

**A NEW GENUS AND SPECIES OF ENTEDONINAE
(HYMENOPTERA: EULOPHIDAE) FROM THE NEOTROPICAL REGION**

CHRISTER HANSSON

Department of Zoology, Helgonavägen 3, S-223 62 Lund, Sweden (e-mail: christer.hansson@zool.lu.se).

Abstract.—A new genus and species of the subfamily Entedoninae (Hymenoptera: Eulophidae), *Tropicharis cecivora* Hansson are described based on material from the northern Neotropical Region. The hosts are gallmakers (presumably gallmidges) on host plants of the genera *Amphitecna*, *Capsicum*, *Lantana*, *Neea*, *Piper*, *Smilax*, and an unidentified Myrsinaceae.

Key Words: Chalcidoidea, Eulophidae, *Tropicharis*, Neotropical, parasitoid, gallmakers, taxonomy

The Neotropical fauna of Eulophidae is very poorly known. The few recorded species (e.g., De Santis 1979, 1983, 1989, De Santis and Fidalgo 1994) represent only a fraction of the actual number of species. For instance, in Costa Rica new sampling indicates that there may be as many as 1,000 species (LaSalle and Schauff 1995), but so far only about 20 species have been recorded. Needless to say the exploration of Neotropical eulophids is still in its infancy.

In this paper a new genus and one new species of the subfamily Entedoninae are described. The species has been reared from galls on various plants (see below under "Hosts"), where it develops as a parasitoid on the gall inducers, which are probably gall-midges (Diptera: Cecidomyiidae).

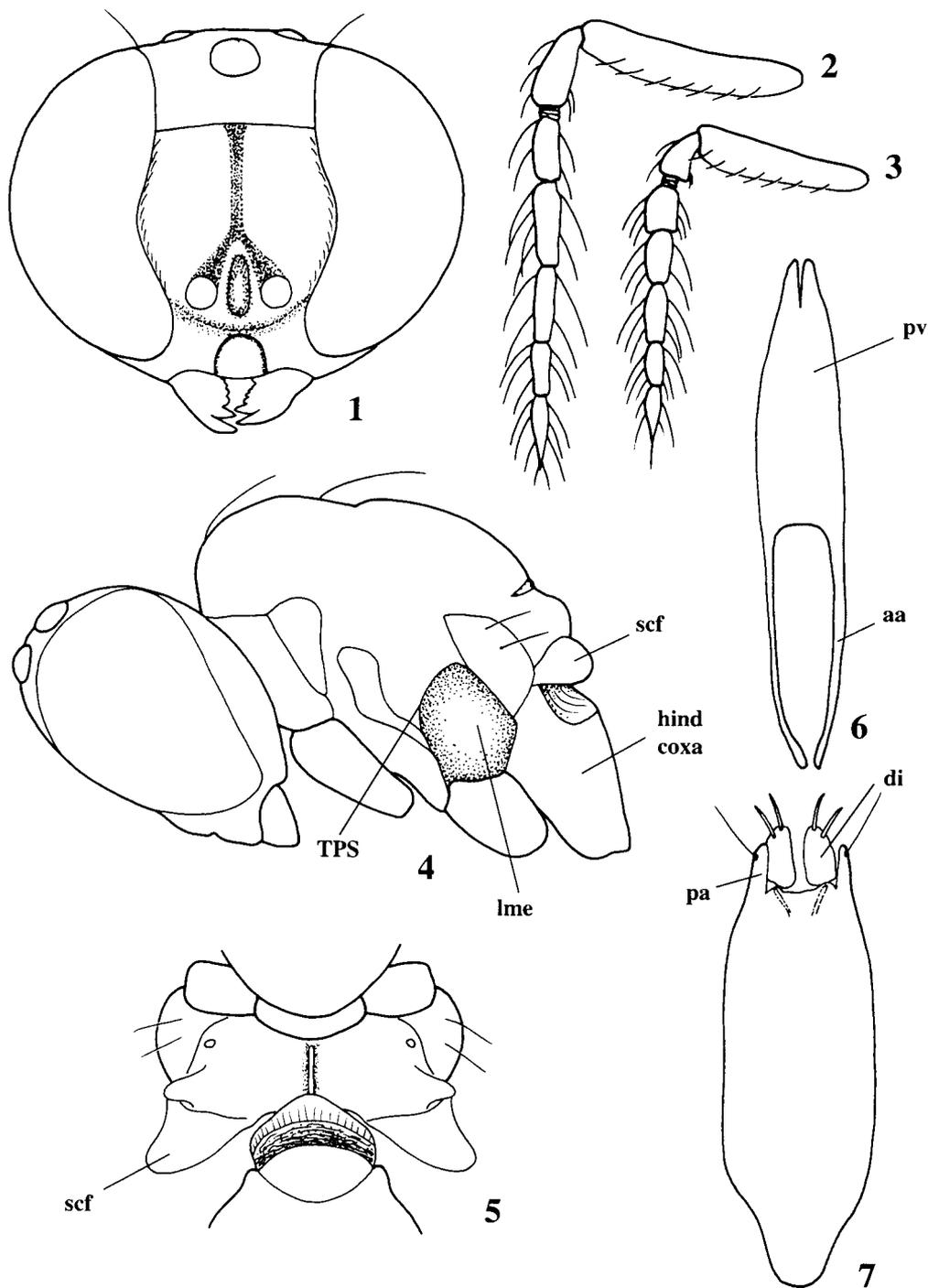
Acronyms of museums used in the text are as follows: BMNH: The Natural History Museum, London; CNC: Canadian National Collection of Insects, Ottawa; EAP: Escuela Agrícola Panamericana, Zamorano, Honduras; INBio: Instituto Nacional de Biodiversidad, Costa Rica; LUZM: Lund University Zoology Museum, Sweden; MIUCR: Museo de Insectos, Universidad

