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A NEW SPECIES OF *CECIDOSTIBA* THOMSON (HYM., PTEROMALIDAE), A KEY TO SPECIES OF THE GENUS AND REARING RECORDS OF OTHER PTEROMALIDAE ASSOCIATED WITH OAK GALL WASPS (HYM., CYNIPIDAE)

BY J.L. NIEVES & R.R. ASKEW

Cecidostiba is known only from the Palaearctic region where all species are parasitoids in galls of Cynipidae on *Quercus, Castanea* and *Acer*. Graham (1969) provides a key to five north-western European species, but three additional species are known from southern Europe, one of which is described here, and another has been described from Japan. The nine known species are included, with biological and distributional notes, in a key.

Cecidostiba ilicina sp. n.

Female. Head in front dark greenish blue, occiput purplish black; mesoscutum dark blue, scutellum purplish black, propodeum blue; gaster blackish with anterior of tergites one and six bluish and greenish blue respectively. Antenna testaceous with weak infuscation on the dorsal surfaces of pedicel and flagellum. Coxae and femora metallic, concolorous with sides of thorax; tibiae pale testaceous, somewhat infuscate proximally with only the apices clear. Forewing disc very slightly infuscate but with a clearly defined fuscous band across and below the stigmal vein (fig. 2). Length 1.6–2.0 mm.

Head slightly broader than mesoscutum. In dorsal view almost twice as broad as long; temples about 0.3 times as long as an eye; lateral ocellus separated from orbit by hardly more than 1.3 times its major diameter; POL about 2.6 times OOL. Head in front view 1.2 times as broad as high; eyes separated by 1.2 times their height; malar space almost half the height of an eye; right mandible with four teeth, left with three; clypeus striate, its anterior margin curved very slightly forwards and entire medially.

Antenna (fig. 4) subclavate, inserted above ventral edge of eye, formula 11263; scape short, less than 0.8 times height of an eye and not nearly reaching anterior edge of median ocellus; combined length of pedicel and flagellum 0.8 times breadth of head; pedicel about

2.5 times as long as broad and almost twice as long as first funicle segment; anelli transverse; funicle segments one to four slightly longer than broad, five and six subquadrate to slightly transverse; second funicle segment slightly longer than first; flagellar plate sensillae arranged in a single transverse row on each segment.

Pronotum in dorsal view short; collar medially rather less than 0.1 times as long as mesoscutum, margined by a distinct but low anterior carina. Mesoscutum 1.6 times as broad as long, strongly reticulate with distinct piliferous punctures, notauli very shallow. Scutellum 0.7 times as long as mesoscutum, more finely reticulate. Propodeum medially short, rather less than one fifth as long as scutellum; median carina indicated but very short; median area sloping away from either side of median carina, shining with very weak reticulation; nucha represented by a smooth strip which is almost as long as the propodeal median carina.

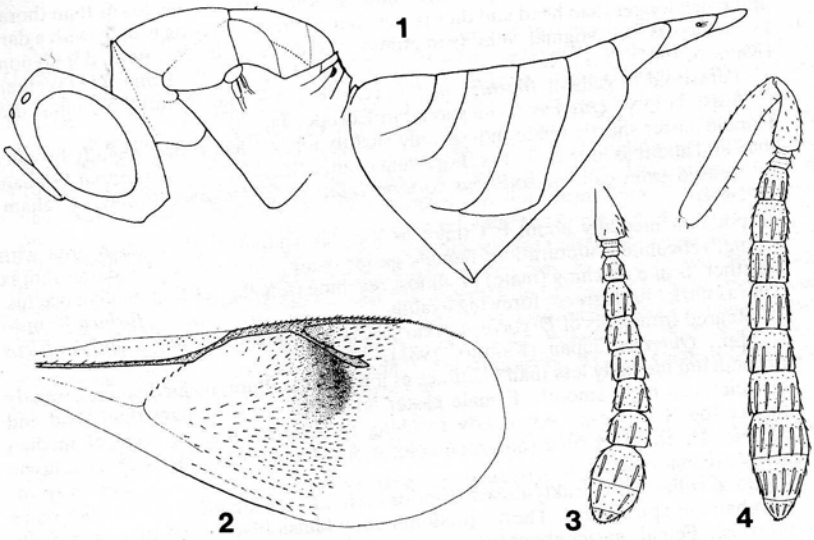
Forewing (fig. 2) with line of hairs on basal vein, basal cell otherwise bare; cubital vein bare beneath basal cell and speculum; speculum large; lengths of veins submarginal : marginal : stigmal : postmarginal as 33 : 13 : 13 : 15; stigmal vein almost straight, forming an angle of about 30° with postmarginal vein; stigma elongate, not enlarged.

