

**The genus *Curriea* in Europe and the Canary Islands
(Hymenoptera: Braconidae: Braconinae)**

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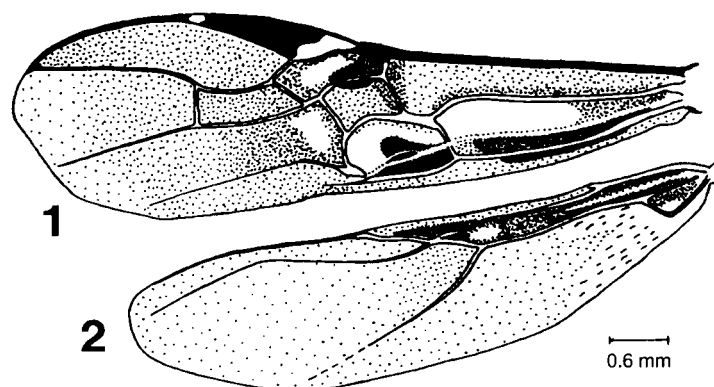
Braconidae, Braconinae, *Curriea*, *Endovipio*, *Curriea jacobsoni*, new combination, Europe, Canary Islands

Abstract. The genus *Curriea* Ashmead is recorded from Europe. *Endovipio* Turner is downgraded to a subgenus of *Curriea*. *Curriea (Endovipio) jacobsoni* (Tobias) comb. n. is redescribed in order to draw attention to previously overlooked characters, and a new combination is designated. The species is recorded for the first time from Spain, France, Morocco, Senegal and the Canary Islands.

INTRODUCTION

The Braconinae is one of the largest and most diverse subfamilies of the Braconidae, comprising more than 200 genera and 2,000 species worldwide (Shenefelt, 1978; Quicke, 1988). The majority of genera are confined to the tropics and their species are generally poorly known. The genus *Curriea* Ashmead, 1900 was erected for a species, *C. fasciati-pennis* Ashmead from Liberia. It belongs to a small, entirely Old World group of genera, the Aphrastobraconina, comprising the genera *Aphrastobracon* Ashmead, *Cedilla* Quicke, *Curriea* Ashmead, *Endovipio* Turner, *Eucurriea* Quicke, *Hewittella* Cameron, *Ligulibracon* Quicke, *Megalommum* Szépligeti, and *Undabracon* Quicke. Members of this group are characterised by having the 1st subdiscal cell more or less modified, oval or distally expanded, and formed at least in part by thickened veins, and in particular, forewing vein CUIb is usually strongly widened anteriorly where it is far wider than the posterior part of vein 3-CU1 (Fig. 1). In addition, the eyes are very large with the distance between the eye and the mandible usually less than 0.15 times the height of the eye, and forewing vein cu-a is often far antefurcal (Quicke, 1987), though in some it may be postfurcal. A newly recognised character for *Curriea* and relatives, that may prove useful for future phylogenetic studies, is that the junction between the pterostigma and forewing vein R1 is weakened; the vein appears compressed and is usually slightly paler than the adjacent reaches (Fig. 1).

The limits of some of the genera of Aphrastobraconina have been subject to a number of interpretations and various authors have considered *Curriea*, *Endovipio*, and *Megalommum* as synonyms of *Aphrastobracon* (Watanabe, 1950; Papp, 1972; Shenefelt, 1978; Tobias, 1968), whilst they have been regarded as separate by Quicke (1987) and Quicke & Ingram (1993). Following examination of all available type material of Aphrastobraconina together with a large amount of additional material as part of a full revision of *Curriea*,



Figs 1, 2: *Curriea (Endovipio) jacobsoni* (Tobias) comb. n. Fore (1) and hind (2) wings showing pigment pattern and thickened veins around 1st sub-discal cell.

Turner's genus *Endovipio* is here regarded as being a subgenus of *Curriea* since we have not been able to identify any synapomorphy for *Curriea* if those species falling within *Endovipio* are excluded, and the character given by Quicke (1987) was found to be unreliable. A key to separate *Curriea (Endovipio)* from *Curriea (Curriea)* is provided.

