



## ***Acalyptris* Meyrick: revision of the *platani* and *staticis* groups in Europe and the Mediterranean (Lepidoptera: Nepticulidae)**

ERIK J. VAN NIEUKERKEN

National Museum of Natural History, Naturalis, PO Box 9517, NL–2300 RA Leiden, The Netherlands.  
E-mail: [nieukerken@naturalis.nl](mailto:nieukerken@naturalis.nl)

### **Table of contents**

Abstract .....	2
Introduction .....	2
Materials and methods .....	2
Systematic treatment .....	6
Checklist .....	6
The <i>Acalyptris platani</i> group .....	7
<i>Acalyptris platani</i> (Müller-Rutz) .....	9
<i>Acalyptris minimella</i> (Rebel) .....	11
<i>Acalyptris pistaciae</i> <b>sp. n.</b> .....	14
<i>Acalyptris loranthella</i> (Klimesch) .....	16
The <i>Acalyptris staticis</i> group .....	17
<i>Acalyptris staticis</i> (Walsingham) .....	19
<i>Acalyptris limonii</i> Z. & A. Laštůvka .....	20
<i>Acalyptris maritima</i> A. & Z. Laštůvka .....	21
<i>Acalyptris lesbia</i> Van Nieuwerkerken & Hull <b>sp. n.</b> .....	22
<i>Acalyptris limoniastri</i> <b>sp. n.</b> .....	23
<i>Acalyptris pyrenaica</i> A. & Z. Laštůvka .....	24
Discussion .....	24
Barcodes .....	24
Phylogeny .....	25
Hostplant relationships .....	25
Acknowledgements .....	26
References .....	27
Figures.....	31

## Abstract

The European and Mediterranean species of the *Acalyptris platani* and *A. staticis* groups are revised, with respectively four and six species. Three new species are described: *A. pistaciae* Van Nieuwerkerken **sp. n.** (from Greece, Cyprus and Turkey, on *Pistacia*) in the *platani* group, *A. limoniastri* Van Nieuwerkerken **sp. n.** (from Algeria and Tunisia, associated with *Limoniastrum*) and *A. leslia* Van Nieuwerkerken & Hull **sp. n.** (from Greece: Lesvos, on *Limonium gmelini*) in the *staticis* group. Lectotypes are selected for *A. minimella* (Rebel, 1924) and *A. staticis* (Walsingham, 1908). The European species of the *A. platani* group are leafminers on Anacardiaceae, Platanaceae and Loranthaceae, the species of the *A. staticis* group feed on Plumbaginaceae, except *A. pyrenaica* A. & Z. Laštůvka, for which the host is unknown, but likely to belong to another family. Immatures are described for five species, final instar larvae and pupal exuviae for all species in the *A. platani* group and for *A. leslia*. Larvae and pupae of the latter species differ markedly from the *A. platani* group. Recorded parasitoids are listed. CO1 barcodes are provided for seven species. The groups are phylogenetically not very close; the monophyly of *Acalyptris* and the phylogeny on the basis of CO1 (mt-DNA) sequences are discussed.

**Key words:** Taxonomy; new species; phylogeny; larval morphology; pupal morphology; hostplants; Anacardiaceae; Platanaceae; Loranthaceae; Plumbaginaceae; CO1; DNA-barcodes; Palearctic; Hymenoptera; Eulophidae; Braconidae

## Introduction

The Nepticulidae genus *Acalyptris* Meyrick, 1921 is particularly diverse in tropical regions, and well known from South Africa and the Neotropics, with respectively 23 and 21 named species (Scoble 1980; van Nieuwerkerken 1986a; Puplesis *et al.* 2002b). It is also abundant in desert and steppe regions of the Old World with ca. 16 named species (Puplesis 1990; Puplesis & Diškus 1995), fewer are known from North America (Wilkinson 1979), but several undescribed species are present in collections (D.R. Davis, *personal communication*). Only seven species are listed for Europe and the Canary Islands (van Nieuwerkerken 2004), five of which were included in the key work by A. & Z. Laštůvka (1997). The genus is classified in the tribus Trifurculini, in the subfamily Nepticulinae.

*Acalyptris* is a heterogeneous genus, and especially variable in the structure of the genitalia. Its present composition was established by van Nieuwerkerken (1986a) by synonymizing the genera *Microcalyptris* Braun, 1925 and *Niepeltia* Strand, 1934 with *Acalyptris*. The only apomorphy listed by van Nieuwerkerken (1986a) is: "Closed cell in forewing shifted towards base, vestigial" (Figs. 18, 19).

A division of *Acalyptris* into species groups was first undertaken by Puplesis (1994), who recognized the *repeteki* and *shafirkanus* group. Later Diškus and Puplesis (2003) erected also the Neotropical *latipennata* group, but listed the species that were previously placed in the *shafirkanus* group under "species not assigned to group". The *platani* and *staticis* groups were briefly discussed by van Nieuwerkerken & Biesenbaum (1997) and are further established here. Apart from these two, no other groups occur in Europe. In North Africa and the Near East also species belonging to the *repeteki* and *shafirkanus* groups occur (van Nieuwerkerken, unpublished information). Because of the large morphological and biological variation in the genus, in addition to uncertainties about monophyly, I refrain from a generic description, but provide group diagnoses instead.

Three new species are described here. The immature stages of this genus are reviewed for the first time for all species in the *platani* group and for *A. leslia* **sp. n.** in the *staticis* group.

## Materials and methods

**Material.** For the collections the abbreviations (codons) from Evenhuis & Samuelson (2004) are used, with the following additions: