

# On the taxonomy of the genus *Dasypolia* Guenée, 1852. New data and subgenus for the little-known species, *Dasypolia lithophila* (Kapur, 1960) (Lepidoptera: Noctuidae)

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## Abstract

The male specimen and genitalia of *Dasypolia lithophila* (Kapur, 1960) are illustrated and a new subgenus, *Kapuria* Benedek, Volynkin & Černila, subgen. n. is described for the species.

KEY WORDS: Lepidoptera, Noctuidae, *Dasypolia*, *Kapuria*, new subgenus, Nepal.

**Sobre la taxonomía del género *Dasypolia* Guenée, 1852. Nuevos datos y subgénero para la especie poco conocida de *Dasypolia lithophila* (Kapur, 1960) (Lepidoptera: Noctuidae)**

## Resumen

Se ilustra el espécimen macho y la genitalia de *Dasypolia lithophila* (Kapur, 1960) y se describe un nuevo subgénero para la especie, *Kapuria* Benedek, Volynkin & Černila, subgen. n.

PALABRAS CLAVE: Lepidoptera, Noctuidae, *Dasypolia*, *Kapuria*, subgénero nuevo, Nepal.

## Introduction

The present paper contains new data on the taxonomy of the Palaearctic noctuid genus *Dasypolia* Guenée, 1852 including more than a hundred species according to our recent knowledge, with some still waiting for description. The genus is distributed predominantly in the mountain massifs of Asia, reaching the highest species diversity in the Himalayan region. Many *Dasypolia* species have been described during the last three decades (HACKER & PEKS, 1990; 1992; 1996; ROKAY & VARGA, 1990; ROKAY & PLANTE, 1992; ROKAY & ZILLI, 1993; GYULAI & ROKAY, 1995; HREBLAY & ROKAY, 1995; 1999; ROKAY *et al.*, 1995; HACKER & ROKAY, 1996; HREBLAY & ROKAY, 1998; HREBLAY *et al.*, 1998; ROKAY *et al.*, 1998; IVINSKIS & SALDAITIS, 2010; BENEDEK *et al.*, 2011; VOLYNKIN, 2012; BENEDEK *et al.*, 2014; ROKAY *et al.*, 2014; BENEDEK & SALDAITIS, 2014).

*D. lithophila* (Kapur, 1960) was described, based on a single female as a member of subgenus *Cteipolia* Staudinger, 1896, later ROKAY & ZILLI (1993) transferred it to the subgenus *Sinipolia* which was upgraded to generic level by BENEDEK & SALDAITIS (2014). During a climbing expedition to the Annapurna Himalaya in Nepal in November, 1990 (Fig. 5), two male specimens of *lithophila* were collected. The examination of the male genitalia revealed that *lithophila* does not belong to *Sinipolia*, but to an undescribed subgenus of *Dasypolia*. The new subgenus and the male of *lithophila* are described below.

## Material and methods

Institutional abbreviations are as follows: BBT = coll. Balázs Benedek (Törökbálint, Hungary); GBG/ZSM = coll. Gottfried Behounek (Grafing, Germany) / Zoologische Staatssammlung München (Germany); MČK = coll. Matjaž Černila (Kamnik, Slovenia); ZSI = coll. Zoological Survey of India (Kolkata, India). Male and female genitalia were studied after boiling the abdomen for a short time in 7 % KOH solution and the vesica was everted. Pictures were processed using Adobe Photoshop CS4 software.

## Taxonomy

Genus *Dasyptolia* Guenée, 1852

*Dasyptolia* Guenée, 1852, in Boisduval & Guenée, *Histoire Naturelle des Insectes. Spécies Général des Lépidoptères. Noctuelites*, 2: 44.

Type-species: *Noctua templi* Thunberg, 1792.

Type locality: Sweden.

### Subgenus *Kapuria* Benedek, Volynkin & Černila, subgen. n.

Type species: *Cteipolia lithophila* Kapur, 1960.

