

NEW SPECIES OF THE GENUS *ERANNIS* HÜBNER, [1825] 1816
FROM THE NORTH-WEST HIMALAYA AND IRAN
(LEPIDOPTERA, GEOMETRIDAE)

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Descriptions of two new species of the genus *Erannis* HÜBNER, [1825] 1816, *E. kashmirensis* sp. n. and *E. caspica* sp. n. from the NW Himalaya and Iran are given. With 10 figures.

Key words: *Erannis*, new species, NW Himalaya, Iran

INTRODUCTION

The series of expeditions led by Hungarian lepidopterists to Pakistan and Iran in the last decade concentrated to the formerly most neglected late autumnal and early spring fauna. As a result of these expeditions, besides numerous newly discovered taxa of Noctuidae (RONKAY & VARGA 2000, RONKAY & RONKAY 2001, RONKAY, VARGA & GYULAI 2002) an interesting Geometridae material of this faunal type has also been collected. The present paper contains the descriptions of two new *Erannis* species recently found in these areas.

One of the most surprising discoveries was the finding of a member of the typical holarctic, arboreal genus *Erannis* HÜBNER, [1825] 1816 in the very lightly forested, subalpine grasslands of the NW Himalaya and the rather eremic upper valley of the river Indus. This species has proved to be new for the science, representing a sister species of *Erannis potopolskii* VIIDALEPP, 1988 known from the Hissar Mts and the Tien Shan Mts.

On a late autumnal expedition led to Iran a series of a remarkable, very small *Erannis* species was collected in the forest of the northern slope of the Elburz Mts. This new species can be considered as an allopatric sister-species of *Erannis defoliaria* (CLERCK, 1759).

Both new species described below are easily separable from all other species of the genus by their external features while the configuration of the male genitalia is very similar throughout the entire genus *Erannis*. As all described taxa of *Erannis* are treated by the authors as distinct species, this concept is accepted and followed in the present article and, thus, the two new taxa are ranked here as species.

Abbreviations : HNHM – Hungarian Natural History Museum, Budapest; LG – genitalia slide of Gy. M. LÁSZLÓ; RL – genitalia slide of L. RONKAY; ZMKU – Zoological Museum of University, Kiev.

***Erannis kashmirensis* sp. n.**

(Figs 1–4, 9)

Holotype: male, "Pakistan, Kashmir, Himalaya Mts, Deosai Mts, Bubin village, 3150 m, 74°59'E, 35°12,6'N, 16.X.1998 leg. Gy. M. László & G. Ronkay" slide No.: LG 562 (coll. HNHM).