de Costa Rica; TAMU: Texas A&M University, U.S.A.; USNM: National Museum of Natural History, Smithsonian Institution, Washington, D.C.

***Tropicharis* Hansson, new genus**
(Figs. 1–7)

Type species.—*Tropicharis cecivora* Hansson, new species.

Diagnosis.—Antennal scrobes joining low on frons, far below frontal cross-groove, and with a single median groove running up to frontal cross-groove (Fig. 1); clypeus semicircular and delimited by a distinct groove; eyes large. Pronotum reduced, hardly visible in dorsal view; transepimeral sulcus (TPS) strongly curved (Fig. 4), lower mesepimeron large and convex; part of posterior propodeum over hind coxa (supracoxal flange) enlarged and membranous, and dorsobasal hind coxa with a flattened smooth area to fit the enlarged supracoxal flange; postmarginal vein 2.7–4.2× as long as stigmal vein. Gaster broadly attached to propodeum, petiole short and wide (Fig. 5); female gaster elongate, 1.6–2.3× as long as mesosoma. Male genitalia (Figs. 6, 7): par-



Figs. 1-7. *Tropicharis cecivora*. 1, Female head, front view. 2, Female antenna, lateral view. 3, Male antenna, lateral view. 4, Female head and mesosoma, lateral view. 5, Female propodeum and petiole, dorsal view. 6, Male aedeagus. 7, Male phallobase. Abbreviations: aa = aedeagal apodeme; di = digitus; lme = lower mesepimeron; pa = paramere; pv = penis valves; scf = supracoxal flange; TPS = transcimeral sulcus.

ameres extended, with a single seta close to apex; volsellar setae missing; the two digital spines on each digitus slender, placed with a distance between them, and about equal in size.

Discussion.—Through the large head, large eyes, antennal scrobes joining close to toruli, delimited clypeus, reduced pronotum, \pm hidden dorsellum, extended paramere in male genitalia, and hosts (gallmakers), *Tropicharis* is similar to *Ephopalotus* Girault. *Tropicharis* differs from *Ephopalotus* in having notauli poorly delimited (notauli deep and complete in *Ephopalotus*); lower mesepimeron strongly convex and shiny (lower mesepimeron weakly convex and reticulate in *Ephopalotus*), TPS strongly curved (TPS weakly curved in *Ephopalotus*); supracoxal flange enlarged and membranous, membrane corresponds to a flattened and shiny surface on dorsobasal hindcoxa (supracoxal flange narrow in *Ephopalotus*); postmarginal vein $2.7\text{--}4.2\times$ as long as stigmal vein ($1\text{--}1.4\times$ in *Ephopalotus*); volsellar setae in male genitalia missing (present in *Ephopalotus*).