Diagnosis: The new, as yet monotypic subgenus is similar to the recently described subgenus *Kitapolia* Benedek, Behounek, Floriani & Saldaitis, 2011 (Figs. 6, 2). External differences are the longer male antennae with longer pectination and the more triangular shape of forewings with a more acute apex and diffuse patterns of *Kapuria*. The autapomorphic characters of the male genitalia structure in *Kapuria* are the short but broad, oblonge-shaped uncus, the characteristically elliptical-shaped harpe with much weaker basis and the short but evenly moderately narrow valvae. The aedeagus is strongly curved in its first third, the coecum is much smaller, the carina is represented by a few short, small spines on the dorsal side, the vesica is long and membranous without spiculi but with a coarse surface.

Eymology: The subgeneric name is dedicated to A. P. Kapur, the author of the type species.

*Dasyptolia (Kapuria) lithophila* (Kapur, 1960) **comb. n.** (Figs. 1-3, 6-7)

*Cteipolia lithophila* Kapur, 1960: 118.

Type locality: E Nepal, Khumbu, Bhote Kosi Valley.

Type material examined: Photographs of the holotype ♀ (Fig. 3): •“Nepal, Daily Mail 1954, Himalaya Expd., B. Biswas Coll.” / “Nepal (eastern) Khambu, above Marlung, Bhote Kasi Valley, ca. 16000 ft., 9 Mar. 1954, B. Biswas coll.” / “on bare rocks, coloration perfectly matching with such rocks” / “female genitalia on slide” / “z. s. l. Reg. No. 224/H10” / “Type” (coll. ZSI).

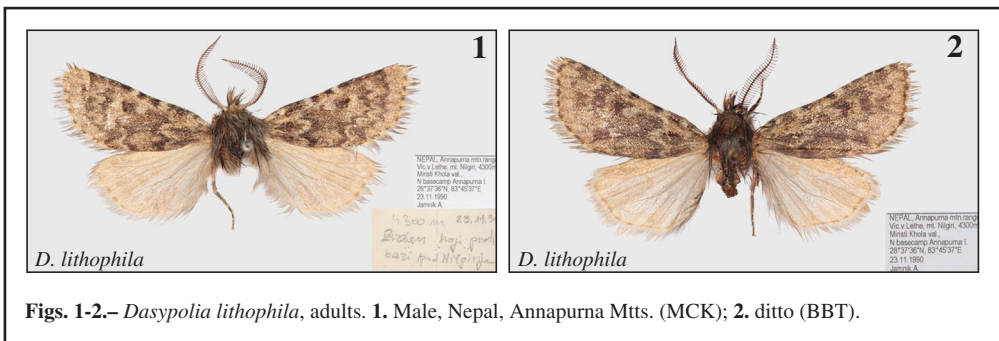
Additional material examined: 2 ♂♂: “Nepal, Annapurna mtn. range, vic. v. Lethe, mt. Nilgiri, 4300 m, Miristi Khola val., N basecamp Annapurna I. 28° 37' 36" N, 83° 45' 37" E. 23 Nov. 1990, Jannik A.”, slide No. AV0928 Volynkin (colls. BBT and MČK).

Diagnosis: Externally, male of *D. lithophila* (Figs. 1-2) is similar to the single *Kitapolia* species, *D. kita* Benedek, Behounek, Floriani & Saldaitis, 2011 (Fig. 4), but differs in the longer male antennae with longer pectination, somewhat larger size, more elongated and triangular forewing shape with a more acute apex, lighter forewing coloration with more diffuse patterns, narrower medial area, more strongly wavy ante- and postmedian fascia, lighter reniform without a black streak on its proximal side, cell shadowed between reniform and orbicular stigma and lighter hindwing with absence of a discal spot. The male genitalia of *D. lithophila* (Fig. 7) differ from those of *D. kita* (Fig. 8) in the shorter and much broader uncus, the larger juxta, the smaller and more rounded vinculum, the narrower and somewhat shorter valva with parallel margins, the ventrally more sclerotised costa between the sacculus and cucullus, the less sclerotised sacculus, the weaker clasper, the larger, characteristically

elliptical-shaped harpe with weaker and narrower base, the more curved aedeagus with a smaller coecum, the presence of the thin carinal spines on the dorsal side and the absence of the numerous spiculi on the vesica.

Description of male (Figs. 1-2): Wingspan 30 mm, length of forewing 13 mm. Antennae broadly bipectinate. Head, thorax and abdomen greyish-brown, densely hairy. Forewings triangular in shape with apex acute, ground color of forewings greyish-brown with rather diffuse patterns, costal margin with seven large, dark brown spots, crosslines well-defined, dark brown, subbasal fascia diffuse, ante- and postmedial fascia rather broad and strongly wavy, subterminal fascia irregularly wavy, terminal fascia represented by a row of dark brown spots between veins, orbicular and reniform stigmata small, pale sandy-brown coloured, the cell between the spots is dark filled, cilia long, mixed with light sandy-brown and dark hairs. Hindwing light dirty-white, discal spot not visible, cilia long, colored like the hindwing.

Male genitalia (Fig. 7): Uncus spatula-like, short but broad, with parallel margins, apically rounded with fine medio-apical incision; tegumen short and broad, positioned moderately high; penicular lobes well developed, rectangular in shape, apically setose; juxta large, shield-like; vinculum short, rounded, narrow U-shaped; valvae elongated, relatively narrow, apically slightly tapering with parallel margins; clasper long, thin, weakly sclerotised, harpe large, broadly elliptical, with narrow basis; aedeagus short and narrow, strongly curved in basal section, coecum long, carina armed with a small patch of thin spiculi on the dorsal side; vesica membranous, almost straight with coarse surface and without diverticulum.



**Figs. 1-2.**– *Dasyptolia lithophila*, adults. **1.** Male, Nepal, Annapurna Mts. (MCK); **2.** ditto (BBT).

Female genitalia (Fig. 6) were described in details by KAPUR (1962).

Distribution: The species is known only from Nepal. The habitat is the highest ecozone of the region, far above the timberline (Fig. 5).

**Discussion**

Up to the present genus *Dasyptolia* was subdivided into eleven subgenera (RONKAY *et al.*, 2001; BENEDEK *et al.*, 2011; RONKAY *et al.*, 2014; BENEDEK & SALDAITIS, 2014), six of which have recently been described (BENEDEK *et al.*, 2011; BENEDEK & SALDAITIS, 2014). *Kapuria* is the twelfth subgenus.

**Check list of *Dasyptolia* subgenera:**

- Dasyptolia* Guenée, 1852
- Yetipolia* Benedek & Saldaitis, 2014
- Fumopolia* Benedek & Saldaitis, 2014
- Dasythorax* Staudinger, 1889

*Dasymixis* Ronkay & Varga, 1990  
*Auropolia* Hreblay & Ronkay, 1999  
*Zheduopolia* Benedek & Saldaitis, 2014  
*Cteipolia* Staudinger, 1896  
*Chalapolia* Benedek, Behounek, Floriani & Saldaitis, 2011  
*Kitapolia* Benedek, Behounek, Floriani & Saldaitis, 2011  
*Kapuria* Benedek, Volynkin & Černila, **subgen. nov.**  
*Taisipolia* Benedek, Behounek, Floriani & Saldaitis, 2011

