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**COCHYLIMORPHA HALOPHILANA ADRIATICA SSP. N., A REMARKABLE
NEW TORTRICIDAE FROM FRIULI-VENEZIA GIULIA (ITALY) (LEPIDOPTERA)**

**COCHYLIMORPHA HALOPHILANA ADRIATICA SSP. N., NUOVO INTERESSANTE
TORTRICIDAE DEL FRIULI-VENEZIA GIULIA (ITALIA) (LEPIDOPTERA)**

Abstract - *Cochylimorpha halophilana adriatica* ssp. n. is described from the province of Gorizia and compared with closely related taxa: *C. halophilana* (CHRISTOPH, 1872) is considered as a polymorphic species including the subspecies *C. halophilana halophilana* (CHRISTOPH, 1872) from Iran, Afghanistan, southern Russia, Caucasus and Slovakia; *C. halophilana clavana* (CONSTANT, 1888) stat. rev. from South France and *C. halophilana adriatica* ssp. n. from northern Italy. The main differences in the taxa involved are found in wing pattern and colour whereas the genitalia are transitional in characters.

Key words: Lepidoptera, Tortricidae, *Cochylimorpha halophilana adriatica* ssp. n., *C. halophilana clavana* stat. rev., Taxonomy, Italian fauna.

Riassunto breve - *Cochylimorpha halophilana adriatica* ssp. n. della provincia di Gorizia viene qui descritta e confrontata con alcuni taxa strettamente affini: *C. halophilana* (CHRISTOPH, 1872) viene considerata specie polimorfa comprendente la sottospecie *C. halophilana halophilana* (CHRISTOPH, 1872) di Iran, Afghanistan, Russia meridionale, Caucaso e Slovacchia; *C. halophilana clavana* (CONSTANT, 1888) stat. rev. della Francia meridionale e *C. halophilana adriatica* ssp. n. dell'Italia settentrionale. Le differenze fra i taxa interessati si individuano principalmente nel disegno e nel colore delle ali, mentre i genitali hanno caratteri intermedi.

Parole chiave: Lepidoptera, Tortricidae, *Cochylimorpha halophilana adriatica* ssp. n., *C. halophilana clavana* stat. rev., Tassonomia, Fauna italiana.

Introduction

Moths of the tortricoid tribe Cochylini are quite well known in Europe, mainly due to their frequently colourful external appearance. Identification of Palearctic species was made possible already by KENNEL (1913-1921) and RAZOWSKI (1970) and only a few species have been described since then, particularly within the genus *Phtheochroa* (HUEMER, 1990). From the Italian territory 100 species of Cochylini have been counted so far (TREMATERRA, 1995; HUEMER & TREMATERRA, 1997; TREMATERRA & GENTILE, 1998; TREMATERRA & SCIARRETTA, 2000). It was therefore most surprising when a few specimens of an initially unknown taxon of the

genus *Cochylimorpha* were found among unidentified material of the Museo Friulano di Storia Naturale, Udine.

Material

The basic material for this study is owned by the Museo Friulano di Storia Naturale, Udine (MFSN), an institution which has accumulated rich microlepidoptera material from Friuli-Venezia Giulia and other Italian regions. Further material belongs to following collections: Tiroler Landesmuseum Ferdinandeum, Innsbruck (TLMF), Zoologisk Museum, Copenhagen (ZMUC), Zoologische Staatssammlung, München (ZSM) and coll. Gustav Elsner, Prague (ELSN).

Material examined:

C. halophilana halophilana (CHRISTOPH, 1872)

Slovakia: 3 ♂♂, 6 ♀♀, Tvrdosovce, 24.-26.8.1989, leg. Elsner (ELSN; TLMF; ZMUC); 5 ♂♂, 9 ♀♀, Kamenin, 18.8.1984, leg. Elsner (ELSN; TLMF); including 3 ♂, 1 ♀ genitalia slides.

C. halophilana clavana (CONSTANT, 1888) stat.rev.

France: 1 ♂, Alpes maritimes, leg. Constant; 1 ♂, 1 ♀, "Gall. mer." without detailed locality labels [both specimens figured by KENNEL (1908-1921)]; including 2 ♂, 1 ♀ genitalia slides.

C. halophilana adriatica ssp.n.

Holotype: 1 ♂ "FVG Monfalcone GO Lido di Staranzano loc. Cona 14.8.1997 legit Morin L." "GU 98/823 ♂ P. Huemer" (MFSN).