Gaster almost three times as long as broad, 1.3 times as long as head and thorax combined, in dorsal view much narrower than thorax; posterior margins of tergites almost straight; hypopygium short, its apex at about one third of gaster length (fig. 1).

Male. Differs from female as follows: head darker, femora and tibiae more strongly infuscate, forewing lacking fuscous band beneath stigmal vein. Antenna (fig. 3) more strongly clavate, the clava less than twice as long as broad. Propodeum and dorsellum longer in dorsal view; propodeum medially about one quarter of length of scutellum. Gaster about as long as thorax plus propodeum.

Material studied. Holotype ♀. SPAIN: Sando (Sa.), reared from gall of *Plagiotrochus quercusilicis* (Fabricius) ♂♀ (Hym., Cynipidae) on *Quercus ilex* (leg. Nieves); gall collected 11.vi.1982, parasite emerged vi.1982; in Museo Nacional de Ciencias Naturales (Entomologia), Madrid. Paratypes 5 ♂♂, 6 ♀♀ same data as holotype (1 ♂, 2 ♀♀ in coll. R.R. Askew, the remainder in MNCN, Madrid); 1 ♂, 1 ♀ ex galls of *P. quercusilicis,* Robledo de Chavela (M.), collected 4.vii.1986, emerged vii.1986 (in British Museum Nat. Hist.). Additional material, all reared from galls of *P. quercusilicis*; 5 ♂♂, 1 ♀ La Flecha (Sa.), galls collected iv.1982, parasites emerged v.1982; 1 ♂, 2 ♀♀ Batuecas (Sa.), galls collected vii.1982; 3 ♀♀ Rozas de Puerto Real (M.), galls collected 4.vii.1986, parasites emerged vii.1986.

The new species is allied to *C. semifascia* (Walker) from which it differs in its bluish black and not greenish coloration, the first funicle segment being smaller than the second and much shorter than the pedicel (subequal to second and pedicel in *semifascia*), the marginal and stigmal veins being almost equal in length (marginal longer than stigmal in *semifascia*), and the apex of the hypopygium lying only about one third of the distance along the ventral edge of the gaster (about mid-length in *semifascia*). Its dark coloration gives *C. ilicina* a resemblance to *C. atra* Askew, a species also associated with *Plagiotrochus* galls on *Quercus ilex,* but in *C. atra* the anterior clypeal margin is incised, the gaster is relatively shorter and broader with the apex of the hypopygium further posterior, the stigma is enlarged and rounded and the stigmal vein forms a less acute angle (about 45°) with the postmarginal vein, and the median area of the propodeum is strongly sculptured.



Figs 1–4. — *Cecidostiba ilicina* sp. n.: 1, female body in left lateral view; 2, female right forewing (distal trichiation omitted); 3, pedicel and flagellum of male antenna; 4, female antenna.

