Silvanus affinis Reitter, 1876, Col. Hafte 15 : 58.

Silvanus bidentatus var. affinis Reitter, 1880, Verh. zool.-bot. Ges. Wien 29 : 509.

Silvanus (Silvanus) bidentatus (Fabricius): Grouvelle, 1912, Annls Soc. ent. Fr. 81 : 338.

Grouvelle (1908) recorded this species for the first time in India from Nilgiri Hills. Halstead (1973) gave a detailed description of this species and mentioned several synonyms. S. bidentatus can be easily recognised by its length of temple being about as long as two eye facets and flattened beneath eye, outer apical angle of temple broad, eyes moderately large and distance between two eyes on ventral side of head more than two times wider than length of each eye, anterior spine of prothorax rather short, its tip pointed and directed more towards lateral side, and lateral depressions on pronotal disc well-marked, hind trochanter of male with a short spine.

General appearance (Fig.26) elongated, moderately depressed, uniformly reddish brown and covered with short, semi-erect golden pubescence.

Head : Exposed part of head wider than long, eyes moderately large and about one-third as long as head, length of temple about as long as 2.5 eye facets, temple extended laterally beneath eye and its outer apical angle broad, puncturation on vertex coarse and dense and that of near anterior margin of clypeus finer, setae short and projected towards middle line; antenna moderately long and slender, scape moderately large, pedicel and joint 3 slightly shorter and narrower than scape, joints 4 and 5 equal and shorter than joint 3, joint 6 shorter than joint 5, joint 7 wider than joint 6,

joint 8 slightly shorter than joint 7, joints 9-11 more or less transverse. Prothorax convex, elongated, width across anterior spines greater than width across middle (1.02-1.06: 1.00); anterior spines originate rather gradually from sides, moderately large and slightly shorter or longer than half of length of eye, projected more outwardly and its tip rather pointed; lateral margin curved and with few small denticles, lateral depressions on pronotal disc rather well-marked. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, transverse and pubescent. Elytra more than two times as long as broad, widest in anterior half, lateral margins wavy and explanate, rows of punctures on elytra deep and large, setae projected posteriorly. Puncturation on ventral side finer than on dorsal side, hind trochanter in male with short spinous projection.

Measurements : Total length 2.55-2.85 mm, width of head across eyes 0.52-0.57 mm, length of antenna 0.95-1.05 mm, width of prothorax across middle 0.52-0.58 mm, length of elytra 1.54-1.70 mm and width across middle 0.69-0.77 mm.

Materials examined : 10 ex. EUROPE, 1 ex. (Z.S.I. Reg. No. 747); ITALY : PIEMONTE, Novara, Passo, Colma, 900 m.
11
9 ex., iv.71., Rossa.

Distribution : INDIA : Tamil Nadu; THAILAND; BRITAIN; RUSSIA; ITALY; U.S.A.

8. Silvanus gibbus Pal and Sengupta

Silvanus gibbus Pal and Sengupta, 1977, Oriental Ins.

11(2):275 (Type-loc.: West Bengal, Assam,
Meghalaya: India).

This species is related to S. difficilis Halstead but can be easily separated by its anterior spines of prothorax originate more abruptly from the lateral sides, puncturation on vertex of head and pronotum coarser, lateral depressions on pronotal disc rather well-marked, antennal club comparatively broader. This species also shows some similarity with S. robustus Halstead in appearance but can be separated from the latter species by following characters : i) the apical projection of median lobe of aedeagus short and blunt, ii) hind trochanter of male devoid of any tubercle, iii) ridge on anterior margin of hind femora absent.

General appearance (Fig.28) elongated, moderately depressed, uniformly reddish brown and covered with short, semierect, golden pubescence.

Head : Exposed part of head wider than long, eyes large and about half as long as head, length of temple about as long as two eye facets, temple extended laterally beneath eye and its outer apical angle broad, puncturation on vertex coarse and dense and that of near anterior margin of

clypeus finer, setae projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel about as long as scape and slightly narrower, joint 3 slightly shorter and narrower than pedicel, joints 4 and 5 equal and slightly shorter than joints 3, joint 6 shorter than joint 5, joint 7 slightly longer and broader than joint 6, joint 8 slightly elongated and broader than joint 7, joint 10 slightly more transverse than joint 9, joint 11 slightly elongated. Prothorax convex, elongated and narrowed posteriorly, width across middle almost equal to width across anterior spines (1.00:1.02-1.06); anterior spines moderately large and about half as long as eye or slightly shorter, its tip slightly blunt, anterior spines originate abruptly from lateral sides and form rather obtuse angles; lateral margin curved and with few small denticles, lateral depressions on pronotal disc usually rather well-marked. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, transverse and pubescent. Elytra more than two times as long as broad, widest near middle, lateral margins wavy and explanate, rows of punctures on elytra deep and large, interstices alternately wider and narrower, setae projected posteriorly. Puncturation on ventral side finer than on dorsal side. Aedeagus (Fig.50) with median lobe broad posteriorly; apex of each paramere bilobed, inner lobe with a long seta and outer lobe with two short setae.