Paratypes: 1 ♂, same data as holotype, but GU 99/863 ♂ (MFSN) (fig. 2); 1 ♂, Gorizia, Grado, loc. Bonifica della Vittoria, 16.8.2000, leg. Morin (Coll. Morin); 1 ♀, Gorizia, Staranzano, loc. Cona (Canale Quarantia), 13.8.2000, leg. Morin, GU 00/950 (MFSN).

Taxonomic part

Cochylimorpha halophilana adriatica ssp.n.

Diagnosis

Adult (fig. 2): Head, thorax and tegulae light grey-brown; antenna light grey-brown, in male with short cilia; forewing length 7.1-7.5 mm; forewing dark grey-brown, suffused with reddish brown, particularly at base and distally; a large and narrow subtriangular blotch of dark reddish brown colour medio-dorsally, slightly curved outwards, extending from dorsum to radialis; dorsal blotch edged with light grey-brown; distal third of forewing with grey-brown patches; termen reddish brown; cilia dark grey-brown, with small whitish basal line,



Fig. 1 - *Cochylimorpha halophilana halophilana*, adult (wingspan 16.5 mm).
- *Cochylimorpha halophilana halophilana*, adulto (apertura alare 16.5 mm).

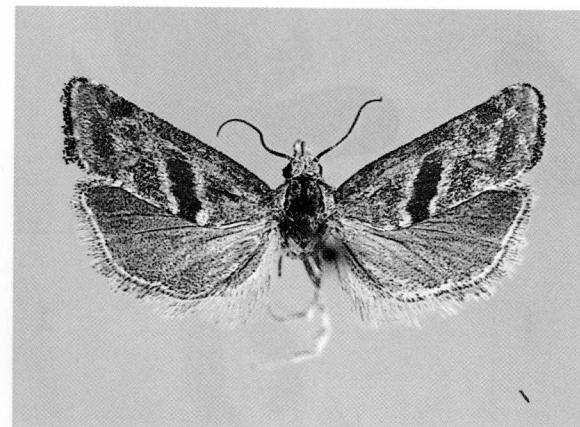


Fig. 2 - *Cochylimorpha halophilana adriatica* ssp.n., adult (wingspan 15.0 mm).
- *Cochylimorpha halophilana adriatica* ssp.n., adulto (apertura alare 15.0 mm).

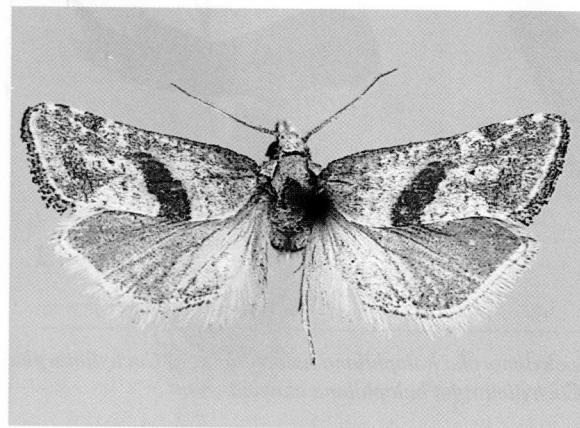


Fig. 3 - *Cochylimorpha halophilana clavana*, adult (wingspan 17.0 mm).
- *Cochylimorpha halophilana clavana*, adulto (apertura alare 17.0 mm).

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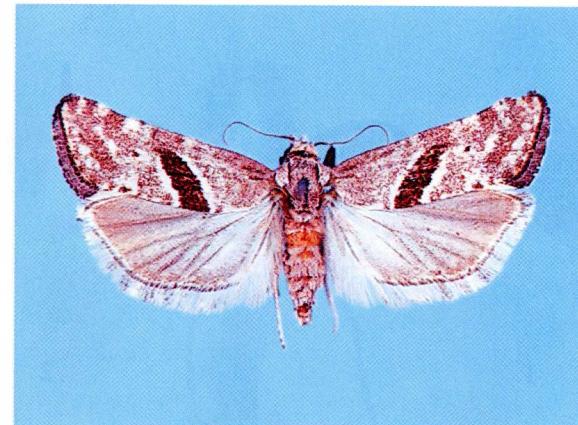


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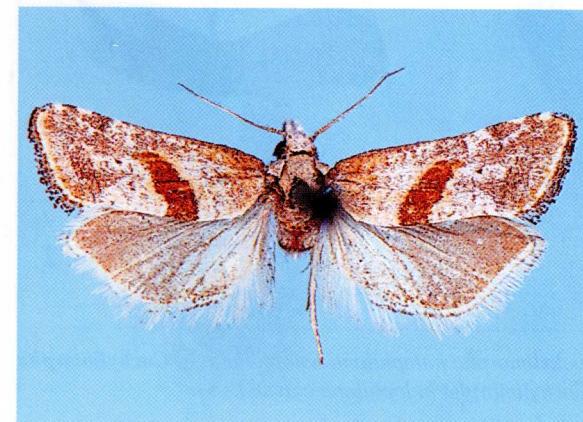