In Schauff et al. (1997) *Tropicharis* runs to couplet 117 (*Emersonella*) or 119 (*Entedon*), but differs from both in several characters, e.g., the delimited clypeus. In Bouček (1988) *Tropicharis* runs to couplet 140 (*Zaommomyiella*) or 149 (*Chrysocharis*). *Tropicharis* is similar to *Zaommomyiella* but differs in having frontal cross-groove straight to slightly down-curved laterally (deeply V-shaped in *Zaommomyiella*). The clypeus is distinctly delimited in *Tropicharis*, but undelimited in *Chrysocharis*.

Description.—Flagellum with 5 separated segments; sensilla ampullacea asymmetric and elongate (type III sensu Hansson 1990), present on all segments. Antenna with 3 discoid anelli. Scape narrow in both sexes, ventral sense area in male reaching along major part of scape. Mandibles with 2 larger teeth at apex and with several smaller teeth above them. Clypeus delimited. Antennal scrobes joining close to antennal toruli. Frontal cross-groove straight

or slightly down-curved laterally, cross-groove faint or missing in some specimens from Dominica. Occiput without median groove or fold above foramen magnum.

Pronotum reduced and hardly visible in dorsal view. Midlobe of mesoscutum with 2 pair of setae; notauli present as shallow and weakly defined grooves in anterior $\frac{3}{4}$. Scutellum with 1 pair of setae, situated at equal distance from anterior and posterior edges of scutellum. TPS strongly curved; lower mesepimeron large and convex. Dorsellum partly to completely hidden under scutellum. Propodeum with a complete median carina; propodeal callus with 2 setae; supracoxal flange enlarged and membranous. Dorsobasal hind coxa with a flattened smooth area to fit the enlarged supracoxal flange. Forewing rounded; costal cell narrow, as wide as base of submarginal vein; postmarginal vein $2.7\text{--}4.2$ as long as stigmal vein; radial cell hairy; without stigmal hairlines.

Petiole short and transverse, with a short, membranous anterodorsal shield that reaches up on posterior propodeum, shield very short or missing in male. Male genitalia: parameres extended, with a single seta close to apex; volsellar setae missing; digitus $1.5\times$ as long as wide, the two digital spines on each digitus slender, placed with a distance between them and about equal in size; aedeagal apodemes about as long as penis valves.

Etymology.—*Tropi* as in tropical—this group is found exclusively in tropical areas in the Americas; *charis* is greek for beauty or splendour, and is a commonly used suffix for entedonines due to their beautiful colors and shiny appearance. The gender is feminine.

***Tropicharis cecivora* Hansson,
new species
(Figs. 1–7)**

Description.—Length of body ♀ = $1.0\text{--}2.5$ mm, ♂ = $0.8\text{--}1.7$ mm.

Color: Scape whitish with apex infuscate, to completely whitish, remaining an-

tenna dark. Frons below frontal cross-groove golden-green, above cross-groove metallic purple. Vertex metallic purple or bluish-green. Mesoscutum and scutellum golden-red to golden-green. Propodeum golden-green with the enlarged supracoxal flange transparent. Fore coxa pale to dark, mid and hind coxae pale; remaining parts of legs pale. Forewing with an infusate spot medially, to completely hyaline. Petiole whitish. Gaster golden-green to golden-purple, occasionally with median part pale nonmetallic. Male: Entire antenna dark, or with scape pale. Frons below frontal cross-groove golden-red, above cross-groove metallic purple. Vertex metallic purple. Mesoscutum and scutellum golden-purple to golden-red. Propodeum golden-green. Legs, wings and petiole as in female. Gaster with weak golden-purple tinges.

