

**On the taxonomy of the genus *Agrochola* Hübner, 1821
(Lepidoptera: Noctuidae), Part III. Two new species from Asia**

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Abstract – Two new *Agrochola* species, *A. (s. l.) emilia* sp. n. (North Vietnam) and *A. (Anchoscelis) elami* sp. n. (Iran) are described. With 9 figures.

Key words – Lepidoptera, Noctuidae, *Agrochola*, Vietnam, Iran, new species.

INTRODUCTION

The first revised checklist of the genus *Agrochola* HÜBNER, based on the studies of the genitalia of the species, was published by BOURSIN (1956), summarizing the results of his taxonomic studies on the western Palaearctic (Mediterranean and West Asian) *Agrochola* species. The research of the group has been intensified, after a longer pause, at the very end of the 1970s (BERIO 1976, RONKAY & MÉSZÁROS 1982, RONKAY 1984), as a result of the processing of the new expedition material from the eastern Mediterranean and Asia Minor. An even larger increase has been started in the last twenty years: numerous new species have been discovered and described during this period, mostly in Central Asia and in the Himalayan–Sino-Pacific region (see DERRA 1990, FIBIGER 1997, HACKER & MOBERG 1989, HACKER & RONKAY 1990, 1993, HREBLAY & RONKAY 1999, HREBLAY *et al.* 1999, RONKAY & GYULAI 1997, RONKAY *et al.* 1998, SUGI 1982, VARGA & RONKAY 1991). The most recent checklist of the genus is given by RONKAY *et al.* (2001, in press).

The present paper contains the descriptions of further two new species, from the north-eastern (Himalayan) part of Vietnam and from SW Iran, respectively. The Vietnamese species was discovered by an expedition of the Hungarian Natural

History Museum (HNHM) to the Fan-si-pan Mts, within the framework of the Frontier-Vietnam organization and the HNHM. The new Iranian species was collected in the last trip of the expedition series organized partly by the HNHM and participated by the first author.

SYSTEMATIC PART

***Agrochola* (s. l.) *emilia* sp. n.**

(Figs 1, 7)

Holotype – male, “VIETNAM, Prov. Lao Cai, 2100 m, Fan-si-pan Mts, 6 km W Sa Pa, 103°48,5'E, 22°17,9'N, 17.XI.1999, leg. A. Kun & L. Ronkay”, slide No. RL6959 (coll. HNHM, Budapest).

Diagnosis – The new species belongs to the *Agrochola* (s. l.) *semirena* species-group (see HREBLAY *et al.* 1999: 39–48, Figs 52–54, 141, 142, HREBLAY & RONKAY 1999: 524–530, Figs 101–104, 118–120, Pl. XVIII, Figs 86–90). Its closest relatives are *A. semirena* (DRAUDT, 1950) and *A. plumbitincta* HREBLAY, PEREGOVITS *et* RONKAY, 1999. It differs externally from *A. semirena* by its larger size with broader, apically more acute forewing, generally darker ground colour, more sinuous crosslines, and the more concolorous dark grey-brown hindwing, from *A. plumbitincta* by its “regular” shape of the reniform stigma, the upper and lower halves being equally wide and the medial part is slightly constricted, and the black patch at lower third is significantly larger (the reniform stigma of *A. plumbitincta* is reversed drop-shaped, strongly tapering downwards, its black patch is much smaller).

The male genitalia of *A. emilia* (Fig. 7) differ from those of all known relatives by their extremely long, straight, acute clavus, the very long, slender, falcate saccular extension, the longer, slenderer, more curved harpe and the complete lack of the subapical ventral extension of the costal plate.

Description – Wingspan 38 mm, length of forewing 18 mm. Male. Pubescence of head and thorax dark violaceous brown, sides of palpi dark brown, antenna shortly ciliate. Abdomen short, paler grey-brown, lateral ridges ochreous-reddish, dorsal crest weakly developed, consisting of dark brown tufts. Forewing long, rather broad, with apex pointed, outer margin finely crenulate. Ground colour shining, concolorous, dark brown-grey with strong violaceous shade and with weak red-brownish irroration around reniform stigma. Crosslines sinuous, finely double, blackish, defined with whitish-ochreous, outer line rather indistinct. Antemedial and postmedial lines with stronger costal patch, median fascia represented by a diffuse, pale, brownish shadow except in cell, forming strong, triangular blackish patch between stigmata. Orbicular stigma rounded, incompletely encircled with blackish brown and fine reddish lines, filled with ground colour. Reniform stigma large, broad, medially slightly constricted, encircled with whitish-ochreous and a few blackish scales.

