

***Yigoga flavina flavina* (Herrich-Schäffer, 1852) =
Yigoga flavina pretiosa (Caradja, 1931) syn. n., stat.
rev. (Lepidoptera: Noctuidae: Noctuinae)**

Stoyan Beshkov

Abstract. Following the author's study of a large quantity of material from Bulgaria and several specimens from Asiatic Turkey, *Yigoga flavina pretiosa* (Caradja, 1931) syn. n. is considered to be just a colour form of *Yigoga flavina flavina* (Herrich-Schäffer, 1852). Both former subspecies are syntopic and synchronic in Bulgaria and show intermediate forms. These, together with the absence of any differences in the male and female genitalia, including everted vesica, are the reasons for making the synonymy. With two colour plates.

Samenvatting. *Yigoga flavina flavina* (Herrich-Schäffer, 1852) = *Yigoga flavina pretiosa* (Caradja, 1931) syn. n., stat. rev. (Lepidoptera: Noctuidae: Noctuinae)

Na bestudering van een grote hoeveelheid materiaal uit Bulgarije en het Aziatisch deel van Turkije bleek dat *Yigoga flavina pretiosa* (Caradja, 1931) syn. n. moet beschouwd worden als een kleurvorm van *Yigoga flavina flavina* (Herrich-Schäffer, 1852). Beide vroegere ondersoorten komen syntoop en synchronoos voor in Bulgarije en bezitten intermediaire vormen. Dit gegeven, samen met het feit dat er geen enkele verschil kon worden aangetoond noch in de mannelijke, incl. de uitgestulpte vesica, noch in de vrouwelijke genitalia, leidde tot de huidige synonymie.

Résumé. *Yigoga flavina flavina* (Herrich-Schäffer, 1852) = *Yigoga flavina pretiosa* (Caradja, 1931) syn. n., stat. rev. (Lepidoptera: Noctuidae: Noctuinae)

Après étude d'un matériel nombreux provenant de Bulgarie et de Turquie asiatique, *Yigoga flavina pretiosa* (Caradja, 1931) syn. n. doit être considéré comme une forme chromatique de *Yigoga flavina flavina* (Herrich-Schäffer, 1852). Ces deux sous-espèces anciennes coexistent syntopiquement et synchroniquement en Bulgarie et ne possèdent aucune différence ni dans les genitalia mâle, vesica éverté inclus, ni dans les genitalia femelle. Tous ces données suffisent pour synonymiser les deux noms.

Key words: Noctuidae - Noctuinae - genitalia - Bulgaria - *Yigoga flavina pretiosa* syn. n.

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From North-East Bulgaria, Black Sea Coast, Balchik Town, Valley Ak-Bunar (at that time part of Romania), Caradja (1931: 314-316) described a new subspecies of *Yigoga flavina* (Herrich-Schäffer, 1852), under the name *pretiosa*. The more recently described taxon *pretiosissima* (Corti & Draudt, 1933) (Type locality also Balchik) is a synonym of *pretiosa* Caradja. Buresch & Tuleschkow (1932: 234) give all the localities for *flavina* in Bulgaria known at that time. In that work the authors recognized that the Bulgarian specimens were more similar to the recently described ssp. *pretiosa*, than to the nominate ssp. *flavina*. In the same article, Buresch & Tuleschkow (1932: 234), following Rebel (1903: 213), reported the caterpillar of *flavina* as inhabiting and feeding in the stems of *Carduus* sp. According to Buresch & Tuleschkow these data were given to Rebel by J. Haberhauer, who spent a lot of time collecting in Bulgaria, in and around the town of Sliven. Hacker (1989: 45) synonymised ssp. *pretiosa* with the nominate ssp. *flavina*, but later the same author (Hacker, 1990: 55) reintroduced the name *pretiosa* as a valid name for the Balkan population (subspecies) of *Yigoga flavina*. In Fibiger (1990: 128-129) and Svendsen & Fibiger (1992: 70; 254) the taxon *pretiosa* is used to represent the European subspecies of *Y. flavina*. Hacker (1992a: 365) accepts the opinion of Fibiger (1990) that the race of *Y. flavina* in Europe is referable to ssp. *pretiosa*.