Curriea, incorporating *Endovipio*, is a moderately small genus with the vast majority of its species occurring in Africa. Four species have been recorded from the Palaearctic Region: *C. tibialis* (Ashmead) from Japan (Ashmead, 1906; Watanabe, 1950). The type species, *C. fasciatipennis* Ashmead, 1900 was recorded from Morocco by Fahringer (1926) but this species was originally described from Liberia and we have not seen any specimens of it from North Africa. *Aphrastobracon jacobsoni* Tobias was described from a single female from Kazakhstan which we have examined and found to belong to *Curriea (Endovipio)*, hence *Curriea (Endovipio) jacobsoni* comb. n. *C. antefurcalis* Szépligeti, another West African species, was reported from Croatia (Papp, 1972) on the basis of a single female, but Papp interpreted this as probably being an accidental introduction by ship. However, we have examined this specimen and found that it also belongs to *C. jacobsoni*, and it is therefore most probably an endemic Croatian species. We have also recently examined several more specimens of *C. jacobsoni* collected in France, mainland Spain and the Canary Islands, Morocco and Senegal, thus extending its known range from Central Asia to western Europe and North and North-west Africa. Here we provide a key to the species of *Curriea (Endovipio)* together with a redescription of *C. jacobsoni* in order to draw attention to previously overlooked characters and to note some slight differences between specimens from Spain and those from other localities.

In addition to *C. (E.) jacobsoni*, another species of this subgenus is known from Europe, viz. *C. (E.) dodecanesi* Ferrière, 1929, which was described on the basis of a single male from the Dodecanese Islands (Greece). We have examined a second specimen, also male, apparently belonging to this species, from Israel. The remaining described species of *C. (Endovipio)* is the type species, *C. (E.) ceresensis* Turner, 1922, which is only known from South Africa.

Terminology follows that of van Achterberg (1979, 1988). Abbreviations: Hungarian Natural History Museum, Budapest (HNHM); Laboratorio de Entomología de la Universidad de Valencia, Spain (LEUV); Nationaal Natuurhistorisch Museum, Leiden (RMNH); Muséum National d'Histoire Naturelle, Paris (MNHN), Zoological Institute, Russian Academy of Science, St. Petersburg (ZMAS).

Key to the subgenera of *Curriea*

- 1 Body largely reddish; wings more or less uniformly greyish; anal cell of forewing with a very dark brown to blackish area (Fig. 1) *Curriea (Endovipio)*
- Body largely yellow or brownish yellow; wings patterned grey and yellow; anal cell of forewing uniformly pale-coloured *Curriea (Curriea)*

Key to species of *Curriea (Endovipio)*

- 1 Midbasal area of 2nd metasomal tergum short, reaching to or just beyond middle of tergum, sides converging posteriorly at angle of 70–85° (Fig. 5), sometimes produced into a short carina posteriorly; basal cell of hindwing (usually) with a glabrous area at apex (Fig. 4) *C. (E.) jacobsoni*
- Midbasal area of 2nd metasomal tergum long, reaching three quarters way along tergum, sides converging posteriorly at angle of 40–50°; basal cell of hindwing evenly setose apically 2
- 2 Maximum width of discal cell (from vein 1-SR+M to vein CU) less than 0.65 times maximum width of subdiscal cell (from vein CU to 1A) *C. (E.) dodecanesi*
- Maximum width of discal cell (from vein 1-SR+M to vein CU) more than 0.7 times maximum width of subdiscal cell (from vein CU to 1A) *C. (E.) ceresensis*

Curriea (Endovipio) jacobsoni (Tobias, 1968) comb. n.

(Figs 1–2)