Outer half of upper two-thirds filled with milky white, lower third completely black, claviform stigma absent. Subterminal line diffuse, interrupted, ochreous, defined by a row of dark red-brownish chevrons. Terminal line continuous, ochreous, followed with fine brown line inwards, cilia as ground colour. Hindwing dark, shining brown-grey, inner area somewhat paler. Discal spot clearly marked, more or less rounded, transverse line more diffuse, sinuous, cilia reddish mixed with broad, dark brown inner stripe. Underside of wings covered with strongly dark brownish grey, discal spot and transverse line stronger, well discernible on hindwing, those of forewing more diffuse but visible. Female unknown.



Figs 1–6. 1 = *Agrochola* (s. l.) *emilia* sp. n., holotype, male, 2 = *A. (Anchoscelis) elami* sp. n., paratype, male, 3 = *A. (A.) scabra* (Staudinger), male, Palestina, 4 = *A. (A.) pauli* (Staudinger), male, Palestina, 5–6 = the type locality of *A. (A.) elami*, Iran, Zagros Mts, SE of Nehavand

Male genitalia (Fig. 7): Uncus long, slender, curved, apically pointed, tegumen low, broad, with small penicular lobes and with wide, trapezoidal apical plate at base of uncus. Fultura inferior large, sclerotized, more or less cordiform, with shallow dorso-medial incision and with two fine transverse crests apically. Transtilla sclerotized, vinculum strong, short, broadly V-shaped. Valvae symmetrical, medium-long, triangular with broad saccular part and evenly tapering distal half. Cucullus acutely triangular, sclerotized, valval apex acute, corona long but scarce, consisting of short, fine setae. Sacculus heavily sclerotized, dorsal surface covered densely with fine teeth. Clavus very long, straight, stick-like, with acute tip, apical third finely setose. Distal saccular extension rather slender, falcate, with acute tip and broad basal plate, strongly dentate with minute teeth. Harpe long, slender, curved, its basal plate long, arched. Aedeagus short, thick, sclerotized, ventro-lateral plate of carina large, rather bill-like. Vesica spacious, everted forward, recurved dorso-laterally. Basal part terminated in a large, globular, densely scobinate frontal diverticulum, subbasal diverticulum large, situated dorso-laterally on left side. Distal half rather straight, projecting obliquely backwards, strongly tapering terminad, membranous with fine scobination, with a small, pocket-like diverticulum at base of distal tube at right side.

Bionomics and distribution – The species of the *Agrochola* (s. l.) *semirena* species-group are typical members of the autumn-late autumn aspects of the south-eastern Himalayan (eastern Nepal, northern Thailand, northern Vietnam, S China)-Pacific (i.e. Japan) montane forest fauna, although the first specimens of certain species may appear at the end of the summer period. All species are known only by a few examples, the early stages are unknown. The unique type of *A.* (s. l.) *emilia* was collected by a portable light trap in a dense primary forest stand near a rather deep brook valley, together with specimens of *A.* (s. l.) *pallidilinea* HREBLAY, PEREGOVITS et RONKAY, 1999 and *A.* (s. l.) *albirena annamica* HREBLAY, PEREGOVITS et RONKAY, 1999.

Etymology – The new species is dedicated to Miss EMILIA JUHÁSZ, fiancée of A. KUN, one of the collectors of the holotype.

Agrochola (*Anchoscelis*) *elami* sp. n.

(Figs 2, 9)