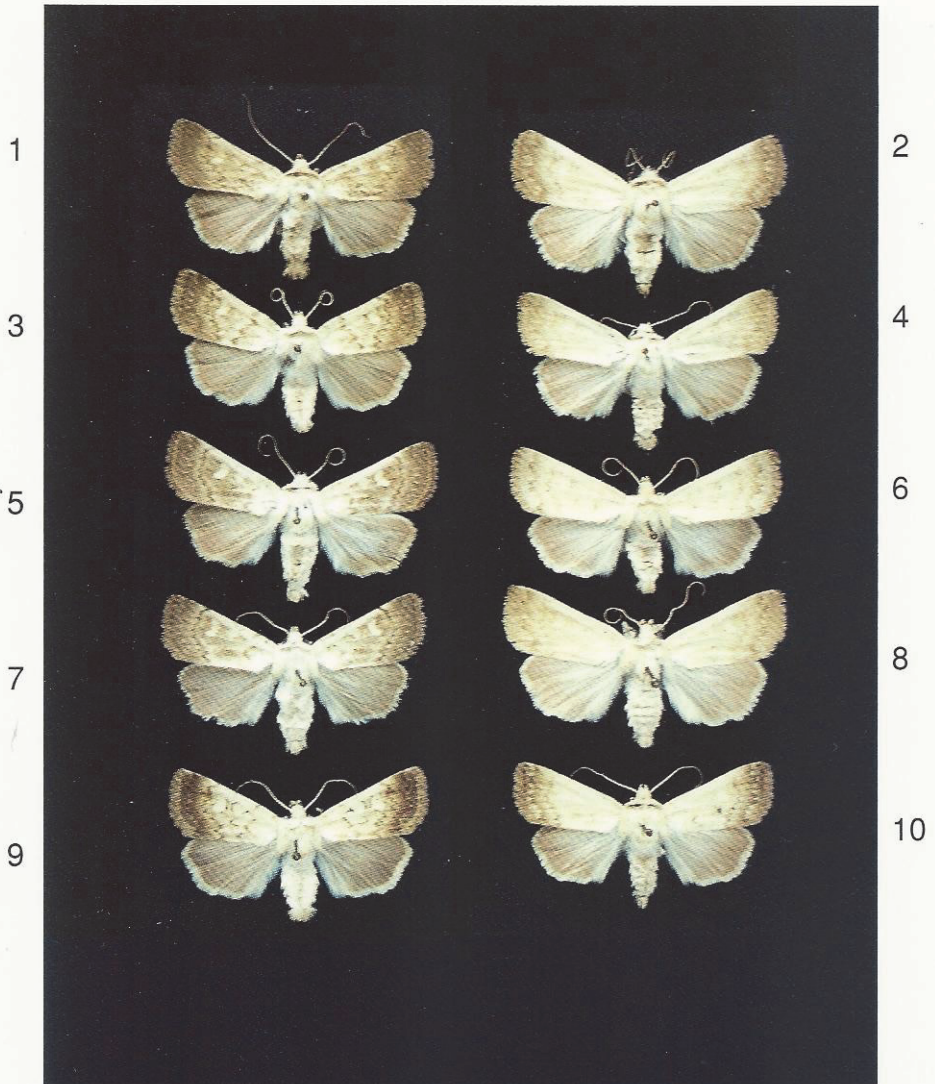
According to Fibiger (1990: 128), the differences between *pretiosa* and the nominate subspecies are in the presence of a dark terminal area of the forewings and the reddish brown coloration of the fringes. The other characteristics given by Caradja (1931) could not be confirmed by Fibiger (1990), nor by the present author. Another reason that has

