Merulempista wolschrijni spec. nov. from The Netherlands and *Merulempista brucella* (Staudinger) stat. nov. from Turkey (Lepidoptera: Pyralidae, Phycitinae)

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Abstract: *Merulempista wolschrijni* spec. nov. is described from The Netherlands and compared with the three other known species of *Merulempista* in the West Palaearctic Region. *Merulempista brucella* (Staudinger) stat. nov. is elevated to species rank and the genera *Merulempista* Roesler and *Meroptera* Grote are compared.

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Introduction

Hannemann (1964) tentatively placed *Pempelia cingillella* Zeller, 1846 in the genus *Meroptera* Grote, 1882. Roesler (1967) erected for *cingillella* the new genus *Merulempista* differing from *Meroptera* in several external and genital features. The present paper places *wolschrijni* spec. nov. in *Merulempista* and *brucella* (Staudinger, 1879) is restored to species rank, mainly because of genital differences with *M. cingillella*. The terminology in this article is according to Roesler (1973).

The genus *Merulempista* Roesler

The characteristics of the genus *Merulempista* are compared with those of the genus *Meroptera* in table 1. Four species are known so far from the West Palaearctic Region, viz. *Merulempista cingillella* (Zeller), *Merulempista numidella* (Ragonot), *Merulempista brucella* (Staudinger) and *Merulempista wolschrijni* spec. nov.

Staudinger (1879) described *Pempelia brucella* (figs 1-2) as a new species. As the main difference with *Pempelia cingillella* he considered the obvious postmedial line in the forewing, situated more closely to the termen. Moreover, he mentioned the greater average

Fig. 1. *Merulempista brucella*, ♂. Turkey, prov. Içil, Kiskalesi, near Erdemle, 23.iii.1984, leg. J. Lucas, coll. J. Asselbergs.

Fig. 2. *Merulempista brucella*, ♀. Turkey, prov. Aydin, Kusudaki, 19.iv.1981, leg. J. Lucas, coll. J. Asselbergs.

Fig. 3. *Merulempista wolschrijni* spec. nov., ♂. Holotype.

Fig. 4. *Merulempista wolschrijni* spec. nov., ♀. Paratype.

wingspan (21-23 mm) and the differently coloured forewing, which is not grey as in *cingillella* but mixed with red-brown. Ragonot (1893) regarded *Pempelia brucella* as a "variety" of *P. cingillella*. Roesler (1967) described *Merulempista cingillella harteri* after a ♂ from Basilicata, Policoro, Italy, differing from the nominate form by a greater wingspan (23 mm), a darker ground-colour, a more marked antemedial line and greyish-white hindwings with a very dark terminal line, but he listed no differences in the male genitalia. *Merulempista brucella* differs from *Merulempista cingillella* by a different anellus and culcita in the male and a different antrum in the female.

The outer appearance of the four species of *Merulempista* treated is much the same. Generally spoken *M. numidella* has a more obvious band on the forewing which runs more perpendicular to the dorsum when compared with *M. cingillella*. *Merulempista brucella* has mostly a more reddish-brown forewing while *M. cingillella* looks more greyish.

***Merulempista wolschrijni* spec. nov.**
(figs 3-4, 5-8)

Type material

Holotype: ♂, The Netherlands, province Gelderland, Twello, 14 vii 1986, leg. J. Wolschrijn; genitalia slide 2237, coll. J. H. Kuchlein, Wageningen. Paratype: ♀, same data as holotype; genitalia slide 2238; coll. J. H. Kuchlein, Wageningen.