Head: Antenna as in Figs. 2, 3. Height of eye/malar space/width of mouth ♀: 15.0/1.0/7.0, ♂: 12.8/1.0/4.4. Frons below frontal cross-groove smooth and shiny or with weak smallmeshed reticulation, above cross-groove smooth and shiny; with a protuberance between antennal toruli. Vertex smooth and shiny. Distances between posterior ocelli/one posterior ocellus and the closest eye/one posterior ocellus and occipital margin: 9.0/3.5/1.0. Occipital margin with a sharp edge. Width of head/width of mesosoma just in front of wing base = 1.2.

Mesosoma: Without transverse carina along posterior pronotum. Mesoscutum and scutellum with strong reticulation. Forewing speculum closed below and with 20–25 admarginal setae on underside of membrane; length of wing/length of marginal vein/height of wing: 2.0/1.2/1.0; length of postmarginal vein/length of stigmal vein = 2.7–4.2. Propodeum with a complete and strong median carina, surface otherwise smooth and shiny.

Metasoma: Female gaster lanceolate, strongly sclerotised and not collapsed—not even in specimens dried outside a critical point drier; last tergite varying in length: 1.0–3.7× as long as wide at base; length of

mesosoma/length of gaster ♀ = 0.4–0.6, ♂ = 0.6–0.8.

Type material.—Holotype ♀ labelled “Mexico: Oaxaca, 2 mi N Candelaria Loxicha, 17.vii.1985, J. B. Woolley & G. Zolnerowich” (USNM). Paratypes: 6 ♀ 9 ♂ with same label data as holotype (EAP, LUZM, TAMU); 1 ♀ 1 ♂ “Mexico Oaxaca, 4.4 mi NE San Pedro Mixtepec, 16.vii.1985, J. B. Woolley & G. Zolnerowich” (USNM); 1 ♂ “Mexico: Oaxaca, 29.1 mi E Pochutla, 13.vii.1987, 80’, J. B. Woolley & G. Zolnerowich” (TAMU); 1 ♀ “Mexico: Campeche, Chicanna Ruins, 6 mi E Xpujil, 13–14.vii.1983, R. Anderson” (CNC); 1 ♀ “Mexico: Campeche, Chicanna, 10 km W Xpujil, 300 m, 12–14.vii.1983, M. Kaulbars” (CNC); 1 ♀ “Mexico: Campeche, 6 km W Escarega, El Tormento Research Station, 12.vii.1983, 110 m, M. Kaulbars” (CNC); 1 ♀ “Mexico: Chiapas, 12.1 km S Palenque, 13.viii.1990, 1200’, J. B. Woolley” (LUZM); 1 ♀ “Mexico: Chiapas, Palenque, 80 m, 29.vii.1983, M. Kaulbars” (CNC); 1 ♀ “Mexico: Quintana Roo, 68 km SW Chetumal, Kohunlich, 160 m, 14–17.vii.1983, M. Kaulbars” (CNC); 1 ♀ “Mexico: Tamaulipas, Reserva El Cielo, Alta Cimas, 3100’, 30.vii.1993, J. B. Woolley & K. Wikse” (TAMU); 2 ♂ “Mexico: Tamaulipas, Reserva El Cielo, Gomez Farias, 28.vii.1993, 450 m, J. B. Woolley” (TAMU); 1 ♀ 1 ♂ “Costa Rica: Alajuela, N slope Volcan Cacao, 650 m, 17.iii.1986, C. Hansson” (LUZM); 1 ♂ “Costa Rica: Cartago, Turrialba, CATIE, 100 m, 14–15.iii.1990, J. S. Noyes” (BMNH); 2 ♀ “Costa Rica: Guanacaste, Est. Pitilla, 9 km S Santa Cecilia, 700 m, iii.1995, C. Moraga & P. Rios” (INBio); 4 ♂ “Costa Rica: Guanacaste, P.N. Santa Rosa, x.1996, ex leaf blister gall on Myrsinaceae, V. Solano” (EAP, MIUCR); 1 ♀ “Costa Rica: Heredia, 12 km SO Horquetas, 550 m, 27.ix.1987, P. Hanson, ex leaf gall on *Neea*” (MIUCR); 1 ♀ 1 ♂ “Costa Rica: Heredia, Braulio Carrillo N.P., 500 m, 10.iv.1985, H. Goulet & L. Masner” (CNC); 2 ♀ “Costa Rica: He-