Plate 1

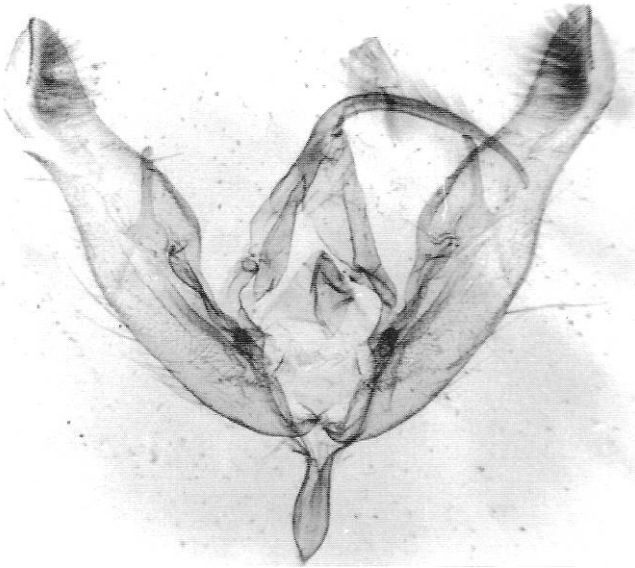


Figs 1-10. *Yigoga flavina flavina* (Herrich-Schäffer, 1852), males: 1-3, 5-7, 9-10. SE. Bulgaria, East Rhodopi Mt, Siv Kladenetz Village, 140 m alt., Ivailovgrad Region, 21-22.VI.1993, S. Beshkov leg. at 400 W Hg lamp; 4. SE. Bulgaria, East Rhodopi Mt, Yazovir Ivailovgrad Dam, Arda Chalet near Dabovetz Village, 140 m alt., 23.VI.1993, S. Beshkov leg. at 400 W Hg lamp; 8. Asia Minor, Güllu Pinar, 1200 m alt, Prov. Antalya, Korkuteli Region, 13.VII.1991, S. Beshkov leg. at 300 W peromax lamp.

Plate 2



Figs 1-10. *Yigoga flavina flavina* (Herrich-Schäffer, 1852), females: SE. Bulgaria, East Rhodopi Mt, Siv Kladenetz Village, 140 m alt., Ivailovgrad Region, 21-22.VI.1993, S. Beshkov leg. at 400 W Hg lamp.



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Figs 1-2: *Yigoga flavina flavina* (Herrich-Schäffer, 1852), male genitalia without aedeagus: 1. Asia Minor, Güllü Pinar, 1200 m alt, Prov. Antalya, Korkuteli Region, 13.VII.1991, S. Beshkov leg., Gen. prep. 1./04.IV.1994 Beshkov; 2. "Balchik, 12.VIII.1967, Al. Slivov leg.", Gen. prep. 3./09.III.1995, Beshkov.

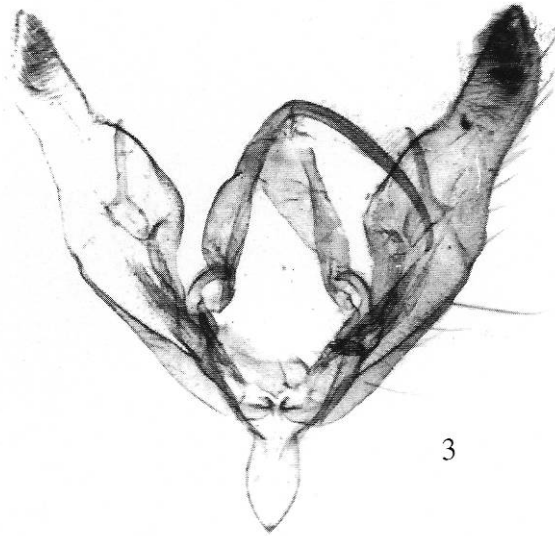
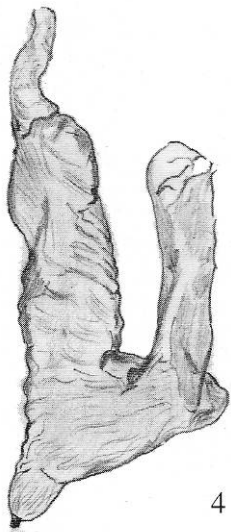


