A NEW SPECIES OF **ELACHERTUS** (HYMENOPTERA: EULOPHIDAE) FROM PEPPER LEAF GALLS OF **LIOTHRIPS KARNYI** (THYSANOPTERA: PHALEOTHRIPIDAE) FROM INDIA

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**ABSTRACT.** A new species *Elachertus piperis* Narendran sp. nov. obtained from the marginal leaf galls of *Liothrips karnyi* (Bagnall) is described and illustrated. Its differences from the most resembling species are provided.

Key words: *Elachertus*, Eulophidae, Eulophinae, new species, India, *Liothrips*, pepper.

**Introduction**

Pepper (*Piper nigrum* Linn.) (Piperaceae), known as the king of spices is indigenous to India. Among the various pests which attack pepper, *Liothrips karnyi* is important as it deforms and damages the leaves by making marginal galls (Fig. 1). Both the adults and larvae feed on the leaves and cause marginal folded galls. So far no chalcidoid parasitoids are known to attack this pest. In this present study, we report and describe a new species of eulophid parasitoid (subfamily: Eulophinae) which emerged from this thrip galls. It is quite likely that this parasitoid is a natural enemy of *L. karnyi* and may prove to be a useful biological control agent. According to Bouček, (1988) probably all species of *Elachertus* are primary parasites.

The genus *Elachertus* contains 23 species in the Oriental region and 3 species in India (Noyes, 2003). The new species described here does not agree with any of these species. Holotype deposited in the Department of Zoology, University of Calicut (DZUC) pending transfer to Western Ghat Regional Station, Zoological Survey of India, Kozhikode, Kerala (ZSIK).

**Abbreviations used:** AOL = width between anterior ocellus and posterior ocellus; CC = costal cell; L = Length; LOL = Lateral ocellar diameter; MLM = Middle lobe of mesocutum; MS = Malar sulcus; MV = Marginal vein; OOL = ocellar space; PMV = post marginal vein; POL = postocellar space; SMV = submarginal vein; STV = stigmal vein; T1 - T6 = tergite 1 to tergite 6; W = width; WIOS = width of ocular space.

*Elachertus piperis* Narendran, sp. nov. (Figs. 1-7, 9)

Holotype, female: Length 2.5 mm. Head yellow with an oblique black stripe inside on either side of scrobe; eye brick red; flagellum black; pedicel pale brown, scape yellow, mesosoma pale brownish yellow; legs pale yellow; metasoma black with a yellow patch on T1; T6 slightly pale; ventral side of metasoma pale. Wings hyaline with veins and pilosity pale brown.

Head (Fig. 1) in anterior view 1.17x as wide as its height, 1.8x as wide as its length in dorsal view, 1.14x as wide as mesosoma; POL as long as OOL; LOL shorter than OOL (Fig. 2); AOL 0.07x LOL; occiput not carinate and not sharply margined posteriorly; WIOS 4.3 x POL; scrobe slightly deep, margins carinate, not reaching front ocellus, faintly reticulate, mostly smooth, clypeus clearly demarcated, lower margin straight, mandible bidentate; MS 0.4 eye height in profile (Fig. 3), eye uniformly (but not densely) pilose; eye height in profile 1.2x its length. Antenna inserted a little above level of lower margin of eye; antennal funicle 5 segmented, clava 2 segmented. Relative L: W of antennal segments: scape - 25:7; pedicel - 12:5.5; F1 - 7.5; F2 - 15.8; F3 - 14.7; F4 - 12:7; F5 - 13.8; clava - 17:6 (Fig. 4).
Mesosoma: (Fig. 5) Pronotum with a faint cross carina indicated, median length 0.6x its maximum width, finely reticulate, with sparse pubescence and 4 pairs of stronger setae. Mesoscutum longer than pronotum (34:24); MLM as wide as long, protruding backwards from level of anterior margin of axillae, finely reticulate on posterior half, with 3 pairs of setae of subequal length, notauli curved to posterior side forming an angle with anterior margin of axilla; axilla bare; scutellum shorter than MLM, with fine reticulation, with 2 pairs of stout setae, without additional setae, lateral groove parallel, not meeting each other medially and never curved inside; propodeum with a medium carina, without a fork at base; medium carina without rami and starting anteriorly below a projecting lamina, areas on either side of median carina smooth and shiny. Forewing (Fig:6) 2.1x as long as broad, speculum absent, relative length CC = 28; SMV=23; MV = 37; PMV=20; STV=14. Metasoma: A little longer than mesosoma (111: 105), 2.43 x as long as broad; T1 longest followed by T6, T2, T3, T4 and T5 subequal in median length. Ovipositor sheath visible from dorsally.

Male: Unknown

Variation: Length varies from 2.2-2.5mm.

Materials examined: Holotype: Female, India, Kerala, Palghat, Kuzhalmannam, 13.1.2008, K. Bindu (DZUC). Paratypes: 3 females, same date as that of holotype. Emerged from the marginal leaf galls of Liothrips karnyi on pepper (Fig. 8).

Etymology: The species name is after the host plant Piper nigrum.

Discussion: This new species comes near Elachertus parallelus Zhu and Huang in the key to species of China by Zhu and Huang (2001). However, it differs from E. parallelus in having: head and mesosoma yellow (head and mesosoma completely black in E. parallelus); hind femur completely pale yellow (hind femur black with yellow apex in E. parallelus); clava shorter than F1 (clava longer than F1 in E. parallelus) POL equal to OOL (POL equal 2x OOL in E. parallelus); pronotum with cross carina (pronotum without cross carina in E. parallelus); and scrobe with oblique black strips on sides (scrobe without oblique black strips in E. parallelus). This new species does not agree with any known species from the Oriental region.

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References

Fig. 8. Marginal gall on pepper leaf.

Fig. 9. *Elachertus piperis* Narendran, sp. nov., female, on pepper leaf.