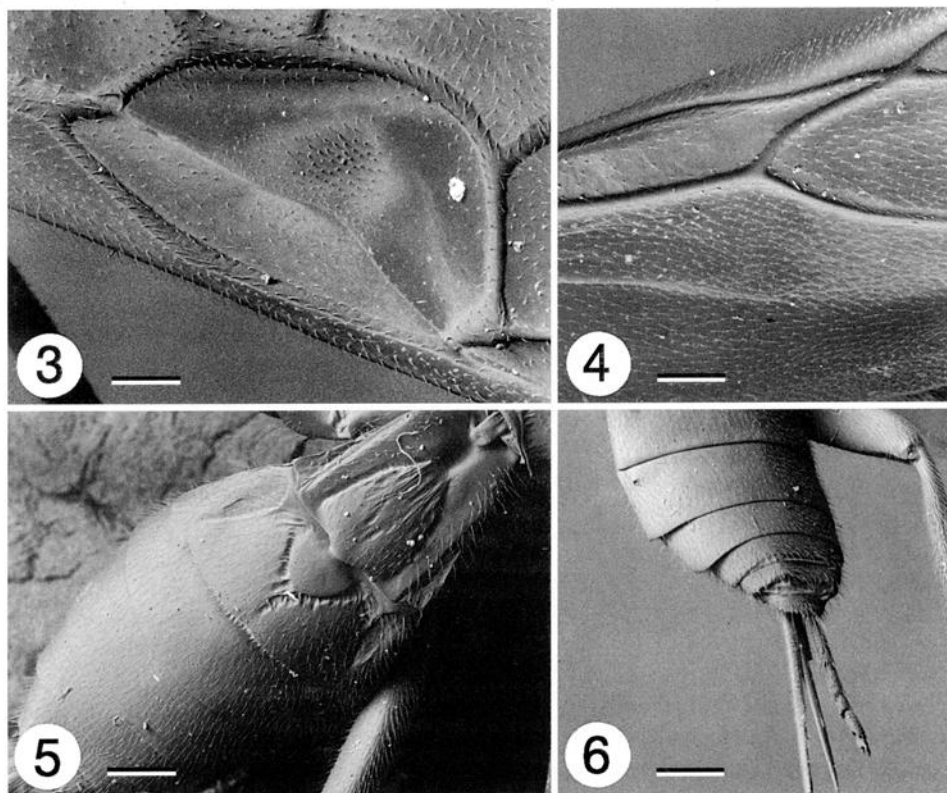
Aphrastobracon jacobsoni Tobias, 1968: 304.

MATERIAL EXAMINED. Holotype, ♀ (Kazakhstan): “S.W. Kazakhstan Oblast, 12.v.03” (ZMAS). Additional specimens. 1 ♀ (Croatia): “nr. Rijeka, 15.viii.1966, light trap” (HNHN); 1 ♀, (Canary Isles): “Tenerife, Punta Hidalgo, Bco. del Rio, 2.vii.1991, (5), La Roche” (LEUV); 1 ♀ (Canary Isles): “Tenerife, Bco. Badajoz, 11.vii.1994, M. Báez leg.” (RMNH); 1 ♂ (Spain: Valencia): “ESP.: Alicante, Montesinos, 27.vi.1989, J.V. Falcó, manga, Salina La Mata, pinada, gramíneas” (LEUV); 1 ♀ (France): “Banyuls garigue 3.vii.1949” (MNHN); 1 ♀ (Morocco): “Maroc ex Muséum H. Vaucher 1908”, “vii.[18]98 Tanger” (MNHN); 3 ♀ (Senegal): “Senegal, M'Bour 7.xi.80, B. Sigwalt” (MNHN); 1 ♀: same data but 9.ix.80 (MNHN); 2 ♂: same data but 17.ix.80 and 23.ix.80 (MNHN); 1 ♀ (Senegal): “Senegal, Forêt de Bandia, 1.iii.80, B. Sigwalt” (MNHN).

Redescription

Length of body 6.0–8.0 mm, forewing 5.2–7.5 mm, ovipositor (part exerted beyond apex of metasoma) 1.5 mm.

Head. Antenna as long as forewing, with 49–56 flagellomeres. Terminal flagellomere acuminate (pointed in Spanish specimens), 2.0–3.2 times longer than maximum width and 1.2–1.8 times length of penultimate flagellomere. Penultimate flagellomere 1.4–1.7 times longer than wide. First flagellomere 1.4 times longer than maximum width in female, 2.0 times in male; 0.4–0.6 times length of scapus. Scapus 1.7–2.1 times longer than apically deep. Third segment of maxillary palp of female distinctly enlarged near apex, 3.7–4.5 times longer than maximum width (in males, all segments of similar diameter). Tentorio-ocular distance : inter-tentorial distance : malar space = 1.2–2.0 : 4.0–7.0 : 1.0. Clypeus