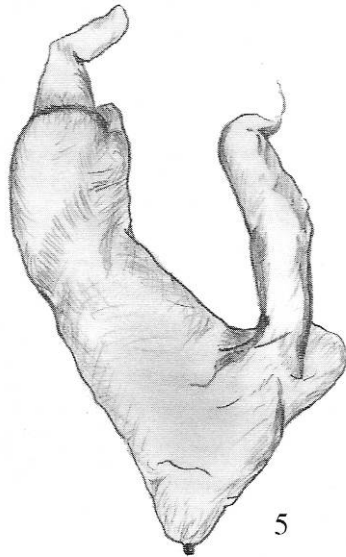
Fig. 3: *Yigoga flavina flavina* (Herrich-Schäffer, 1852) male genitalia without aedeagus: SE Bulgaria, East Rhodopi Mt. Siv Kladenetz Village. 140 m alt., Ivailovgrad Region, 21-22.VI.1993, S. Beshkov leg., Gen. prep. 4./04.IV.1994 Beshkov.

been given for the subspecific rank of *pretiosa* is its range: it seems geographically isolated from the nominate race. *Y. flavina flavina* occurs in Asia only - Transcaucasia, "Soviet" South Central Asia and the Near East from Asia Minor to Jordan and Iran (East Persia). The race *pretiosa* is known only in Europe - the Balkan Peninsula from Dalmatia in the west to Peloponessus in the south. Hacker (1992b: 419) reported *Y. flavina pretiosa* in European Turkey (Prov. Kirklareli, Inece, 200 m.). On the distribution map 101 in Svendsen & Fibiger (1992: 254) it is indicated for Hungary as well, with a symbol in brackets which is not explained in the text. For the above mentioned reasons, when the author discussed with M. Fibiger the possibility of synonymising *pretiosa* Caradja, he advised him to be very careful.

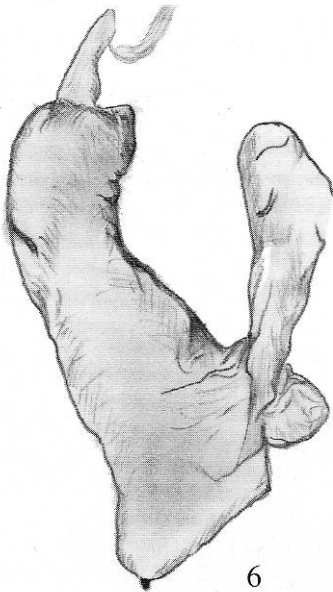
In Europe, outside the Balkans, *Y. flavina* is reported also from Crimea. The present author cannot say which taxon/taxa is represented in Crimea. So far is known, the only report of *flavina* in the Crimea (Sevastopol and Sudak) is that of Kozhantshikov (1937: 458). Bearing in mind that Kozhantshikov (1937: 457-459) regarded *flavina* and *serraticornis* (Staudinger, 1897) as conspecific, recognizing *serraticornis* as a subspecies of *flavina*, it is thought possible that the specimens from Crimea may belong to another species. Further, the specimen illustrated by Kozhantshikov (1937) on Pl. IX. fig. 12, is not *flavina*: it is pale-coloured with small dark stigmata and well defined cross-lines, indicating that it might be a ssp. of *Y. serraticornis* (probably the recently described ssp. *karsholti* Fibiger, 1990) or *Y. lutescens* (Eversmann, 1844).