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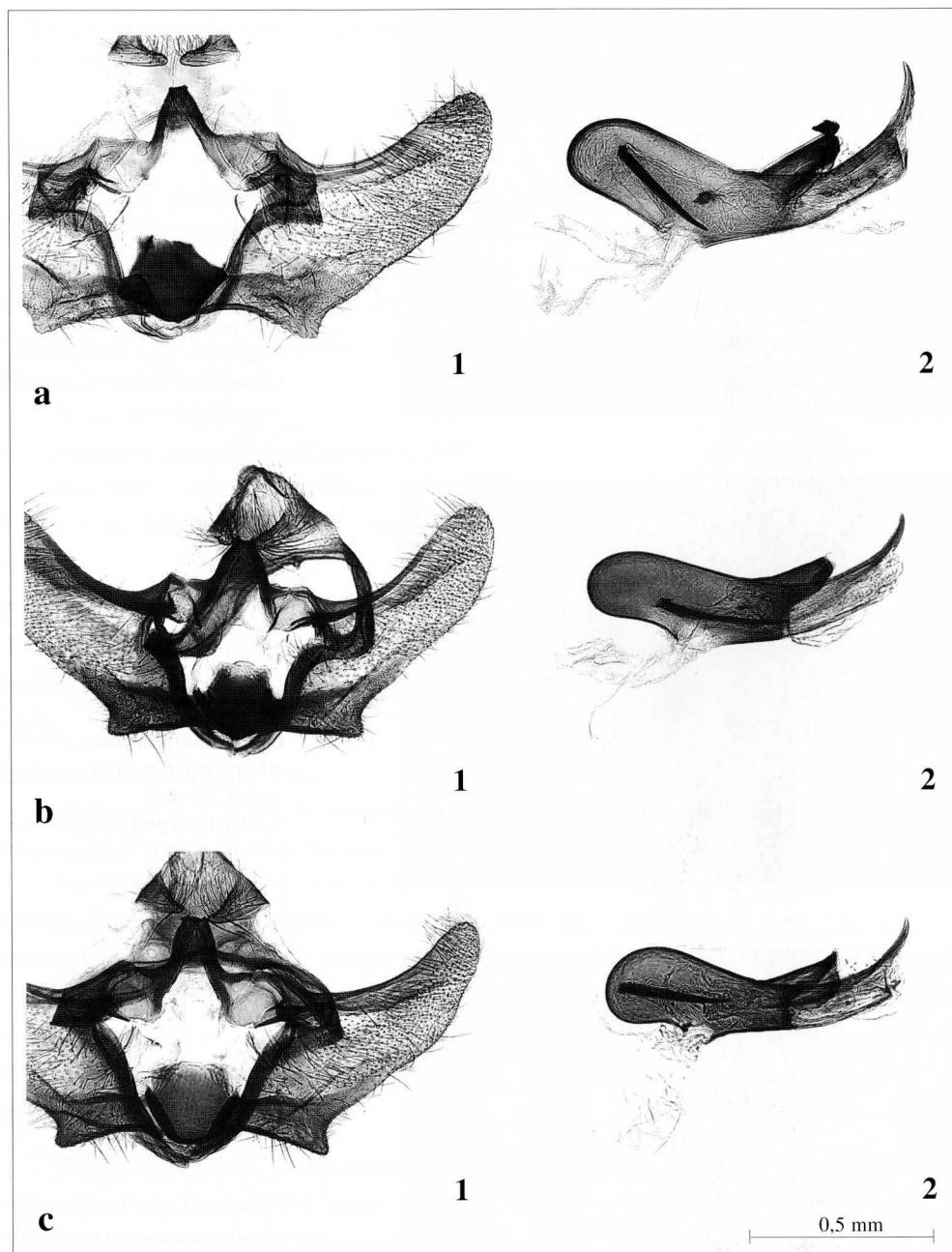


Fig. 4 - Male genitalic structures of: a) *Cochylimorpha halophilana halophilana*; b) *Cochylimorpha halophilana adriatica* ssp.n.; c) *Cochylimorpha halophilana clavana*.
1 - vinculum/valva; 2 - aedeagus.

