

Acalyptris argyraspis sp. n., a remarkable species from Tadzhikistan (Lepidoptera: Nepticulidae)

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Abstract. The description of one new species and diagnoses of three species-groups (including one newly arised) in the genus *Acalyptris* Meyrick are given.

Samenvatting. *Acalyptris argyraspis* sp. n., een merkwaardige soort uit Tadzjikistan (Lepidoptera: Nepticulidae).

De auteurs beschrijven een nieuwe soort uit het genus *Acalyptris*. Tevens geven zij diagnoses van drie soortengroepen in dit genus, waarvan er één nieuw wordt onderscheiden.

Résumé. *Acalyptris argyraspis* sp. n., une espèce remarquable du Tadjikistan (Lepidoptera: Nepticulidae).

Les auteurs décrivent une espèce nouvelle dans le genre *Acalyptris*. Des diagnoses de trois groupes d'espèces dans ce genre (dont une nouvelle) sont données.

Key words: Nepticulidae - *Acalyptris* - *Acalyptris argyraspis* sp. n. - species-groups.

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Introduction

The genus *Acalyptris* Meyrick, 1921 (=*Microacalyptis* Braun, 1925; *Weberia* Müller-Rutz, 1934; *Niepeltia* Strand, 1934; *Weberina* Müller-Rutz, 1934) includes species with small closed cell at base; Rs and M proximally coalescent and distally with three branches (R2+3, R4+5, M). Vein R1 branching off from base of main stem. Collar on adult's head consists of piliform scales, only occasionally lamellar. Transverse bar of transtilla in male genitalia often absent.

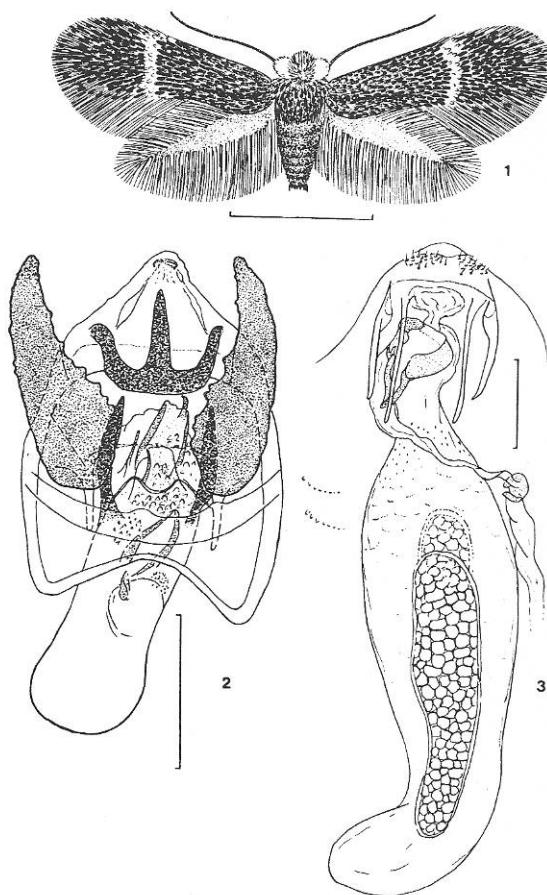
Until recently about 50 described species are known in the genus *Acalyptris* Meyrick: 7 species from northern America (Wilkinson 1979), 7 species from western Palaearctic (van Nieuwerken 1986a; Johansson et al. 1990; Laštuvka & Laštuvka 1993), 15 from Central Asia (Puplesis 1984, 1989, 1990, 1994), 20 species from southern Africa and one from India described by Scoble (1980), one species from India (*A. psammophricta* Meyrick, 1921, type species of the genus) is redescribed by van Nieuwerken, 1986b. Centralasiatic *Acalyptris* have been revised and illustrated in Puplesis, 1994. However, field investigations of 1990 in forest formations ("tugai") of valleys near Vakhsh and Pyandzh rivers in Tadzhikistan (just several kilometers to Afghanistan) resulted in the discovery of new, morphologically remarkable species. We must admit that tugai, as far as known, often shelter many ancestral forms, usually related with tropical ones.

The types of *Acalyptris argyraspis* sp. n. are deposited in the collection of Minological Research Laboratory at the Department of Zoology of Vilnius Pedagogical University, Vilnius, Lithuania.

Description of *Acalyptris argyraspis* Puplesis & Diškus sp. n.

Type material. Holotype ♂, southern Tadzhikistan, Tigrovaya Balka Reserve (env. of Dzhilikul') 19.VIII.1990, leg. R. Puplesis. Paratype: 1♀, same label.

Diagnosis (Fig. 1). Easily distinguished from all other species of the genus by silvery shining fascia of forewing. In male genitalia the new species is similar to south African *A. vumbaensis* (Scoble, 1980) as well as *A. combretella* (Scoble, 1980), *A. molleivora* (Scoble, 1980) and *A. rubiaeavora* (Scoble, 1980); however, the new species differs in long lateral carinae and weakly developed uncus, and the shape of the valva. Female genitalia characterized by large vaginal sclerite, signa reticulata on bursa and rather long posterior apophyses.



