

NOTA BREU

First mention of a teratology of an oak gall wasp (Hym., Cynipidae) with closed radial cell**Primer esment d'una teratologia d'un Cynipini (Hym., Cynipidae) amb cèl·la radial tancada**

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Teratology is defined as the study of structural anomalies, monstrosities and malformations of living beings (Torre-Bueno, 1985). In this sense, the galls produced by cynipids, can also be considered as teratological structures (Dieguez *et al.*, 1996; Khoury, 2013).

For more than a century, the teratologies in insects have been compiled in multiple works (Ornosa *et al.*, 2001; Ceccolini & Paggetti, 2015), as curiosities or aberrations. Nevertheless, it can offer valuable information about the influence of endogenous and exogenous factors on the process of embryonic development (Savini & Furth, 2004; Caruso & Savini, 2012). According to Ortuño & Peláez (2004), most of the teratological descriptions correspond to beetles (Guzmán-Vásquez, 2020; Lüer, 2015), which will facilitate a classification of these deformations (Balazuc, 1948, 1969). It is not surprising since the Order Coleoptera is one of the most diverse groups of insects on the planet (Costa, 2000). However, at present we can find works on almost all orders of insects in which teratologies are described. In Hymenoptera they have also been mentioned (Ornosa *et al.*, 2001, Pentead-Dias *et al.* 2005; Lohrmann & Engel, 2015; Popovici *et al.*, 2014; Glancey & Lofgren, 1986).

The majority of anomalies described in insects are related to the development and structure of the appendages, the most common are symphysoceries (fusion of segments), schistomelies (branch of appendages) and dystrophies (reduction of the appendix size) (Cockayne, 1937; Ortuño & Peláez, 2004; Guzmán-Vásquez *et al.*, 2020).

Usually, teratologies in insects were not reported by taxonomist, since they are not considered to have a taxonomic value because they are specimens that present atypical morphological characters to the taxon to which they belong (Caruso & Savini, 2012). Over the years, we have observed multiple teratologies in Cynipidae, but we have never published them precisely because they were easy-to-detect aberrations

that do not indicate the taxonomy of the species. The case presented here is completely different.

The Cynipidae family is characterized by producing galls on several host-plants. Adults are distinctive by having a characteristic radial cell in fore wings. This radial cell can be open or closed at margin. It is a synapomorphic character in the family but some tribes has only open radial cell or only closed radial cell; in some herbs galls as the genus *Phanacis* (for example) it can be partially closed and a very few species (asexual forms) are apterous or brachypterous.

We have identified a male specimen of *Neuroterus politus* Hartig, 1840 collected by the second author from Belgium characterized by having F1 slightly curved and expanded apically (Fig. 2c). *Neuroterus* genus belongs to Cynipini tribe that induce galls in Fagaceae. All the tribe (Melika, 2006; Ronquist *et al.*, 2015) is characterized by having the radial cell always opened (Fig. 1a) but the specimen mentioned above has the radial cell completely closed (Fig 1b). This teratology opposes a fundamental character that defines the tribe. *Neuroterus* is also characterized by presenting a transscutal articulation medially indistinct or absent, fused with mesoscutellum without mesoscutelar foveae but with anterior scutellar depression (Fig. 2e), as occurs in *Pseudoneuroterus* and *Cerroneruroterus* from Europe (Melika *et al.*, 2010). *Neuroterus* differs from *Pseudoneuroterus* and *Cerroneruroterus* by having the malar sulcus usually present or at least traceable (Fig. 2d), absent in *Pseudoneuroterus* and *Cerroneruroterus*, among other characters (Melika *et al.*, 2010). According to this no doubts that the examined specimen belongs to *Neuroterus* but with the radial cell closed, in both fore wings. It is the first mention of a Cynipini with a closed radial cell.

Studied material : 1 ♂, Belgique, Somal, Piège Malaise dans une prairie en bordure de forêt, 18-22/4/2019, P.-N. Libert rec.

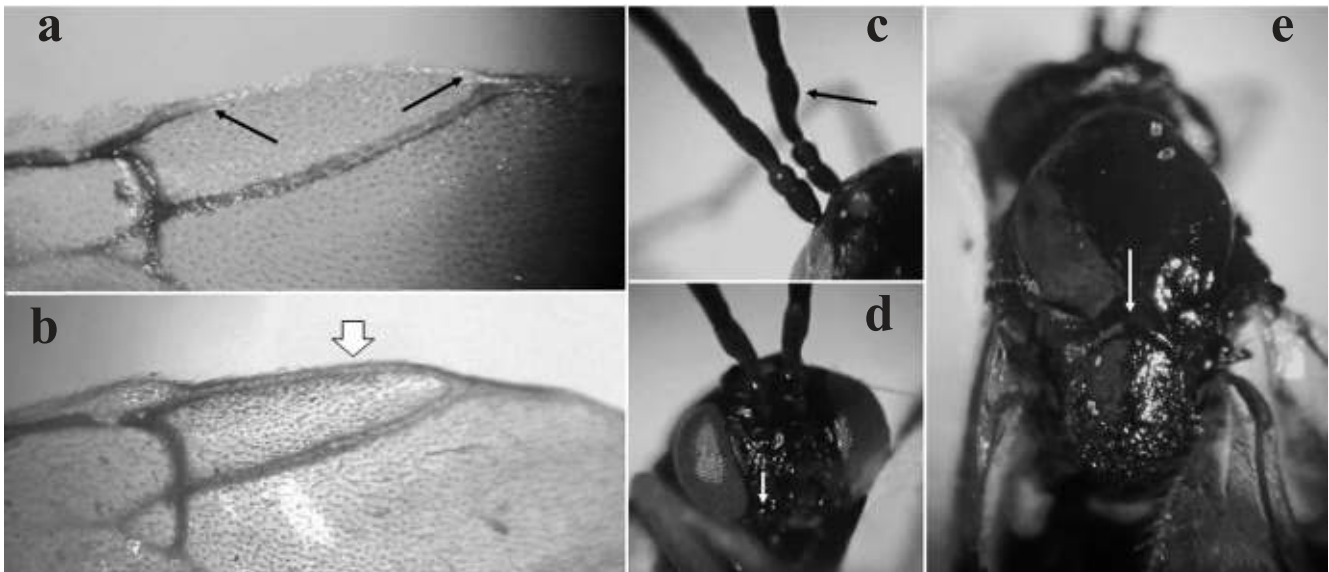


Figure 1. *Neuroterus politus*: a) no teratologic radial cell; b) teratologic radial cell; c) first flagellomeres of antenna; d) head in frontal view; e) mesoscutum in dorsal view of teratologic specimen.

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