redia, Braulio Carrillo N.P., 8 km E HQ, 700 m, 13.ii.1991, J. S. Noyes" (BMNH); 1 ♂ "Costa Rica: Heredia, Chilamate, 75 m, 25.iii.1989, P. Hanson & C. Godoy" (LUZM); 1 ♀ "Costa Rica: Heredia, Volcan Barva, 2400 m, 6.ix.1986, L. Masner" (CNC); 1 ♀ "Costa Rica: Limon, 0.5 km E Braulio Carrillo N.P., San José-Limon road, 400 m, 9.ii.1991, J. S. Noyes" (BMNH); 3 ♂ "Costa Rica: Limon, Hitoy-Cerere BP HQ, 100 m, 14–18.i.1991, J. S. Noyes" (BMNH); 6 ♀ "Costa Rica: Limon, Pococi, Teleferico, 500 m, v.1997, ex cylindrical leaf gall on *Smilax*, P. Hanson" (LUZM, MIUCR); 1 ♀ "Costa Rica: Puntarenas, Golfo Dulce, 5 km W Piedras Blancas, 100 m, iv–v.1991, P. Hanson" (EAP); 1 ♀ from same locality as previous but collected x.1990 (MIUCR); 1 ♀ "Costa Rica: Puntarenas, Golfo Dulce, 24 km W Piedras Blancas, 200 m, xi.1992, P. Hanson" (LUZM); 1 ♀ "Costa Rica: Puntarenas, Golfo Dulce, 3 km SW Rincon, 10 m, vi.1991, P. Hanson" (LUZM); 1 ♀ from same locality as previous but collected vii.1991 (BMNH); 3 ♀ 4 ♂ "Costa Rica: Puntarenas, Manuel Antonio N.P., 23–28. viii.1986, L. Masner" (CNC, LUZM); 1 ♀ "Costa Rica: Puntarenas, P.N. Manuel Antonio, 15.xii.1987, ex leaf vein swelling on *Amphitecna*?, P. Hanson" (MIUCR); 9 ♀ 5 ♂ "Costa Rica: San José, Ciudad Colon, Hacienda Rodea, 800 m, 21.x.1990, P. Hanson, ex vein gall on *Piper*" (LUZM, MIUCR, USNM); 3 ♀ "Dominican Republic: San Cristobal, 20 km NW San Cristobal Manomatuey, 500 m, 23.iii.1991, L. Masner" (BMNH, LUZM); 1 ♀ "Dominican Republic: Pedernales, Sierra de Bahoruca, 1350 m, 22.vii.1990, L. Masner" (BMNH); 2 ♀ 5 ♂ "Dominican Republic: Independencia, 28 km NW La Descubierta, Sierra Nelba, 1400 m, 5.xii.1991, L. Masner" (BMNH, LUZM); 2 ♀ 2 ♂ "Dominican Republic: Barohona, Sierra de Bahoruca, 1400 m, 12.i.1989, L. Masner" (BMNH, CNC); 3 ♀ "Dominican Republic: Prov. Pedernales, 23.5 km N Cabo Rojo, 540 m, vii.1990, L. Masner" (CNC, LUZM); 1 ♀

1 ♂ "Dominican Republic: Prov. Pedernales, Sta. Bahoruca, Alcoa Rd, 530–750 m, 14.vii.1990, L. Masner" (CNC); 1 ♀ "Ecuador: Pichin, Tinalandia, 800 m, 7.ii.1983, L. Huggert" (LUZM); 1 ♀ "Ecuador: Pichin, Rio Palenque R.S., 200 m, 4.ii.1983, L. Masner & M. Sharkey" (CNC); 1 ♀ "El Salvador: Soyapango, 7.xi.1954, P.A. Berry, on chile pepper" (USNM); 2 ♀ "Guatemala: Petén, 2 km E Tikal, 27.xii.1988, J. LaSalle" (LaSalle); 1 ♀ "Guatemala: Izabal, Dpto, Las Escobas, 15.vii.1986, L. LeSage" (CNC); 3 ♀ "Panama: Chanel Zone, vii.1953, Krauss, stem swelling on *Lantana*" (USNM); 1 ♂ "Panama: Canal Zone, 9°25'N, 80°0'W, 10–12m, 5.v.1973, J. Helava" (CNC); 12 ♀ 4 ♂ "Panama: Barro Colorado Island, 17.i.1924, I. Molino & J. Zetek" (USNM); 1 ♀ "Trinidad: St. George, Arena Reserva, 3.viii.1976" (BMNH); 1 ♀ "Venezuela: Aragua, 24 km N Maracay, Henry Pittier N.P., 1000 m, 24.xii.1985, P. Kovarik & R. Jones" (TAMU).