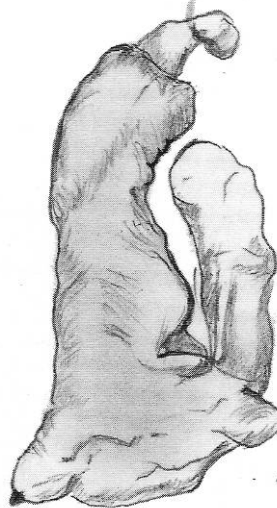
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Figs 4-7: *Yigoga flavina flavina* (Herrich-Schäffer, 1852) aedeagus with everted vesica: 4. Asia Minor, Güllü Pinar, 1200 m alt., Prov. Antalya, Korkuteli Region, 13.VII.1991, S. Beshkov leg., Gen. prep. 1./04.IV.1994 Beshkov; 5. SE Bulgaria, East Rhodopi Mt, Siv Kladenetz Village, 140 m alt., Ivailovgrad Region, 21-22.VI.1993, S. Beshkov leg., Gen. prep. 4./04.IV.1994 Beshkov; 6. SE Bulgaria, East Rhodopi Mt, Yazovir Ivailovgrad Dam, Arda Chalet near Dabovetz Village, 140 m alt., 23.VI.1993, S. Beshkov leg., Gen. Prep. 2./04.IV.1994 Beshkov; 7. SE Bulgaria, East Rhodopi Mt, Yazovir Ivailovgrad Dam, Arda Chalet near Dabovetz Village, 140 m alt., 23.VI.1993, S. Beshkov leg., Gen. Prep. 3./04.IV.1994 Beshkov.

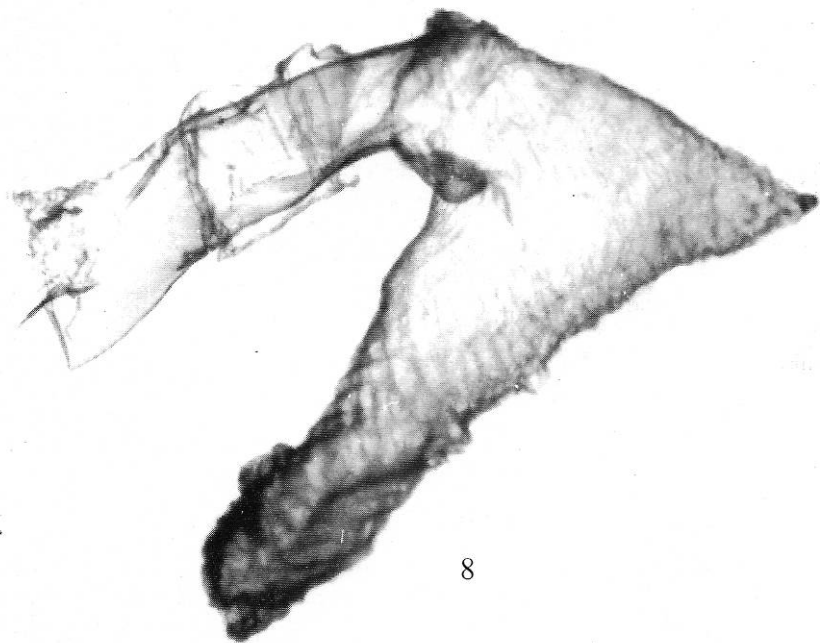


Fig. 8: *Yigoga flavina flavina* (Herrich-Schäffer, 1852) aedeagus with everted vesica: "Balchik, 12.VIII.1967, Al. Slivov leg.". Gen. prep. 3./09.III.1995 Beshkov.

Examined material:

Asia Minor, Güllu Pinar, 1200 m alt, Prov. Antalya, Korkuteli Region, 13.VII.1991, S. Beshkov leg. at 300 W peromax lamp - 1 male, Gen. prep. 1./04.IV.1994, Beshkov, Genitalia and everted vesica (Figs 1 and 4).

Asia Minor, Ilgaz Mts, 1080 m alt., 4 km from Kurtcimeni, 17 km towards Cerkes from Gerede, Prov. Cankiri, 11.VII.1995, S. Beshkov & J. Gelbrecht leg. at 160 W Hg lamp - 1 female, Gen. prep. 6./19.XII.1995, Beshkov (Fig. 11).