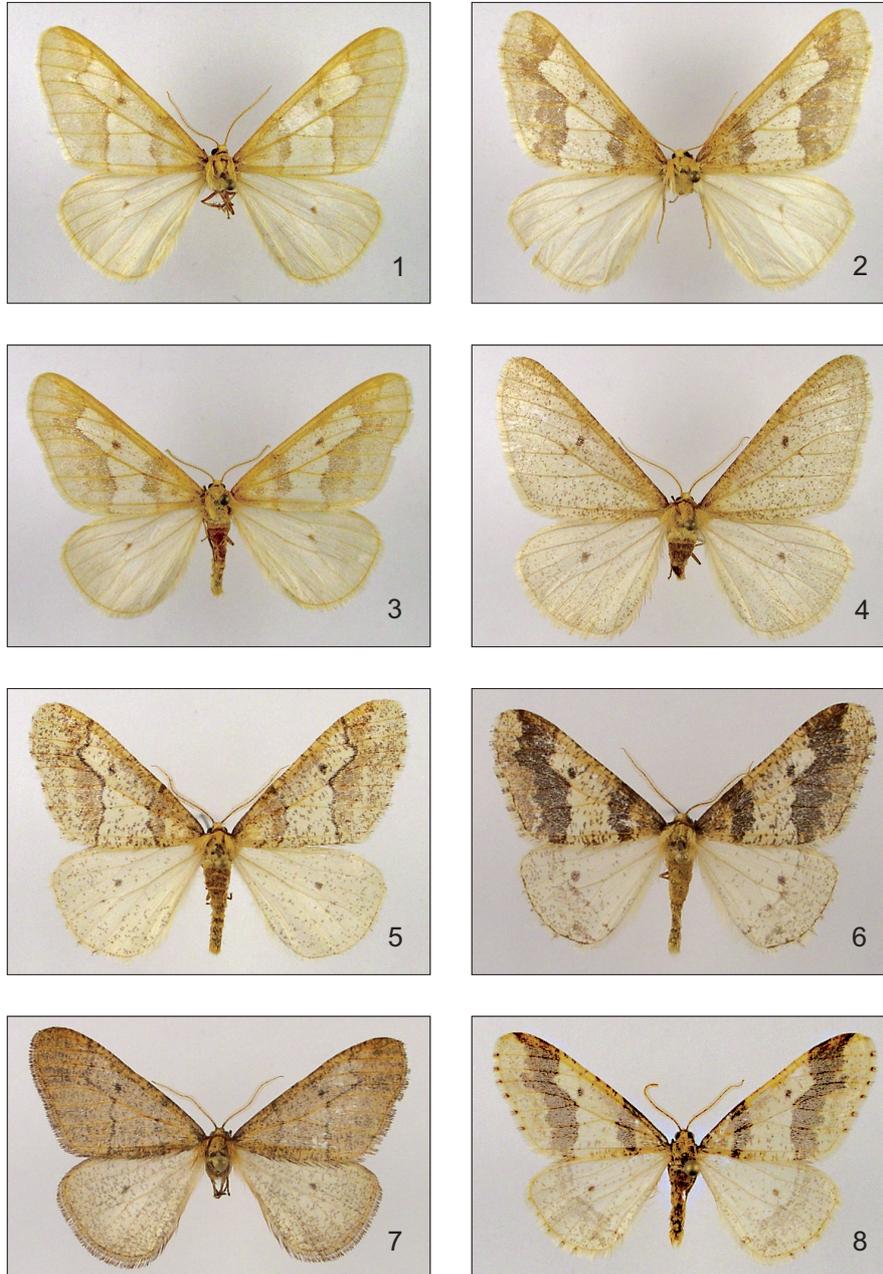
Paratypes: 3 males with the same data as the holotype; 2 males from the same locality as the holotype, but collected at 12.X.1998; 1 male, valley of Indus, between Chilas and Dassu, Motel Barseen, 73°12'20"E, 35°21'42"N, 1100 m, November 1998, leg. Fida Hussain (coll. HNHM, Budapest; Gy. M. LÁSZLÓ, Budapest; M. SOMMERER, Munich).

Slide Nos: RL 6378, LG 560, LG 561, LG 918.

Diagnosis: *Erannis kashmirensis* is easily distinguishable from the related *E. potopolskii* VIIDALEPP, 1988 by its much paler yellow fore wing ground colour with less dense brownish irroration, somewhat longer postmedial line the straight section of which is considerably longer than that of *E. potopolskii*. *E. kashmirensis* has much paler hindwing, without any trace of the transverse line, while *E. potopolskii* has rather broad, pale but distinct transverse line on the hind wing, consisting of brownish scales. In the male genitalia there are no remarkable differences between the two species, but it is worth to mention, that the genital differences between the species of the genus *Erannis* are subtle in most cases.

Description: Wingspan 39–45 mm, length of forewing 21–27 mm. Male. Head and collar uniformly pale yellow or brownish yellow. Antenna bipectinate, red-brown. Tegulae and thorax covered with long, abdomen with flattened, unicolorous, pale yellow or brownish yellow hair-scales. Forewing rather broad, apically rounded, outer margin almost straight. Ground colour less variable, most often pale ochreous, sometimes with scarce brownish irroration; median area and inner part of marginal field usually covered with darker, brownish-yellow scales. Basal line absent, subbasal and antemedial lines arcuate, indistinct or sometimes absent, diffuse, marked only by a fine row of brownish scales. Medial line poorly visible, represented only by its brownish costal part. Discal spot rounded, usually strongly marked, dark brown. Postmedial line usually narrow, distinct but may be absent, its lower half slightly sinuous, almost straight, upper half starting with an obtuse angle towards terminal area, its costal third strongly sinuous. Praeterminal line absent, subterminal line rather indistinct, interrupted, sinuous, often absent. Terminal line very fine, continuous, bright yellow; cilia relatively long, proximally yellowish, distally silvery whitish. Hindwing pale ochreous, sometimes with sparse brownish irroration, veins marked with yellowish scales, transverse line absent. Discal spot relatively well marked; terminal line and cilia as on forewing. Underside of wings pale ochreous, discal spots present, transverse lines poorly visible.