Figs 3–6: *Curriea (Endovipio) jacobsoni* (Tobias) comb. n. 3 – 1st sub-discal cell of right fore wing showing crescentic glabrous area; 4 – middle of right hind wing showing convergence of veins 1-SC+R and 1r-m and glabrous area at apex of basal cell; 5 – metasomal terga; 6 – apex of metasoma showing simple and somewhat depressed ovipositor. Scale bars: 3 – 143 μ m; 4 – 200 μ m; 5 – 323 μ m; 6 – 400 μ m.

surrounded by a crenulate groove, central area of face longitudinally rugulose with distinct carina prolonged between antennal sockets. Height of face (distance between clypeus and antennal socket) : width of face : height of clypeus = 3.6–4.5 : 3.1–3.8 : 1.0 in female (4.8 : 3.4 : 1.0 in male). Width of face : width of head : height of eye (frontal aspect) = 1.0 : 3.0–3.5 : 2.0 : 2.3. POL : shortest distance between posterior ocellus and eye : diameter of posterior ocellus = 1.0 : 1.0–1.3 : 1.0–2.0. Distance between eyes (dorsal aspect) : width of head behind eyes : length of temple = 2.1 : 4.7 : 1.0 (temple shorter in Spanish specimens, width of head behind eyes : length of temple = 5.4–6.2 : 1.0).

Mesosoma. 1.75 times longer than high; smooth and shiny. Notauli weakly impressed on anterior half of mesoscutum, absent posteriorly. Scutellar sulcus narrow, usually distinctly punctate or finely crenulate. Posterior margin of propodeum narrowly crenulate.

Forewing (Fig. 1). Vein cu-a far antefurcal. First subdiscal cell large and oval, 1.3–1.5 times length of first discal cell (larger in males, 1.9 times longer); with distinct, straight

sclerome of length 0.2–0.3 times that of glabrous line; anterior to sclerome, a slightly infuscated rounded area with normal setosity which in turn is surrounded basally, anteriorly and distally by a glabrous, hyaline area (in males, area sparsely setose rather than totally glabrous). Glabrous area enlarged distally. Vein CU1b expanded close to intersection of 3-CU1 and CU1a. Vein 1-SR+M narrow, strongly curved distally, 1.2 times longer than vein 2-CU1. Veins m-cu and 1-M converging posteriorly. Vein 1-M straight. Vein 3-CU1 long, straight, in females 0.8 times longer than m-cu, 1.1 times in males. Ratios of lengths of veins SR1 : 3-SR : r = 6.2 : 2.7 : 1.0 (in Spanish specimens SR1 longer, 6.5 times longer than r). Ratios of lengths of veins 2-SR : 3-SR : r-m = 1.2 : 2.1 : 1.0. Vein 2-CU1 1.4–2.1 times longer than vein 3-CU1. Vein m-cu 1.2 times longer than vein 1-M.

Hindwing (Fig. 2). Veins 1-SC+R and 1r-m converging to an acute intersection, vein 2-SC+R distinct. Vein SR curved; minimum width of marginal cell 0.7 times width at apex. Apex of C+SC+R with 4 (rarely 5) especially thickened setae (catch bristles). Basal cell usually with a distinct glabrous area distally (Fig. 4), but absent in some males. Base of wing near vein cu-a with a distinct but narrow glabrous area.

Legs. Hind femur 3.5–4.0 times longer than maximally deep. Ratios of lengths of hind femur : tibia : basitarsus = 1.8–2.0 : 2.9–3.1 : 1.0. Hind basitarsus 2.0 times longer than inner tibial spur.

Metasoma. First tergum 1.0–1.2 times longer than posteriorly wide; raised median area with some rugulose striae on basal two thirds, more or less smooth posteriorly (Fig. 5) (males with rather more pronounced sculpture which extends on to lateral areas). Tergum 2 with midbasal area that extends approximately to middle of segment, bordered laterally by crenulate groove, with sides converging posteriorly at an angle of 70–85°. Terga 3 to 5 moderately densely and evenly setose; without transverse subposterior grooves.

Body uniformly reddish orange. Wings greyish, fore wing markedly darker around middle part of vein 1-1A, basal part of 1-SR+M, and middle of subdiscal cell (Fig. 1). Pterostigma largely dark, but with basal 0.2 yellow and up to 0.4 yellow in Senegalese specimens.

Flight period and notes. It is noticeable that all the specimens we have seen were collected between June and August, the majority in July, indicating that this is a species adapted to high temperatures and dry conditions.

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