Key to species of *Cecidostiba*

(based mainly on females but most males will run to species)

1. Lateral ocelli small, separated by about 3 times their major diameter from orbit. Thorax coppery. Forewing infumate, strongly so discally, but without a dark fascia across the stigmal vein. Subgenus *Anastiba* Graham ..... *geganius* (Walker)
   Parasitoid in galls of *Andricus quercusradicis* (Fabricius) ♀, *Quercus*. Britain, France, Spain, Czechoslovakia, Hungary, Yugoslavia, Bulgaria, Moldavian S.S.R. See Askew (1975) for some synonymy.
— Lateral ocelli separated by less than 2 times their major diameter from orbit. Thorax greenish, bluish green or bluish black. Forewing clear or weakly infumate, with or without a dark fascia across the stigmal vein. Subgenus *Cecidostiba* s.str. 2
2. Speculum completely closed below by hairs on cubital vein. Lateral ocelli large, separated by only their major diameter from orbit. (Thorax dark blue, forewing with dark fascia across stigmal vein, anterior margin of clypeus subtruncate) ..... *jucundus* (Förster)
   Parasitoid in galls of *Pediaspis aceris* Förster ♂♀, *Acer*. France, Germany. See Askew (1975) for some synonymy.
— Speculum open or closed below only distally. Lateral ocelli separated by 1.5 times to almost twice their major diameter from orbit 3
3. Anterior margin of clypeus straight. Stigma of normal size; often with a dark fascia across stigmal vein 4
— Anterior margin of clypeus with a small median incision. Stigma more or less enlarged; no dark fascia beneath stigmal vein 7
4. Female antenna with first funicle segment about as long as both pedicel and second funicle segment. Thorax greenish 5
— Female antenna with first funicle segment distinctly shorter and narrower than second, and shorter than pedicel. Thorax dark green to dark blue 6

5. Female gaster lanceolate, at least three times as long as broad, narrower than thorax and much longer than head and thorax together. Female forewing usually with a dark fascia across the stigmal vein (sometimes absent, e.g. in Japanese populations (Kamijo, 1981)) ..... *semifascia* (Walker)
Parasitoid in galls of *Biorhiza pallida* (Olivier) ♂♀ and *B. weldi* Yasumatsu & Masuda ♂♀, *Quercus*. Widespread in Europe, Japan.

— Female gaster shortly ovate, not or only slightly longer than broad, slightly broader than and about as long as thorax. Forewing hyaline ..... *saportai* Graham
Reared from galls of *Andricus coriaria* (Hartig) ♀, *Quercus*. France (Graham, 1984).

6. Propodeum medially about 0.4 times as long as scutellum, its median area with strong, reticulate sculpturation. Female gaster ovate, shorter than head and thorax together. Scape reaching (male) or almost reaching (female) level of median ocellus. Thorax dark bluish green; forewing hyaline ..... *fushica* Kamijo
Reared from galls of *Dryocosmus kuriphilus* Yasumatsu, *Castanea,* and *Andricus* spp., *Quercus*. Japan (Kamijo, 1981).

— Propodeum medially less than 0.3 times as long as scutellum, its median area weakly reticulate, in parts smooth. Female gaster lanceolate, much longer than head and thorax together. Scape not nearly reaching to level of anterior edge of median ocellus. Thorax dark blue (no green coloration); female forewing with dark fascia across stigmal vein ..... *ilicina* sp. n.

7. Pronotal collar with weakly-raised anterior carina.Forewing basal cell in both sexes with hairs in apical third. Thorax predominantly bluish black; hind tibia proximally brownish. Female gaster about twice as long as broad ..... *atra* Askew
Parasitoid in galls of *Plagiotrochus australis* (Mayr) ♂♀ (Askew, 1975) and *P. panteli* Pujade ♂♀ (Pujade, 1985), *Quercus ilex, Q. coccifera*. France, Spain.

— Pronotal collar with anterior carina strongly raised. Forewing basal cell bare in females (excepting hairs on basal vein) and with only scattered hairs in males. Thorax predominantly greenish; hind tibia entirely pale yellowish. Female gaster about three times as long as broad 8

8. Female propodeum medially 0.2–0.25 times as long as scutellum; scutellum in profile strongly declived posteriorly ..... *hilaris* (Walker)

— Female propodeum medially at least 0.25 times as long as scutellum; scutellum in profile only moderately convex ..... *adana* Askew
C. hilaris and *C. adana* are very closely allied. The former occurs throughout Europe, the latter is known only from France and Spain but may be more widespread although it appears absent from Britain. *C. hilaris* is a common parasitoid in galls of *Biorhiza pallida* ♂♀ and specimens from galls of *Andricus quercusradicis* (Fabricius) ♂♀, *A. quercusramuli* (Linnaeus) ♂♀ and *Plagiotrochus fusifex* Mayr ♂♀ may also belong to this species (Nieves, 1982). *C. adana* is a parasitoid in asexual generation galls of *Cynips* and the *Andricus kollari*-group.

Other Pteromalidae newly-associated with cynipid oak galls

Mesopolobus (Sturovia) squamifer (Thomson)

3 ♂♂ reared ex unidentified galls in twigs of *Quercus faginea,* 1984, SPAIN, Topas (Sa.); 1 ♂ as above, SPAIN, Valderachas (Gu.); 1 ♀ ex twigs of *Quercus ilex,* 1982, SPAIN, La Flecha (Sa.).

Bouček (1961) records the rearing of *M. squamifer* (as *Sturovia tenuicornis*) from oak twigs in Czechoslovakia.

Eumacepolus obscurior Graham

1 ♂, 1 ♀ ex twigs of *Quercus faginea,* 1984, SPAIN, Valderachas (Gu.).

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J.L.N., Museo Nacional de Ciencias Naturales (Entomologia), J. Guttierez Abascal, 2, 28006 Madrid.
R.R.A., Dept. of Environmental Biology, University of Manchester, Manchester M13 9PL.
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Oxycera dives Loew (Dipt., Stratiomyidae) in Northumberland. — During the National Trust's Biological Survey of properties in Northumbria, a pair *in-cop.* and a single female of the rare soldierfly *Oxycera dives* Loew were swept at the edge of Catcherside North Plantation, on the Wallington Estate (NZ 986888), on the 4th August, 1986. This plantation lies on the boundary of a large area of un-improved wet heathland, in the Harwood Head area of the property, near the course of Ottercops Burn. Relatively little is known about the habitat-requirements of this rare species, so a description of the locality is given here: Swept from low birch at the edge of a varied belt of oak-birch woodland, which has probably developed naturally within an old beech plantation enclosure. The plantation bounds an extensive area of un-improved heathland and grass-heath which, possibly due to the basic nature of the underlying geology, is particularly herb-rich. The area adjacent to the plantation is very wet, and dominated by ling heather (*Calluna vulgaris*) and cross-leaved heath (*Erica tetralix*), with abundant bilberry (*Vaccinium myrtillus*) and purple moor-grass (*Molinia caerulea*). Immediately adjacent to the birches where the flies were found, there is a large tract of mire with an excellent population of hare's-tail cotton-grass (*Eriophorum vaginatum*). Creeping willow (*Salix repens*), lousewort (*Pedicularis sylvatica*), heath rush (*Juncus squarrosus*), common sedge (*Carex nigra*), heath bedstraw (*Galium saxatile*) and common milkwort (*Polygala serpyllifolia*) are frequent among the plants recorded in this area. The altitude is about 230 m above sea-level. The peat was saturated with water at the time of survey, and it seems most likely that the larvae of *O. dives* live in the wet peat, perhaps associated with particular components of the flora. Adult *Oxycera,* in keeping with many other Stratiomyids, often tend to be found resting in bushes and trees near the larval habitat. Other recent records for *O. dives* include three sites in Perthshire, dating from around 1965, and three from Yorkshire, between 1975 and 1981. Of these, at least two sites are known to be influenced by basic geology.

My thanks to Steven Falk of the NCC's Invertebrate Site Register, for supplying details of recent *O. dives* records, and to Tony Irwin of Norwich Museum for confirming the identity of the specimens. — D.K. CLEMENTS, National Trust Biological Survey, Spitalgate Lane, Cirencester, Glos. GL7 2DE: *October 7th*, 1986.