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## BIBLIOGRAPHY

- BENEDEK, B., BEHOUNEK, G., FLORIANI, A. & SALDAITIS, A., 2011.– New *Dasypolia* species (Lepidoptera, Noctuidae) from China, Sichuan, part. I.– *Esperiana*, **16**: 107-126.
- BENEDEK, B. & SALDAITIS, A., 2014.– New *Dasypolia* Guenée, 1852 species from China, part II (Lepidoptera, Noctuidae).– *Esperiana*, **19**: 103-119.
- BENEDEK, B., SALDAITIS, A. & BABICS, J., 2014.– On the taxonomy of the genus *Dasypolia* (Lepidoptera, Noctuidae, Xylenini).– *Entomofauna Supplement*, **17**: 17-28.
- GYULAI, P. & RONKAY, L., 1995.– New Noctuidae species from West and Central Asia.– *Folia Entomologica Hungarica*, **56**: 27-35.
- HACKER, H. & PEKS, H., 1990.– 2. Beschreibung neuer Taxa und Übersicht über das Artenspektrum des von Dr. W. Thomas 1980–1988 in Ladakh gesammelten Materials, Teil. I.– *Esperiana*, **1**: 277-322.
- HACKER, H. & PEKS, H., 1992.– 3. Neue Taxa himalayischer Noctuidae.– *Esperiana*, **3**: 151-183.
- HACKER, H. & PEKS, H., 1996.– Die Spätherbstfauna der Himalaya-Gebiete von Himachal Pradesh und der ariden Gebiete des Wüstenstaates Rajasthan.– *Esperiana*, **4**: 361-379.
- HACKER, H. & RONKAY, L., 1996.– Three new genera, seven new species and a general view of the late autumnal fauna of the Himachal Pradesh region in India.– *Esperiana*, **4**: 337-359.
- HREBLAY, M. & RONKAY, L., 1995.– New Species of *Dasypolia* from the Himalayan Region.– *Acta Zoologica Academiae Scientiarum Hungaricae*, **41**(4): 349-378.
- HREBLAY, M. & RONKAY, L., 1998.– Noctuidae from Nepal. In T. HARUTA (Eds.). Moths of Nepal 5.– *Tinea*, **15** (Suppl.1): 117-310.
- HREBLAY, M. & RONKAY, L., 1999.– Neue trífide Noctuidae aus dem himalayischen Raum und der südostasiatischen Region (Lepidoptera, Noctuidae).– *Esperiana*, **7**: 485-620.
- HREBLAY, M., RONKAY, L. & PLANTE, J., 1998.– A systematic survey of the Tibetan Noctuidae fauna based of the material of the Schäfer-Expedition (1938-1939) and recent expeditions (1938-1939). Part I, List of species collected by the Schäfer -Expedition. Part II, List of species of the expeditions 1996-1997. Part III, Descriptions.– *Esperiana*, **6**: 69-184.
- IVINSKIS, P. & SALDAITIS, A., 2010.– New *Dasypolia* Guenée, 1852 (Lepidoptera: Noctuidae) taxa from Central Asia (plate 22).– *Esperiana Memoir*, **5**: 323-327.
- KAPUR, A. P., 1960.– On the genus *Cteipolia* Staudinger (Lepidoptera, Noctuidae), with description of a new species from Nepal.– *Records of the Indian Museum*, **58**: 9-120.
- RONKAY, G. RONKAY, L. & GYULAI, P., 2014.– New Xyleninae and Psaphidinae species from Asia, with special reference to the Central and Inner Asiatic *Dasypolia* Guenée, 1852 (Lepidoptera, Noctuidae).– *Fibigeriana Supplement*, **2**: 141-169.
- RONKAY, L., NEKRASOV, A. V. & SZABÓKY, Cs., 1995.– On the taxonomy of the genus *Dasypolia*. Revision of the Subgenus *Cteipolia*.– *Annales Historico-Naturales Musei Nationalis Hungarici*, **87**: 75-92.
- RONKAY, L. & PLANTE, J., 1992.– Un nouvelle espèce de *Dasypolia* de l'Himalaya.– *Alexanor*, **17**(5): 273-276.

- RONKAY, L. & VARGA, Z., 1990.– Taxonomic and zoogeographical studies on the subfamily Cuculliinae (Lepidoptera, Noctuidae), Part II.– *Esperiana*, **1**: 471-499.
- RONKAY, L., VARGA Z. & HREBLAY, M., 1998.– Twenty two new species and six new subspecies of Noctuidae from Turkmenistan and adjacent regions.– *Acta Zoológica Academiae Scientiarum Hungaricae*, **44**(3): 205-281.
- RONKAY, L., YELA, J. L. & HREBLAY, M., 2001.– Hadeninae 2. *Noctuidae Europaeae*, **5**: 352 pp. Entomological Press, Sorø.
- RONKAY, L. & ZILLI, A., 1993.– New high montane *Dasypolia* species from Sichuan and Sikkim with remarks on the dasypolioid generic complex.– *Esperiana*, **3**: 497-506.
- VOLYNKIN, A. V., 2012.– A review of the genus *Dasypolia* Guenée, 1852 from the Russian part of the Altai Mountain Country, with descriptions of two new species (Lepidoptera, Noctuidae).– *Zootaxa*, **3478**: 416-428.