Figs 1-3: *Acalyptris argyrapidis* sp. n.

1. Male, holotype (scale 1 mm); 2. male genitalia, holotype (scale 0,1 mm); 3. female genitalia, paratype (scale 0,1 mm).

Male. Forewing length about 1.6 mm. Head: frontal tuft pale yellowish; eye-caps and collar whitish creamy; antenna brownish creamy. Thorax and forewing fuscous since densely irrorated by dark tipped scales. Postmedial fascia narrow, slightly curved outwardly and silvery shining. Cilia and hindwing lustrous, light greyish.

Female. Forewing length about 1.7 mm. Similar to male, but fascia broader, antenna slightly darker and hindwing paler.

Male genitalia (Fig. 2). Valva broadened in basal third or half, and narrowed towards apex. Transtilla with slender and straight sublateral processes; transverse bar very slender, weakly developed. Pseuduncus triangular, not large. Uncus weakly developed, without ventral process (or tooth); laterally uncus well sclerotized only in basal part. Gnathos with slender posterior process. Vinculum with distinct triangular lobes and wide, but without deep distal excavation. Vinculum with two-lobed caudal sclerotizations. Aedeagus with large lateral carinae and two convex plates ventrally: one large, developed more caudally and one smaller, developed more orally. Numerous small triangular cornuti and some needle-like sclerotizations are visible on vesica.

Female genitalia (Fig. 3). Posterior processes very slender but longer than anterior ones. Large vaginal sclerite ring-shaped; however, ring looks incomplete because of different and weak sclerotization in some parts of this sclerite. Ductus spermathecae with weakly developed convolutions or without convolutions; proximally narrow, distally wide, but weakly sclerotized. Corpus bursae long and with pair signae reticulata. Pectinations on bursa form long but weak chains and more distinct in apical third; area just beyond vestibulum with numerous tiny spines; basal third without pectinations.

Biology. Adults fly in August. Otherwise unknown.

Distribution. Tugai formations near valley of Vakhsh and Pyandzh rivers in Tadzhikistan (just several kilometres to Afghanistan).

Notes on species-groups in the genus *Acalyptaris*

On the basis of male genitalia morphology of Asiatic species, two species groups have been erected in the genus *Acalyptaris*: *A. shafirkarus*-group and *A. repeteki*-group (Puplesis 1984). All earlier known species of the Palaearctic fauna and probably most species from other regions fall into these two groups. However, the newly discovered *Acalyptaris argyraspis* sp. n. from Vakhsh valley - old refugia for palaeotropical fauna and flora in the Palaearctic region - shows remarkable morphological features. Unlike the most resembling species of the *shafirkarus*-group, the genitalia of the new species have a weakly developed uncus without ventral tooth and the forewing of this new species has distinct, silvery-shining fascia. It is tentatively assumed that the weakly developed uncus in *Acalyptaris* is a retained plesiomorphy, and the presence of shining fascia is a novelty. However, the lack of additional apomorphic characters makes it impossible to make a firm and final conclusion on the composition of species-groups in *Acalyptaris*, but intuitively we have a slight preference for regarding *Acalyptaris argyraspis* sp. n. as a representative of a separate species-group.

Short diagnoses of species groups of Palaearctic *Acalyptis*

The *repeteki*-group: Forewing without pattern, or with pale indistinct pattern, always without shining fascia. The male genitalia have the uncus in the form of a broad lobe, without sharp tooth ventrally. Special lateral stripe-shaped apodemes are developed parallel to valvae. In contrast to the *shafirkarus*- and *argyraspis*-groups, almost all species (except two) have a well developed pectinifer. Large tufts of long androconial scales are present on the male abdominal tergites of most species. The female genitalia often possess long setae. Typical habitats for species of the group are desert areas.

The *shafirkarus*-group: Forewing with pattern, but without shining fascia. The male genitalia have the uncus in the form of an inverted "v", with typical sharp ventral tooth. Stripe-shaped lateral apodemes on male genitalia absent. The pectinifer on the valvae and abdominal tufts of androconial scales are apparently absent. Typical habitats for species of the group are not restricted to desert habitats; in Central Asia species of the group are found in mountainous areas (not above about 1500-2000 m) and oases; in the Mediterranean region they are found in forested areas (e.g. *A. loranthella* (Klimesch, 1937), *A. platani* (Müller-Rutz, 1934)).

The *argyraspis*-group: Unlike previous groups, forewing with shining fascia. The male genitalia have the weakly sclerotized uncus in the form of an inverted "v", but without ventral tooth. Stripe-shaped lateral apodemes absent in genitalia. The pectinifer on the valvae and abdominal tufts of androconial scales absent. The natural Asiatic oasis, named in biogeographical literature as "tugal" (Puplesis 1994), probably serves as typical habitat for the newly arised monotypic species-group.

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