Asia Minor, Ilgaz Mts, 840 m alt., 2 km towards Ilgaz Town from Cerkes, Prov. Cankiri, 11.VII.1995, S. Beshkov & J. Gelbrecht leg. - 1 male.

Turkey, the crossroad to Orensehir from Gürün to Pinarbasi, Prov. Kayseri, 1850 m alt., 21.VII.1995, S. Beshkov & J. Gelbrecht leg., 3 females, Gen. preps 4-5./19.XII.1995, Beshkov (Figs 9 and 10).

Turkey, by Pinarbasi Town, 1300 m alt., Prov. Kayseri, 21.VII.1995, S. Beshkov & J. Gelbrecht leg. - 1 female.

SE Bulgaria, East Rhodopi Mt, Siv Kladenetz Village, 140 m alt., Ivailovgrad Region, 21-22.VI.1993, S. Beshkov leg. at 400 W Hg lamp - approximately 150 specimens of both sexes, collected nearly 100 specimens. Gen. prep. 4./04.IV.1994, Beshkov, Genitalia and everted vesica (Figs 3 and 5) and Gen. prep. 2-3./19.XII.1995, Beshkov (Figs 12-13).

SE Bulgaria, East Rhodopi Mt, Yazovir Ivailovgrad Dam, Arda Chalet near Dabovetz Village, 140 m alt., S. Beshkov leg. at 400 W Hg lamp - 2 males and 2 females; Idem, 23.VI.1993, S. Beshkov leg. at 400 W Hg lamp - 5 males (Gen. preps 2-3./04.IV.1994, Beshkov, Genitalia and everted vesica) (Figs 6 and 7) and 3 females.

“Rodopi, Dabovetz, 600 m., 18.VI.1968, Al. Slivov leg.” - 1 male.

“Balchik, 12.VIII.1967, Al. Slivov leg.” - 1 male, Gen. prep. 3./09.III.1995, Beshkov, Genitalia and everted vesica (Figs 2 and 8).

“Taukliman, 10.8.1967, Al. Slivov leg.” - one male, Gen. prep. 2012, Slivov. The preparation has not been examined by the present author.

“Strandzha, Zvezdetz, 21-22.VII.1973, leg. Al. Slivov” - 1 male, Gen. prep. 5004, Slivov. The preparation has not been examined by the present author.

“Strandzha, Gramatikovo, 19-20.VII.1973, leg. Al. Slivov” - 1 male and 1 female.