Measurements : Total length 2.50-2.73 mm, width of head across eyes 0.51-0.55 mm, length of antenna 0.89-1.02 mm, width of prothorax across middle 0.51-0.58 mm, length of elytra 1.39-1.58 mm and width across middle 0.70-0.74 mm.

Materials examined : 13 ex. Holotype and Paratype 4 ex., INDIA:WEST BENGAL, Calcutta, 20.iv.1975, T.K. Pal, under bark of Bombax sp.; Paratype 1 ex., ASSAM, Kaziranga, Panbari, 15.xi.1974, T. Sengupta, under bark of Shorea robusta; Paratype, 1 ex., MEGHALAYA, Dainadubi Reserve Forest, 18.xi.1974, T. Sengupta, under bark of Shorea robusta (in Zoological Survey of India, Calcutta); WEST BENGAL, Darjeeling District, Sukna, 5 ex., 5.v.1976, T.K. Pal, under bark of Shorea robusta; MAHARASTRA, Belgaum, Nagargalli, 1 ex., 18.xi.1929. B.M. Bhatia, ex. Odina woodier.

Distribution : INDIA : West Bengal, Assam, Meghalaya, Maharashtra.

9. Silvanus ruficarpus Pal and Sengupta

Silvanus ruficarpus Pal and Sengupta, 1977, Oriental Ins.

11(2): 276 (Type-loc.: Assam: India).

This species is related to S. gibbus but can be separated by its prothorax excluding anterior spines distinctly longer (1.33:1.00), anterior spines of prothorax originate not abruptly from lateral sides, and femora of hind leg widest at middle (Fig.30).

General appearance (Fig.29) elongated, moderately depressed, uniformly reddish brown and covered with short, semierect, golden pubescence.

Head : Exposed part of head wider than long, eyes large and length of eye about half as long as head, temple as long as two eye facets, temple extended laterally beneath eye and its outer apical angle broad, puncturation on vertex coarse and dense and that of near anterior margin of clypeus finer, setae short and projected towards middle line; antenna moderately long and slender, scape moderately large, pedicel about as long as scape and narrower, joint 3 slightly shorter than pedicel, joints 4 and 5 equal and shorter than joint 3, joint 6 shorter than joint 5, joint 7 slightly longer and wider than joint 6, joint 8 slightly shorter than joint 7, joints 9 and 10 transverse and joint 11 elongated. Prothorax convex, elongated and narrowed posteriorly, width across anterior spines greater than width across middle (1.00:0.90); anterior spines moderately large, originate gradually from lateral sides, its length about half as long as eye and its tip somewhat blunt; lateral margin curved with few small denticles, lateral depressions on pronotal disc rather well-marked. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, transverse and pubescent.

Elytra about two times as long as board, widest near middle, lateral margins wavy and explanate, rows of punctures on elytra deep and large. Ventral side shiny, puncturation finer than that of dorsal side. Aedeagus (Fig.51) with median lobe broad and its apical projection short and blunt; outer apical lobe of each paramere long and with a long seta, and inner short lobe with two short setae.

Measurements : Total length 2.55-2.82 mm, width of head across eyes 0.50-0.58 mm, length of antenna 0.91-1.00 mm, width of prothorax across middle 0.49-0.54 mm, length of elytra 1.48-1.66 mm, and width across middle 0.70-0.80 mm.

Materials examined : 6 ex. Holotype, INDIA: ASSAM, Kaziranga, Panbari, 15.xi.1974, T. Sengupta, under bark of Bombax sp. (in Zoological Survey of India, Calcutta); UTTAR PRADESH, Almorah 1600 m., 5 ex., 17.x.1976, T. Sengupta, under bark of Pine log.

10. Silvanus nigrans Pal and Sengupta

Silvanus nigrans Pal and Sengupta, 1977, Oriental Ins.

11(2):277 (Type-loc.: West Bengal : India).

General appearance of this species somewhat similar to Silvanus bidentatus (Fabricius) but can be separated by its anterior spine of prothorax longer, its apex not sharply pointed and less outwardly projected; eyes large and distance between

two eyes on ventral side distinctly shorter than in S. bidentatus. This species also shows some resemblances with S. ruficorpus Pal and Sengupta but can be separated by its anterior spine of prothorax longer, narrower and more acute at apex; unlike ruficorpus lateral margin of prothorax sinuate before posterior angle and form a small spinous projection, hind femora widest before middle (Fig.32), antennal joint 7 not longer than joint 6, species uniformly blackish brown.