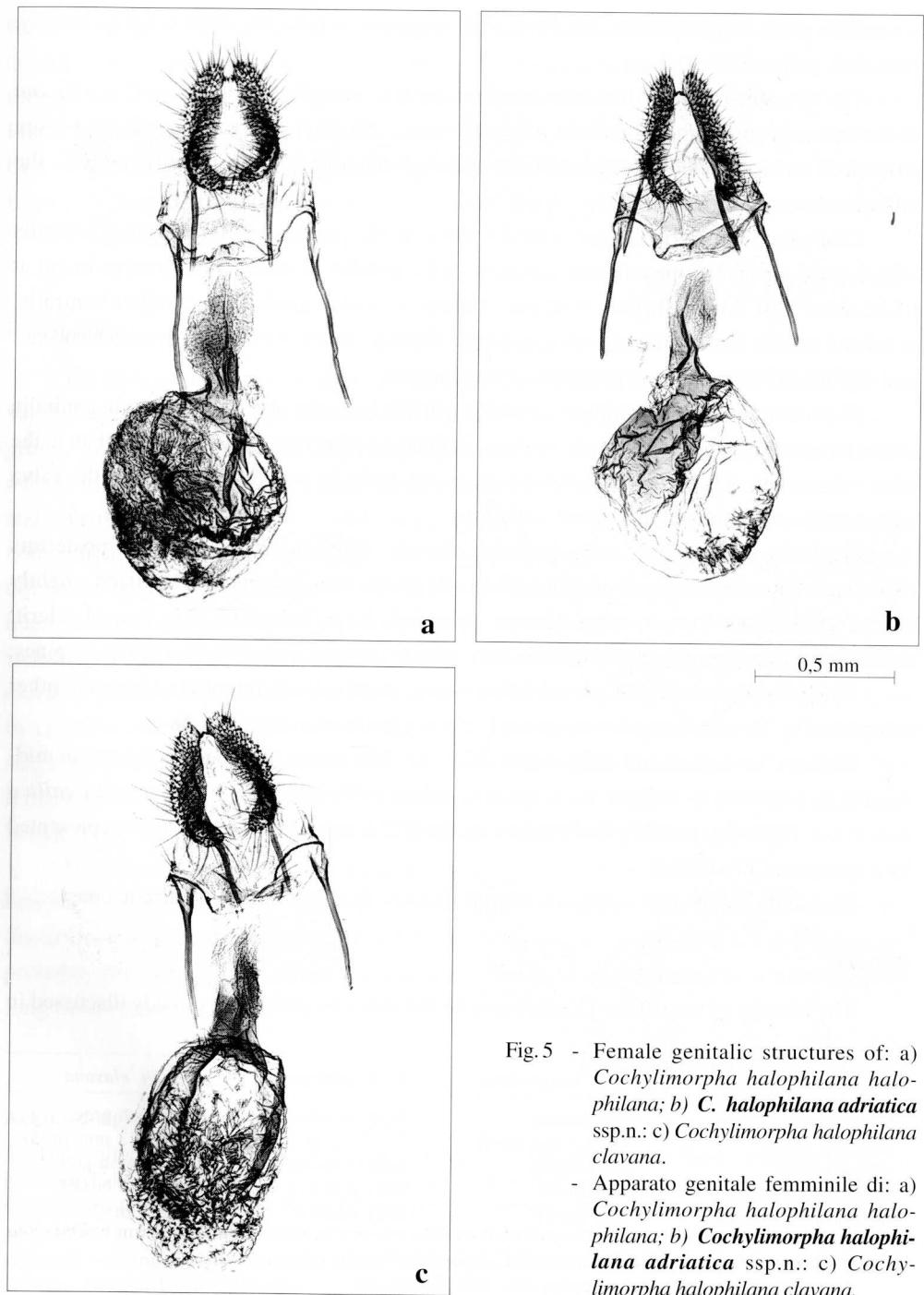


Fig. 5 - Female genitalic structures of: a) *Cochylimorpha halophilana halophilana*; b) *C. halophilana adriatica* ssp.n.; c) *Cochylimorpha halophilana clavana*.
- Apparato genitale femminile di: a) *Cochylimorpha halophilana halophilana*; b) *Cochylimorpha halophilana adriatica* ssp.n.; c) *Cochylimorpha halophilana clavana*.

covered by reddish brown scales. Hindwing dark grey-brown; cilia grey-brown, lighter basally, with dark grey sub-basal line.