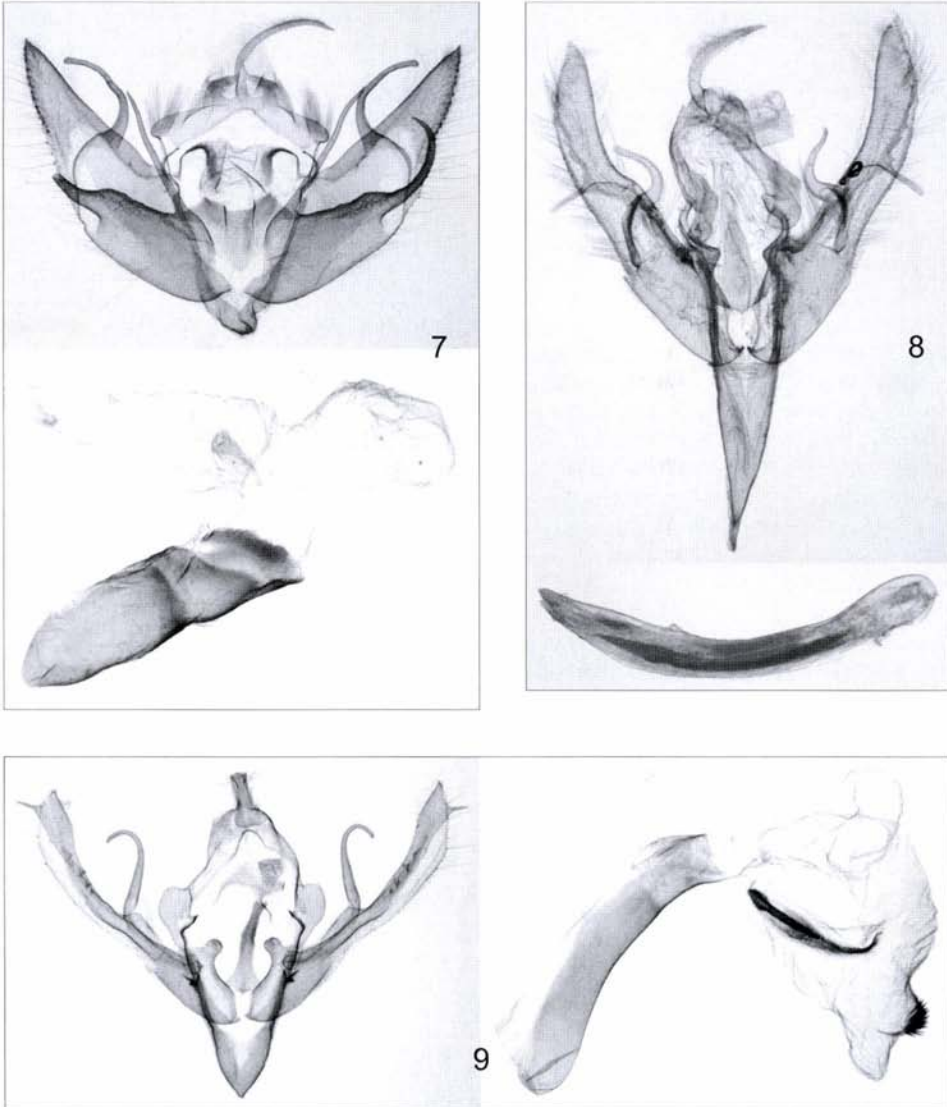
Holotype – male, "IRAN, Prov. Lorestan, Zagros Mts, 25 km SE of Nehavand, 1900 m, 34°03'N, 48°23'E, 07.XI.2000, leg. B. Benedek & Gy. Fábrián", coll. GY. FÁBIÁN, deposited in the HNHM Budapest.

Paratypes – 38 males, from the same site, coll. GY. FÁBIÁN, P. GYULAI, G. RONKAY and the HNHM Budapest.

Slide No. RL7123m (male).

Diagnosis – The new species belongs to the *Agrochola kindermanni* species-group of the subgenus *Anchoscelis* (*A.*) *kindermanni* (FISCHER VON RÖSLERSTAMM, 1838), *A.* (*A.*) *pauli* (STAUDINGER, 1892), *A.* (*A.*) *wolfschlaegeri* (BOURSIN, 1953) and *A.* (*A.*) *scabra* (STAUDINGER, 1892), see RONKAY *et al.* 2001), although the new species is rather remote from all known relatives. Its closest relative is *A.* (*A.*) *scabra* (STAUDINGER, 1892), known from the Near East. *Agrochola*

(*A.*) *elami* differs externally from the other members of the species-group by its somewhat more elongate, apically more pointed forewing, more unicolorous olive-greyish ground colour, without prominent markings, uniformly dark filling of the reniform stigma and the paler whitish grey hindwing without lighter marginal zone. It is worth to note that the series of the new species is conspicuously homoge-



Figs 7–9. Male genitalia of *Agrochola* spp.: 7 = *A.* (s. l.) *emilia* sp. n., holotype; 8 = *A.* (*Anchostelis*) *scabra* STAUDINGER, Palestina; 9 = *A.* (*A.*) *elami* sp. n., paratype, male

neous, the forewing ground colour, the intensity of the noctuid pattern and the shade of the hindwing are highly uniform, in spite of the related, externally strongly variable *A. (A.) kindermanni* (FISCHER VON RÖSLERSTAMM, 1838), *A. (A.) pauli* (STAUDINGER, 1892) and *A. (A.) wolfschlaegeri* (BOURSIN, 1953).