Male genitalia (Fig. 9). Uncus triangular, broad at base, apically truncate. Gnathos ribbon-like, with a relatively large, apically rounded, triangular plate medially. Tegumen triangular, robust. Juxta large, well sclerotized, shield-like, with narrower, rounded dorsal lobe. Vinculum relatively short, saccus broadly rounded. Valva rather short, broad, ventral margin evenly sinuous, costal margin slightly arcuate, with tongue-shaped, rounded apical lobe. Basal half of costal margin strongly sclerotized, with large, triangular lobe projecting towards valval apex, distally covered densely with strong, relatively short spines. Basal part of valva with small but conspicuous, strongly sclerotized, tapering, apically pointed extension. Transtilla rectangular, weakly sclerotized, rela-



Figs 1–8. *Erannis* males. *E. kashmirensis*: 1 = holotype; 2–4 = paratypes: 2 = Pakistan, Kashmir, Deosai Mts, 3 = Pakistan, Kashmir, Deosai Mts, 4 = Pakistan, Indus valley, Barseen. 5–8 = *E. caspica*: 5 = holotype; paratypes: 6 = Iran, Prov. Gilan, Disku, 7 = Iran, Prov. Gilan, Disku, 8 = Azerbaijan, Talysh, Massali

tively long and broad. Aedeagus short, broad, with a tongue-shaped apical plate; vesica short, with a cornuti field of rather long cornuti united into a large, sole cornutus.

Female unknown.

Bionomics and distribution. The new species occurs – according to our present knowledge – in the westernmost chains of the Himalayas, inhabiting the partly lightly forested, partly bushy valleys of the subalpine region: all but one specimens of the type series were collected at 3150 m a.s.l. The only exceptional specimen was found in the xerothermic, semi-desert-like region of the Indus valley near the village Barseen. The collecting site is characterised with scattered groups of hard-leaved oak trees on a steep slope, which could be an appropriate habitat of an *Erannis* species. Another possibility is that the specimen had descended from the rather high mountains nearby the valley with the “help” of the regularly very strong wind. The larval foodplants are probably deciduous trees and bushes. The female and the immature stages are unknown.

***Erannis caspica* sp. n.**

(Figs 5–8, 10)

Holotype: male, “Iran, Prov. Gilan, 15 km SW of Rast, Disku, 200 m, 17–18.XI.2000, leg. B. Benedek & Gy. Fábán” (coll. HNHM).

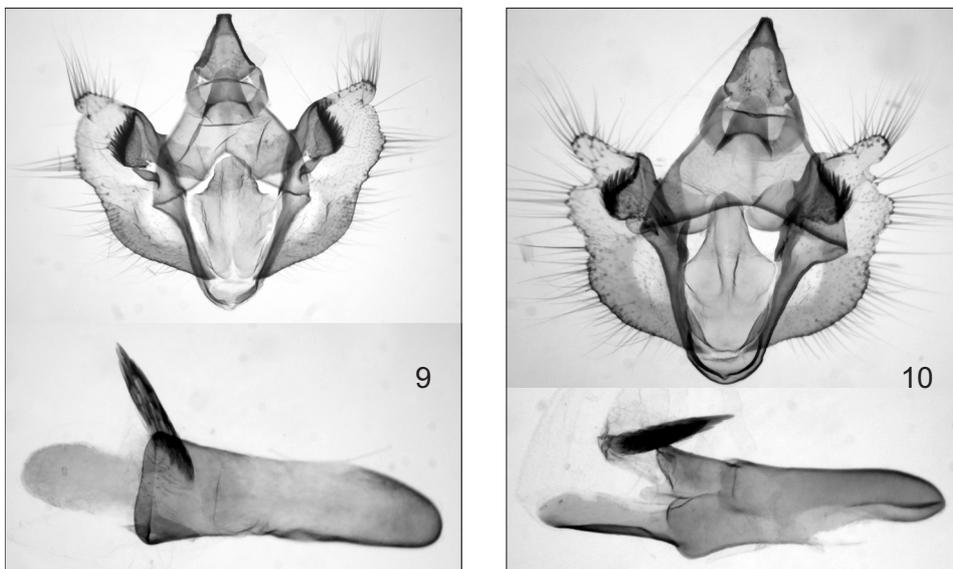
Paratypes: 12 males, with the same data as the holotype; 10 males, Azerbaijan, Talysh, Massali, Isty-su, 22–25.X.1987, leg. Kazarjan (coll. GY. M. LÁSZLÓ, Budapest; GY. FÁBIÁN, Budapest; HNHM Budapest; ZMKU Kiev).