Distribution.—Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Mexico, Panama, Trinidad, Venezuela. This indicates a northern Neotropical distribution, including Mexico, Central America, the West Indies and northern South America. However, due to the poor collecting in South America the southern border of distribution is uncertain. No material from the southern U.S. has been found and it is possible that *Tropicharis* is a truly Neotropical group.

Hosts.—Associated with gallmakers on *Amphitecna* sp. (probably *Amphitecna latifolia*, P. Hanson personal correspondence) (Bignoniaceae), *Capsicum* sp. (Solanaceae), *Lantana* sp. (Verbenaceae), *Neea* sp. (Nyctaginaceae), *Piper* sp. (Piperaceae), *Smilax* sp. (Smilacaceae), and an unidentified Myrsinaceae.

Etymology.—*cecivora*, abbreviated latin for "eating cecids," since cecidomyids are the presumed hosts.

ACKNOWLEDGMENTS

My sincere thanks to Paul Hanson (MIUCR) whose collecting efforts, through Malaise trappings and rearings, have greatly enhanced the possibilities to explore the Hymenoptera of Costa Rica. My thanks also to J. T. Huber (CNC), J. LaSalle, J. S. Noyes (BMNH), M. E. Schauff (USNM), J. Ugalde (INBio) and J. B. Woolley (TAMU) for loan of material. I am grateful to J. LaSalle and an anonymous reviewer for valuable comments on the manuscript.

LITERATURE CITED

- Bouček, Z. 1988. Australasian Chalcidoidea (Hymenoptera): A Biosystematic Revision of Genera of Fourteen Families, with a Reclassification of Species. CAB Wallingford, U.K., 838 pp.
- De Santis, L. 1979. Catálogo de los Himenópteros Calcidoideos de América al sur de los Estados Unidos. Publicación especial. Comisión de Investigaciones Científicas, Provincia de Buenos Aires. La Plata, Argentina. 488 pp.
- De Santis, L. 1983 (1981). Catálogo de los Himenópteros Calcidoideos de América al sur de los Estados Unidos—primer suplemento. *Revista Peruana de Entomología* 24: 1–38.
- De Santis, L. 1989. Catálogo de los Himenópteros Calcidoideos (Hymenoptera) al sur de los Estados Unidos. Segundo suplemento. *Acta Entomologica Chilena* 15: 9–90.
- De Santis, L. and Fidalgo, P. 1994. Catálogo de Himenópteros Calcidoideos. Serie de la Academia Nacional de Agronomía y Veterinaria No. 13. Buenos Aires, 154 pp.
- Hansson, C. 1990. A taxonomic study on the Palearctic species of *Chrysonotomyia* Ashmead and *Neochrysocharis* Kurdjumov (Hymenoptera: Eulophidae). *Entomologica Scandinavica* 21: 29–52.
- LaSalle, J. and Schauff, M. E. 1995. Eulophidae, pp. 315–329. *In* Hanson, P. and Gauld, I. D., eds., *Hymenoptera of Costa Rica*. Oxford Science Publications, 893 pp.
- Schauff, M. E., LaSalle, J., and Coote, L. D. 1997. Eulophidae, pp. 327–429. *In* Gibson, G. A. P., Huber, J. T. and Woolley, J. B., eds., *Annotated Keys to the Genera of Nearctic Chalcidoidea* (Hymenoptera) NRC Research Press, Ottawa.