The new subspecies differs from nominotypical *C. halophilana* and from *C. h. clavana* in the darker head and thorax and the reddish brown suffusion of the forewing. Furthermore from the former in the colour of the medio-dorsal blotch (see figs 1-3, table I) and from the latter in the smaller size.

Genitalia ♂: (fig. 4b 1,2): uncus weakly developed; socii large, sub-triangular; transtilla with broadly projected medial part, covered with a number of small spines; valva broad at base, distal part thumb-shaped, rounded at apex; sacculus moderately straight ventrally, distal end weakly separated from valva; aedeagus slightly curved, with weakly swollen coecum and distinct apical process, cornutus long and narrow.

C. h. adriatica ssp. n. is almost indistinguishable from the other subspecies in genitalia characters (see fig. 4). The - limited - material indicates a relatively longer cornutus than in the other subspecies of *C. halophilana* (see figs. 4a-c 2, table I), whereas the shape of the valva and sacculus shows some individual variation.

Genitalia ♀: papillae anales long and slender; apophyses anteriores and posteriores moderately short; anterior part of sternite 8 broad; ductus bursae strongly sclerotized, slightly shorter than corpus bursae; corpus bursae spherical, posteriorly with ring shaped sclerit, delimiting entrance of ductus seminalis; anterior part of corpus bursae with a group of spines.

The female genitalia of *C. h. adriatica* ssp. n. seem to be differentiated from the other subspecies by the small number of spines in the corpus bursae (see figs. 5a-c).

Biology: host-plant and early stages unknown. The adults have been collected in mid-August in a salt-marsh at light. *C. h. clavana* causes galls in the stem of *Artemisia gallica* (CONSTANT, 1888) and possibly the larval hostplant of *C. h. adriatica* ssp. n. may be represented by a species of *Artemisia*.

Distribution: The new subspecies is only known from the northern adriatic coast.

Remarks

The identity of taxa of the *Cochylimorpha halophilana* group was already discussed in

	<i>C. h. halophilana</i>	<i>C. h. adriatica</i>	<i>C. h. clavana</i>
head, thorax	grey-brown	light grey-brown	whitish grey
forewing length	7.2-9.3 mm (n=7)	7.1-7.5 mm (n= 3)	8.0-8.2 mm (n=3)
ground colour	whitish grey	reddish brown	yellowish grey
medio-dorsal blotch	dark brown	reddish brown	reddish brown
ratio aedeagus/cornutus	0.35 (n=3)	0.41 (n=2)	0.33 (n=2)

Tabl. I - Important diagnostic characters of *C. halophilana* ssp.
- Importanti caratteri diagnostici in *C. halophilana* ssp.

foregoing papers: *Conchylis halophilana*, originating from south Russia, was unmistakably described and figured in colour by CHRISTOPH (1872). Specimens from Slovakia fully agree with the nominotypical race. *Cochylis clavana* was described from 5 specimens collected in South France and pictured in colour (CONSTANT, 1888). Material examined for this study was distributed by Constant himself and undoubtedly represents this taxon. *Stenodes wiltshirei*, described from a single male from Iran was described in detail and pictured in the original description (RAZOWSKI, 1963) and again by RAZOWSKI (1970).

Discussion

The male genitalia characters within the genus *Cochylimorpha* are usually of high specific value. RAZOWSKI (1970) with some doubts separates three species within the *C. halophilana*-group, viz. *C. halophilana* (Russia, Iran, Afghanistan, Slovakia), *C. clavana* (France) and *C. wiltshirei* (Iran). However, the alleged diagnostic characters in the shape of the transtilla, valva and sacculus could not be confirmed during this study. *C. halophilana* and *C. clavana* vary both individually and geographically in the shape of the valva and transtilla and the numerical differences are hence regarded as infrasubspecific variation. Considering the new, geographically intermediate record from Italy, a transition between the shape of the valva of all three taxa can be stated (figs. 4a-c 1). Therefore *C. clavana* is here reconsidered as subspecies: *C. halophilana clavana* stat.rev.. The fourth taxon of this group, viz. *C. wiltshirei*, differs from *C. halophilana* in a particularly short cornutus (RAZOWSKI, 1970). However, this species was described from a single male only and its taxonomic state has to be re-assessed from additional material. The female genitalia within the *C. halophilana*-group seem to differ in the dentation of the corpus bursae (figs. 5a-c) but this observation is based on insufficient material.

The subspecies concept used in this paper is mainly based on distinct external differences between *C. halophilana* s.l.. Various populations of *C. halophilana* show a remarkable disjunct distribution and the development of a different wing colour is therefore not surprising and probably due to a different edaphic situation but maybe also to differing host-plants and the long isolation period.

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