General appearance (Fig. 31) elongated, moderately, depressed, uniformly blackish brown and covered with short, semierect, golden pubescence.

Head : Exposed part of head wider than long, eyes large and length of eye slightly less than half of length of head, length of temple about as long as two eye facets, temple extended laterally beneath eye and its outer apical angle broad, puncturation on vertex coarse and dense and that of near anterior margin of clypeus slightly finer, setae short and projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel about as long as scape and narrower, joint 3 shorter than pedicel, joints 4 and 5 equal and shorter than joint 3, joint 6 and 7 equal and shorter than joint 5, joint 7 slightly wider than joint 6, joint 8 shorter than joint 7, joints 9 and 10 transverse and joint 11 elongated. Prothorax convex, elongated and narrowed posteriorly, width

across anterior spines greater than width across middle (1.00: 0.90); anterior spines large, originate gradually from lateral sides, its length slightly longer than half of length of each eye and its tip slightly pointed; lateral margin curved with few small denticles, lateral depressions on pronotal disc rather well-marked. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected posteriorly. Scutellum moderately large, transverse and pubescent. Elytra about two times as long as broad, widest near middle, lateral margins wavy and explanate, rows of punctures on elytra deep and large, setae projected posteriorly. Puncturation on ventral side finer than on dorsal side and rather shiny.

Measurements of holotype : Total length 2.57 mm, width of head across eyes 0.51 mm, length of antenna 0.94 mm, width of prothorax across middle 0.43 mm, length of elytra 1.50 mm and width across middle 0.73 mm.

Material examined : Holotype, INDIA : WEST BENGAL, Darjeeling district, Tistabazar, 18.iv.1971, T. Sengupta, under bark of log (in Zoological Survey of India, Calcutta).

Distribution : INDIA : West Bengal (Darjeeling district).

11. Silvanus andamanicus sp.nov.

This species resembles very much in appearance with another Indian species Silvanus ruficarpus but can be differentiated by the anterior spine of prothorax shorter and about

one-third of length of an eye, excluding anterior spines prothorax slightly more broader (1.27:1.00) than that of S. ruficarpus (1.33:1.00), aedeagus of this species unlike ruficarpus with median lobe truncated near apex, apex of parameres more closer and its inner shorter lobe with one seta.

General appearance (Fig.33) elongated, moderately depressed, uniformly reddish brown and covered with short, semierect golden pubescence.

Head : Exposed part of head wider than long, eyes large, length of eye about half as long as head, length of temple about as long as two eye facets, temple extended laterally beneath eye and its outer apical angle broad, puncturation on vertex coarse and dense and that of near anterior margin of clypeus slightly finer, setae short and projected towards middle line. Antenna moderately long and slender, scape moderately large, pedicel about as long as scape and narrower, joint 3 slightly shorter and narrower than pedicel, joints 4 and 5 almost equal and shorter than joint 3, joint 6 shorter than joint 5, joint 7 slightly longer and wider than joint 6, joint 8 shorter than joint 7, joints 9 and 10 transverse and joint 11 about as long as broad. Prothorax convex, elongated and narrowed posteriorly, width across anterior spines greater than the width across middle (1.12:1.00); anterior spines short and originate gradually

from lateral sides, its length about one-third of length of an eye; lateral margin curved with few small denticles, lateral depressions on pronotal disc rather well-marked. Puncturation on pronotum coarse and dense and similar to that of vertex of head, setae projected towards middle line. Scutellum moderately large, transverse and pubescent. Elytra about two times as long as broad, widest near middle, lateral margins wavy and explanate, rows of punctures on elytra deep and large and setae projected posteriorly. Puncturation on ventral side finer than on dorsal side. Aedeagus (Fig.52) with median lobe broad posteriorly and somewhat truncated near apex; apex of parameres very close, apex of each paramere bilobed, inner lobe short with single short seta.

Measurements of holotype : Total length 2.38 mm, width of head across eyes 0.33 mm, length of antenna 0.88 mm, width of prothorax across middle 0.51 mm, length of elytra 1.32 mm and width across middle 0.63 mm.

Holotype ♂, INDIA: Middle Andaman, 8.xii.1928, B.M. Bhatia, ex. Dipterocarpus turbinatus. Aedeagus dissected and mounted on cover slip and pinned with the holotype (in Forest Research Institute, Dehra Dun).

Distribution : INDIA : Andaman Is.