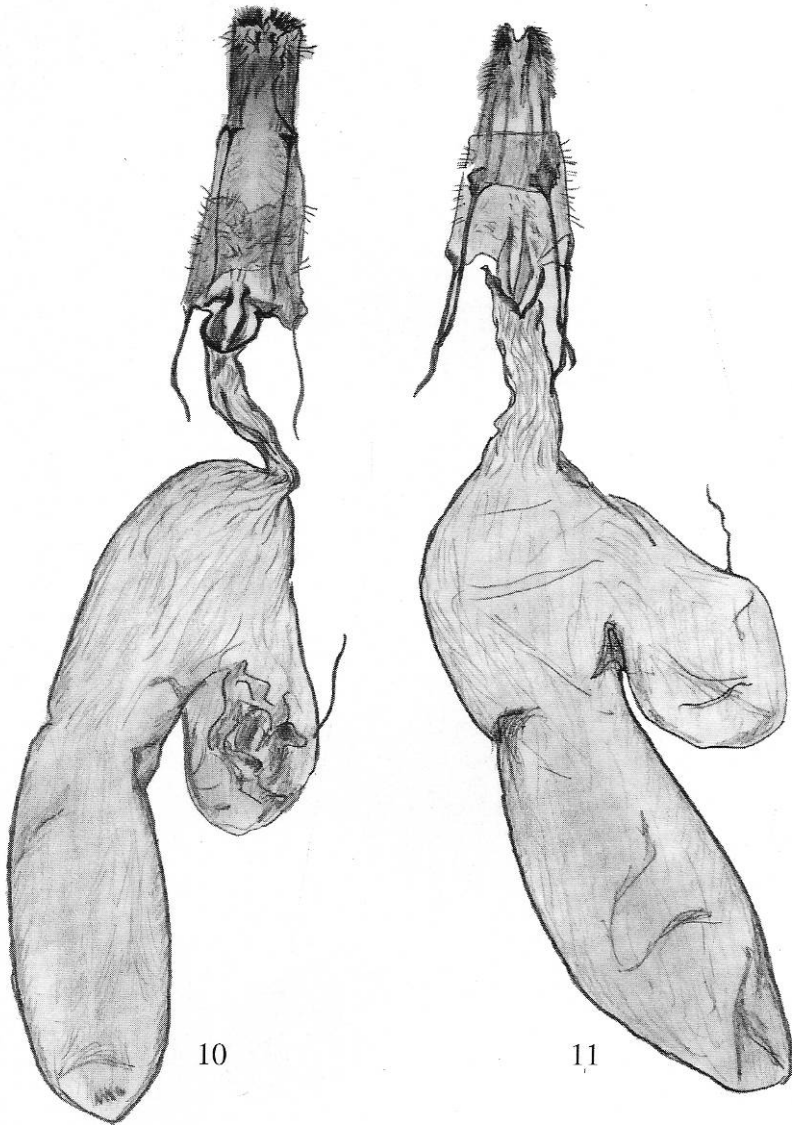
The specimen from Zvezdetz is as dark as the darker male specimens from East Rhodopes, illustrated here. Curiously, the specimen from Balchik (the type locality of *pretiosa* and *pretiosissima*) is intermediate in colour between the darker and lighter individuals. All other specimens are as pale as the lighter ones illustrated here. The large number of specimens collected in East Rhodopi Mts shows great variation - from very dark females like the type specimen of *pretiosissima* illustrated in monochrome in Popescu-Gorj (1964: Pl. X, fig. 40) and in Fibiger (1990: Pl. 12, fig. 35), to specimens which are paler in colour than some of the Turkish ones. Specimens which are darker than light-coloured Bulgarian examples have been collected in Turkey (Gürün-Orenşehir) by the author. In general, however, the specimens from the Balkan Peninsula are the darkest ones. The only difference between equally dark-coloured specimens from Bulgaria and Turkey is in the colour of the fringes of the forewings. In the Bulgarian specimens the fringes are reddish brown to slightly reddish yellow, whereas in the Turkish examples they are light yellowish, in some specimens reddish yellow with a few light scales, but always somewhat paler than any from the Balkans. The terminal area in specimens from Turkey is usually pale, the same colour as the ground colour, but specimens do occur in which the terminal area is slightly darkened, brownish. In specimens of *flavina* from Bulgaria the terminal area is normally darker than the ground colour of the forewings, but some individuals of both sexes exist in which the terminal area is concolorous with the ground colour.

Careful study of the male genitalia (Figs 1-3), including the everted vesica (Figs 4-8) has not shown any differences between *Y. flavina* from Bulgaria and Turkey. The same is true of the female genitalia (Figs 9-13). As a result of these studies, and the synchronic and syntopic occurrence of both dark and light forms in Bulgaria, with intermediates, *Y. flavina pretiosa* (Caradja, 1931) **syn. n.** is here considered to be a colour form of *Y. flavina flavina* (Herrich-Schäffer, 1852). Having in mind the differences of the habitats of the species in the Balkans and in Turkey, *pretiosa* has to be an ecological form. In Bulgaria it is known mainly from the Eastern part of the country - East Rhodopes, Bosna