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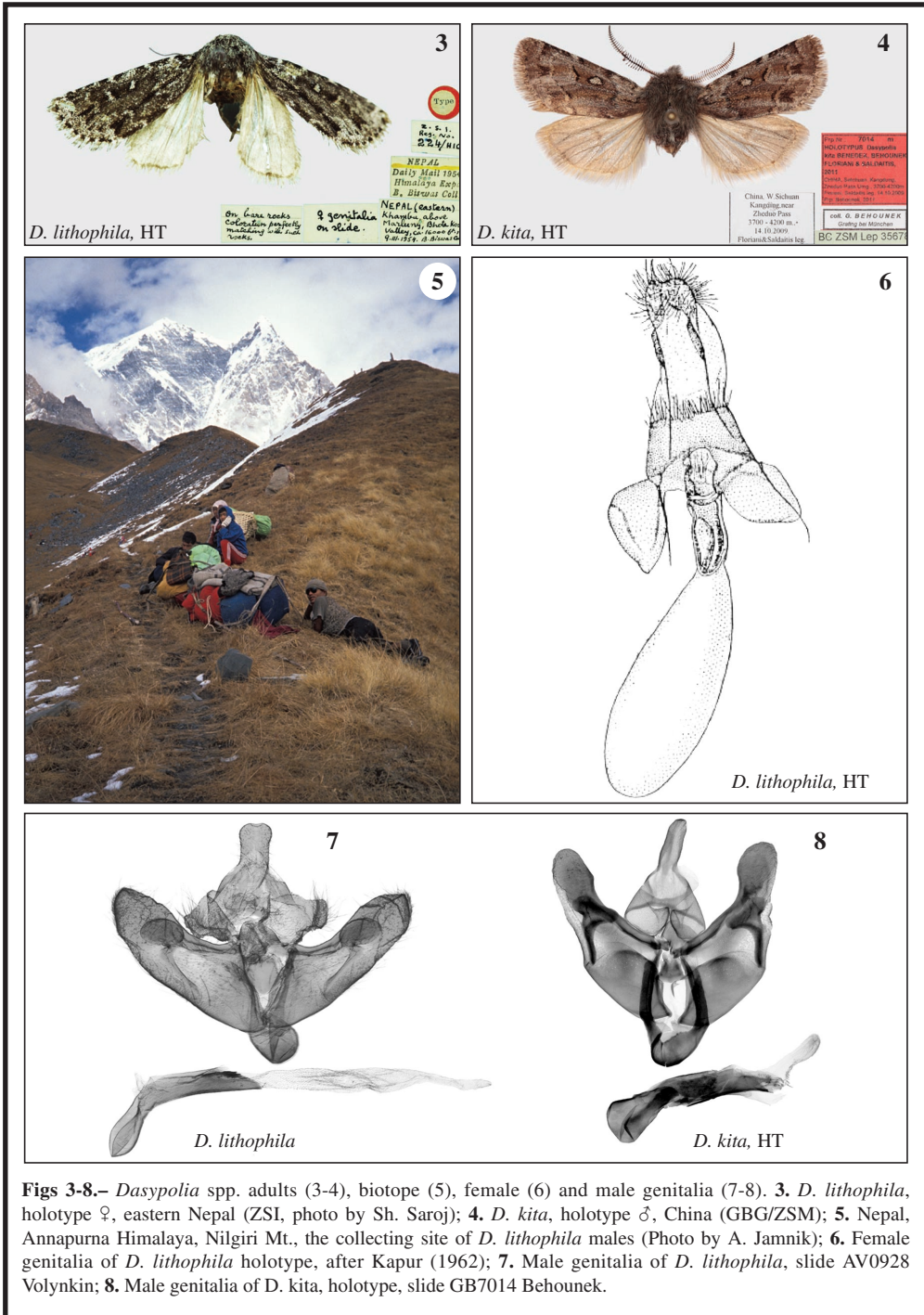
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**Figs 3-8.**– *Dasyptolia* spp. adults (3-4), biotope (5), female (6) and male genitalia (7-8). **3.** *D. lithophila*, holotype ♀, eastern Nepal (ZSI, photo by Sh. Saroj); **4.** *D. kita*, holotype ♂, China (GBG/ZSM); **5.** Nepal, Annapurna Himalaya, Nilgiri Mt., the collecting site of *D. lithophila* males (Photo by A. Jammik); **6.** Female genitalia of *D. lithophila* holotype, after Kapur (1962); **7.** Male genitalia of *D. lithophila*, slide AV0928 Volynkin; **8.** Male genitalia of *D. kita*, holotype, slide GB7014 Behounek.