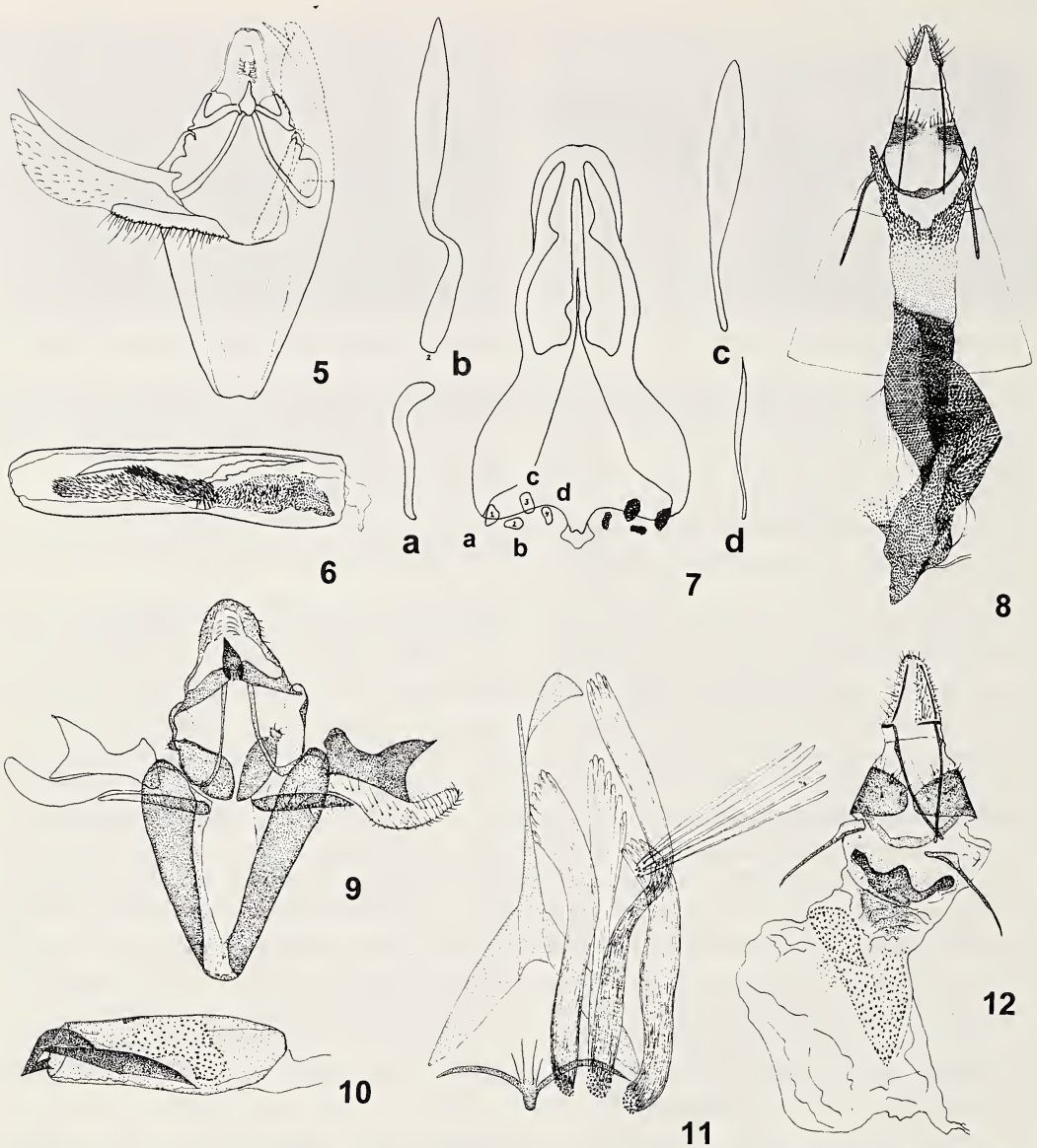
Description

Male (fig. 3), female (fig. 4). Wingspan 17.0-17.5 mm. Labial palps 1.4 x eye diameter, ascending vertically and adjacent to face, projecting about 0.2 of total length above the upper edge of the eye and smoothly scaled. Third article distally rounded and about 0.25 times as long as the second article. The maxillary palps are hidden in the groove of the labial palps. Proboscis of usual length, not shortened. Antennae slightly more than half the length of the forewing, pubescent and with cream-coloured bands on the upperside. Scapus 2 times longer than wide and 2 times wider than the width of the shaft. The first four articles of the shaft with a grooved scale-bush.

Thorax violet-brown. Patagia with the sides of the scales facing the base of the antenna glossy yellowish. Tegulae with some black scales in the posterior parts. Forewing with a whitish antemedial line, zigzagging and starting from about 0.4 on the costa, then running slightly inwards to the middle of the wing and finally bending outwards till it reaches the

Table 1. Differences between *Merulempista* and *Meroptera* (after Roesler, 1967)

	Merulempista	*Meroptera*
forewing	m_1 and m_2 separate	m_1 and m_2 shortly stalked
3rd article of labial palps	distally rounded	distally tapered
lateral gnathos components	short and robust	long and slender
costa of valve	with chitine enforcement	without chitine enforcement
sacculus	without spine	with spine at lateral side



Figs 5-12. Male and female genitalia. 5-8, *Merulempista wolschrijni* spec nov. 5-7, male genitalia, holotype; 6, aedoeagus; 7, culcita; 8, female genitalia, paratype. 9-12, *Merulempista brucella*. 9-11, male genitalia; 10, aedoeagus; 11, culcita; 12, female genitalia.

dorsum of the wing just before the middle. On the inside and more sharply on the outside the antemedial line is bordered with black scales. Some scales on the outer border are erect. The whitish postmedial line originates at about 0.85 on the costa and is less sharp bordered with black scales. From the costa it runs slightly inwards and reaches m_2 with a minute outward curve, proceeding downwards parallel to the termen till below cu_2 and finally reaching a point on the dorsum of the wing just before the tornus. The ground colour of the forewing is whitish and the basal field is reddish-brown. The costa is mottled with little black scales as is the lower half of the space between the basal field and the antemedial line. Many red-brown scales form a band on the outside of the black bordering of the antemedial line below the costa. A small oblique line in the distal part of the cell is directed to

the lower outer edge of the cell. The termen is marked by a narrow black line. The fringes are white with a dark dividing line. The underside of the forewing is yellowish-brown with the postmedial line shining through. The hindwing is brownish-white, semihyaline and darkened at the termen and the apex. The fringes are white with a dark dividing line and the underside is white. Middlelegs with two spurs, hindlegs with four spurs. All legs are white at the upperside and brown at the underside. Tibiae and tarsi are banded white at the underside.

Abdomen greyish-brown.

Male genitalia (figs 5-7). Valve tapering at apex, with a robust costal enforcement ending with a sharp pointed spine just beyond the apex of the valve. Sacculus with stiff hairs and a little less than half the length of the valve. The gnathos has two short robust lateral branches. The uncus is A-formed with a flattened top and the vinculum is V-formed with a flattened base. The aedoeagus is about 0.25 the length of the valve, the latter measured from the proximal end of the sacculus to the distal end of the costal spine. A band of numerous small spines runs from the base till nearly the apex. The culcita is composed of four different types of scales which originate at the base of the central part.

Female genitalia (fig. 8). Ovipositor triangular. Apophyses anteriores about 0.8 of apophyses posteriores. Antrum deeply concave in the centre with strongly uprising sides and covered with small spines. The upper half of the ductus bursa is scobinate, while the lower half and most of the bursa including the tapered fundus are densely covered with small chitinizations of three different types: rounded in the upper part and in one half of the central part, rounded but pointed at one side in the remaining half of the central part, and in the form of minute v's in the lower part. The ductus seminalis originates from the tapered fundus.

Biology

First stages and foodplant(s) unknown.

Distribution

So far only known from Twello, province of Gelderland, The Netherlands.

Etymology

The new species is named after the Dutch lepidopterist Mr J. B. Wolschrijn who collected the first and so far only male and female.

Identification

The West Palaearctic species of *Merulempista* can be identified reliable with the following keys, based on the genitalia.