The male genitalia of *A. (A.) elami* (Fig. 9) differ from those of all related taxa (see BOURSIN 1953, 1956, HACKER 1989 and BISCHOF & BITTERMANN 1997) by their longer, narrower, more arcuate valvae, the much longer, stronger, S-shaped harpe and the reduction of the long medial extension of the costal plate. The sclerotized ventral edge of the costal plate is strongly serrate-cristate but having no prominent process at the medial-subapical part of the valva, only the long, fine, acute apical extension is present.

Description – Wingspan 31–35 mm, length of forewing 14–16 mm. Male. Head large, palpi short, slender, male antenna with long fasciculate cilia. Pubescence of head and thorax olive-greyish, abdomen more greyish, ventral side ochreous, legs dark grey, with ochreous rings. Forewing narrow, apically acute, rather unicolorous, ground colour shining, pale olive-greenish grey, irrorated sparsely with darker grey scales. Noctuid pattern less distinct, forewing not conspicuously variegated. Ante- and postmedial lines double, darker grey defined with whitish grey, their costal patches rather strong. Antemedial wavy, postmedial strongly sinuous, defined with fine blackish dots. Upper part of median fascia obsolete, lower part represented by diffuse, sinuous, dark grey stripe. Subterminal line interrupted, sinuous, marked with a few darker grey dots, those between veins m1–m3 being stronger, rather blackish. Orbicular stigma obsolete, usually missing or recognizable by its incomplete, pale outline and slightly darker filling, claviform stigma absent. Reniform stigma also rather indistinct, quadrangular, slightly constricted at middle at outer side, encircled with pale whitish-ochreous line, filled entirely with dark grey. Hindwing pale whitish grey, with somewhat darker marginal area, discal spot and sinuous transverse line diffuse, slightly darker grey. Underside of both wings shining, pale milky ochreous, inner area of forewing, veins, discal spot and upper part of transverse line dark grey, discal spot and transverse line of hindwing well-discernible. Female unknown.

Male genitalia (Fig. 9). Uncus medium-long, flattened, apically spatulate, tegumen broad, with rounded penicular lobes. Fultura inferior sclerotized, more or less deltoidal with narrow, small basal plate and very long, narrow apical part, vinculum strong, V-shaped. Valva long, slender, distally slightly arcuate, medial part slightly constricted. Costal plate heavily sclerotized, with long, serrate-cristate ventral edge having 3–5 almost equal, short processi and with fine, acute, pollex-like apical extension. Cucullus acutely triangular, setose, corona fully reduced. Saccus short, sclerotized, clavus rather large, prominent, rounded. Harpe very long, S-shaped, stronger at base, apically pointed. Aedeagus short, rather thick, slightly arcuate, carina smoothly sclerotized, without teeth. Vesica long, broadly tubular, everted forward, bent and recurved ventrally. Basal third membranous, rather straight, with two large, subconical dorso-lateral diverticula. Medial third broadened, scobinate, with two distal diverticula projected ventrally, one of them is covered with fine spiculi. Terminal part tubular, tapering towards ductus ejaculatorius, with a long, narrow field of short, fine spinules and with strong, rather long, thorn-like terminal cornutus.

Bionomics and distribution – The new species is known from the type locality only, although it was found as rather frequent in that night. The specimens were collected by two portable light traps inside a deep rocky gorge (see Figs 5–6) while examples have not been observed at the illuminated screen standing nearby the edge of the gorge but at an open place nor were found in the other light

traps placed outside this gorge. It is an open question whether the species sticks so strongly to its less grazed, more shrubby habitats or it was the consequence of the actual weather conditions and the effect of the moonlight as there was open sky and full moon during that night. It is also worth to mention that only the male sex is represented in the large series and most of the specimens are freshly emerged ones.

Etymology – The new species is named after an ancient Persian nation.

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