Slide No. LG 1744.

Diagnosis: The new species is closely related to *Erannis defoliaria* (CLERCK, 1759), but easily distinguishable by its generally smaller size: the wingspan and the length of forewing of *E. defoliaria* vary between 36–50 and 20–26 mm, respectively, while those of *E. caspica* are 31–38 and 16–20 mm. The forewing of the new species is considerably narrower and more elongated than that of *E. defoliaria*. The brownish irroration on the wings of *E. caspica* is much weaker than in *E. defoliaria*, in some specimens even completely absent. The discal spot on the forewing of the new species is situated considerably closer to the postmedial line than in *E. defoliaria*. Most specimens of the new species have variably strongly marked, almost straight transverse line on the hindwing, while the crossline of the hindwing of *E. defoliaria* is regularly absent. There are remarkable differences between the two species in the configuration of certain parts of the male genitalia, too. The triangular costal lobe of valva of *E. caspica* has slightly concave distal margin, covered with somewhat thinner spines, while that of *E. defoliaria* has straight distal margin, covered with stronger, thicker spines. Moreover, the medio-distal plate of juxta of *E. caspica* is considerably narrower, more elongated than that of *E. defoliaria*.

Description: Wingspan 31–38 mm, length of forewing 16–20 mm. Male. Head and collar dark brown, antenna bipectinate, red-brown. Thorax narrow, red-brown, tegulae covered with long, yellowish and red-brown hair-scales. Abdomen dorsally red-brown, laterally and ventrally yellowish brown. Forewing relatively narrow, elongated, apically rounded, outer margin more or less straight. Ground colour variable, pale yellow or pale ochreous-brown, with usually fine, scarce brownish irroration; median area and inner part of marginal field usually covered with dark brown or orange-brown scales. Basal line poorly visible, marked only if even at ventral margin; subbasal line evenly, antemedial line sinuously arcuate, indistinct, diffuse. Medial line indistinct, poorly visible, represented by a row of brownish scales. Discal spot rounded, more or less strongly marked by dark brown scales. Postmedial line usually well defined, relatively narrow, distinct, its ventral half slightly sinuous, almost straight, costal half starting with an obtuse angle towards terminal area, its costal third strongly sinuous. Praeterminal line indistinct, shade-like, rather sinuous, sometimes poorly visible. Subterminal line interrupted, sinuous, usually consisting of elongated dark brown patches, sometimes may be absent. Terminal line very narrow, continuous, pale brown, cilia relatively long, yellowish grey, usually chequered with greyish-brown. Hindwing yellowish white, sometimes with rather sparse brownish irroration, veins marked with yellowish scales; transverse line indistinct or absent, interrupted, slightly arcuate. Discal spot strongly marked; terminal line as on forewing; cilia pale yellow. Underside of wings pale ochreous-grey, discal spots and transverse lines visible.

Male genitalia (Fig. 10). Uncus triangular, broad at base, apically truncate. Gnathos ribbon-like, with a relatively large, apically rounded, triangular plate medially. Tegumen triangular, robust. Juxta large, well sclerotized, shield-like, with a rather elongated, relatively narrow, rounded dorsal lobe. Vinculum relatively short, saccus broadly rounded. Valva rather short, broad, ventral margin strongly sinuous, costal margin angled, apically rounded. Basal half of costal margin strongly sclerotized, with large, distally concave, apically rounded lobe projecting towards valval apex, cov-



Figs 9–10. *Erannis* male genitalia capsule. 9 = *E. kashmirensis*, holotype; 10 = *E. caspica*, paratype (Iran, Prov. Gilan, slide No. LG 1744). (Aedeagus with larger magnification)

ered distally with medium strong, relatively short spines. Medio-basal part of valva with small, strongly sclerotized, tapering, apically pointed extension. Transtilla quadrangular, weakly sclerotized, relatively short and broad. Aedeagus short, broad, apically with tongue-shaped plate; vesica short, with a cornuti field consisting of rather long cornuti, appearing as a single large cornutus.

Female unknown.

Bionomics and distribution. The new species occurs in the north-western chains of the Elburz mountains. The species inhabits the rather wet forests of the northern slopes at relatively low altitudes (200–1000 m). The specimens were collected at light between the end of October and the middle of November. The female and the preimaginal stages are unknown, the larval foodplants are most probably various deciduous trees and bushes.

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