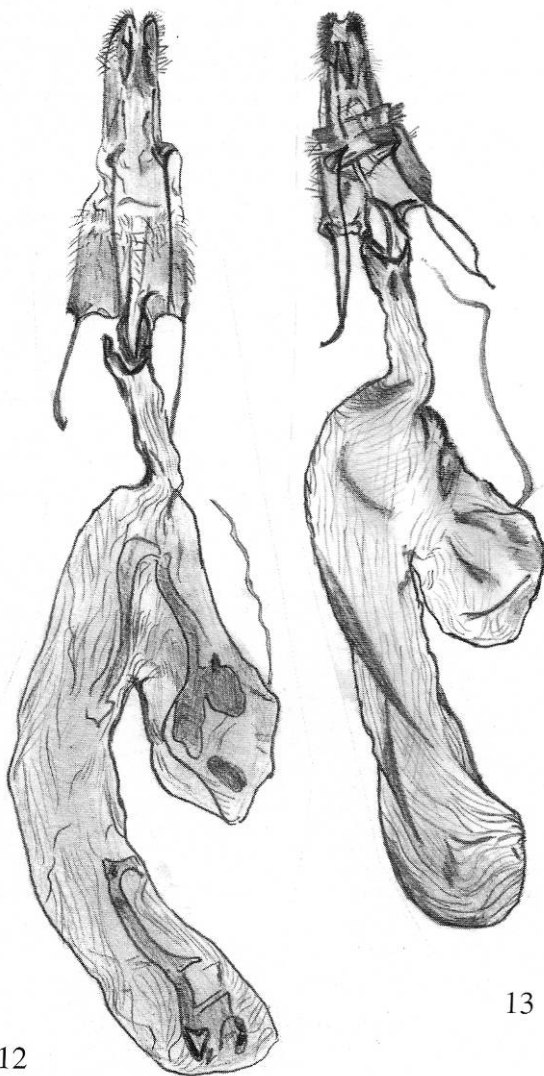


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Fig. 9: *Yigoga flavina flavina* (Herrich-Schäffer, 1852) female genitalia: Turkey, the crossroad to Orensehir from Gürün to Pinarbasi, Prov. Kayseri, 1850 m alt., 21.VII.1995, S. Beshkov & J. Gelbrecht leg., Gen. prep. 4./19.XII.1995 Beshkov.



Figs 10-11: *Yigoga flavina flavina* (Herrich-Schäffer, 1852) female genitalia: 10. Turkey, the crossroad to Orensehir from Gürün to Pinarbasi, Prov. Kayseri, 1850 m alt., 21.VII.1995, S. Beshkov & J. Gelbrecht leg., Gen. prep. 5./19.XII.1995 Beshkov; 11. Asia Minor, Ilgaz Mts, 1080 m alt., 4 km from Kurtcimeni, 17 km to Cerkes from Gerede, Prov. Cankiri, 11.VII.1995, S. Beshkov & J. Gelbrecht leg., Gen. prep. 6./19.XII.1995 Beshkov.



Figs 12-13: *Yigoga flavina flavina* (Herrich-Schäffer, 1852) female genitalia: 12. SE Bulgaria, East Rhodopi Mt, Siv Kladenetz Village, 140 m alt., Ivailovgrad Region, 21-22.VI.1993, S. Beshkov leg., Gen. prep. 2./19.XII.1995 Beshkov; 13. Same data, Gen. prep. 3./19.XII.1995 Beshkov.

Mts and Black Sea Coast. These and the other few localities are at a low altitude, up to 600-700 m. The species inhabits meadows with tall grass vegetation near beaches, rivers and streams in Bulgaria and the other Balkan countries. In Turkey *Y. flavina* inhabits the "open steppe-like areas with sparse vegetation in mountains up to at least 2000 m." (Fibiger, 1990: 129). The flight period of *Y. flavina* in Europe is from May (12.V) to October? (04.X) (Koutsaftikis, 1973: 199) as *Agrotis flavina* ab. *alexandrae*. There is also a similar, unconfirmed autumn record of *Y. flavina* (beginning of September) (Slivov 1978: 37) in Bulgaria. All other data and the author's own experience indicate that the normal flight period is from the second half of June to the second half of July.

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