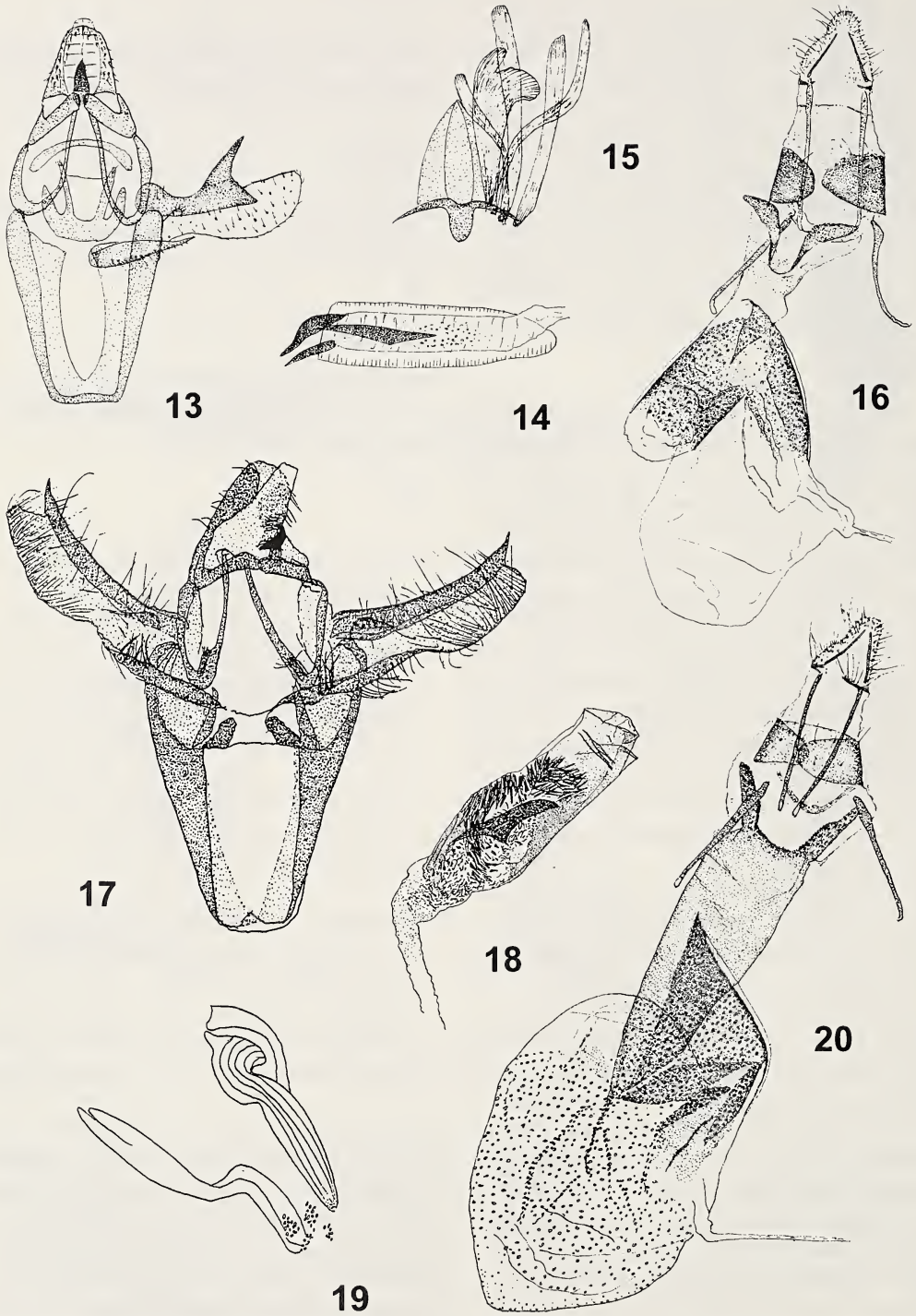
Males

1. costal enforcement with a big pinnacle, not reaching the apex of the valve 2
– costal enforcement without big pinnacle and reaching the apex of the valve 3
2. anellus with a broad and about semicircular bent base; central part of culcita shorter than the shortest scales at its base (figs 13-15)..... *M. cingillella*
– anellus composed of only two swollen bottle-like components; central part of culcita long and very slender (figs 9-11) .... *M. brucella*
3. aedoeagus with one big central spine and a curved band of numerous small spines at its convex side (figs 17-19) ..... *M. numidella*
– aedoeagus without a central spine but with a band of small spines throughout its entire length (figs 5-7) ..... *M. wolschrijni*

Note that Hannemann's figure (1964) of the male genitalia from *Merulempista cingillella* is rather different from the one in Roesler (1967). Both the apical spines of the apex of the aedoeagus are straight and parallel in Hannemann's figure, whereas in Roesler's figure one of those is strongly bent.

Females

1. antrum deeply concave in the centre lateral



Figs 13-20. Male and female genitalia. 13-16, *Merulempista cingillella*. 13-15, male genitalia (after Roesler, 1967); 14, aedoeagus; 15, culcita; 16, female genitalia. 17-20, *Merulempista numidella*. 17-19, male genitalia. Spain, Murcia, 20.iv.1978, leg. & coll. J. Asselbergs (genitalia slide 1068); 18, aedoeagus; 19, culcita (partim); 20, female genitalia. Spain, Almeria, 6 km SW Tabernas, Mini Hollywood, 400 m, 25.iii.1994, leg. & coll. J. Asselbergs (genitalia slide 3652).

parts pointed on top 2
– antrum convex in the centre, lateral parts ending in a blunt knob (fig. 12) .... *M. brucella*
2. fundus bursae tapered (fig. 8)..... ..... *M. wolschrijni*
– fundus bursae not tapered 3
3. lateral parts of antrum strongly diverging (fig. 16)..... *M. cingillella*
– lateral parts of antrum little diverging (fig. 20)..... *M. numidella*

Concluding remarks

The foodplants of only *Merulempista cingillella* are known. Already Ragonot (1893) mentioned *Tamarix gallica* (L.) and *Myricaria germanica* (L.). This was repeated by Spuler (1910), Eckstein (1933) and more recently by Slamka (1995).

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