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1. Folge

Contribution to the knowledge of the species Complex *Ectobius erythronotus* B. 1913

by

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Ectobius erythronotus species represents the most difficult problem in Balkan species genus of *Ectobius* determination. It appears either in light or dark forms which can be mistaken, for *Ectobius lapponicus* and *E. balcani*. It was **Ramme** who introduced to systematics the form of abdominal gland of a male that helps to differ *E. lapponicus* and *E. erythronotus*. In 1978 **Failla** and **Messina** found that this organ should be watched on illuminated preparations, so that its inner structure could be studied. The lightening of the abdominal gland has been done in warmed up lactic acid and then the preparation put into **Faure's** solution.

In 1913 **Burr** from northern Italy described *E. erythronotus* species as well as *E. lapponicus* var. *erythronotus*. In 1916 **Adelung** described the form *E. lapponicus* var. *burri*, from Serbia (Deliblato). In 1923 **Ramme** separates the species *E. erythronotus* from *E. lapponicus*, as a different species on the basis of the abdominal gland construction and other characteristics. At the same time he described the dark brown specimen from Hungary as variety *nigricans*. In 1951 he examined the forms *burri* and *nigricans* as the local forms of *E. erythronotus*. In 1961 **Bazyluk** examined the species *E. erythronotus* on an abundant material and described a new subspecies ssp. *ater* from Poland. In the scope of the species *E. erythronotus* he distinguishes three subspecies more: ssp. *erythronotus*, ssp. *nigricans*, ssp. *burri*. He finds that subspecies *erythronotus* is spread over northern Italy, southern Switzerland, southern Germany, Austria, Yugoslavia (Slovenia, Slavonia, Serbia), Rumania, Bulgaria and Greece. He defines the subspecies *burri* as a local subspecies that lives in Deliblato sandy terrain. The third subspecies *nigricans* is spread over Hungary region.

By studying *E. erythronotus* species material from Yugoslavia we found that in the scope of this species there are two species, *E. erythronotus* and *E. burri*, that rather differ in male sex in abdominal gland construction. Females of both species are of light colour and they are difficult to differentiate.

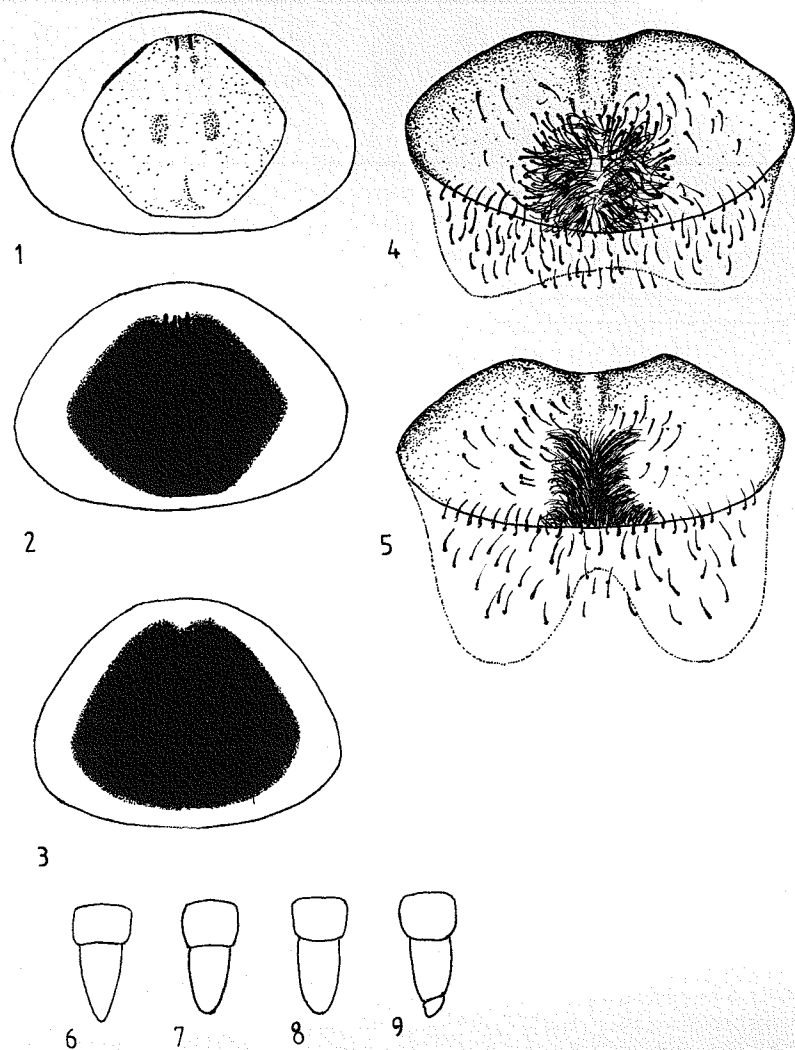


Fig. 1-3; Pronotum, male: fig. 1. *E. burri burri*; fig. 2. *E. burri macedonicus*; fig. 3. *E. balcani*
 Fig. 4-5; Abdominal gland: fig. 4. *E. burri burri*; fig. 5. *E. erythronotus*
 Fig. 6-9; Cercus apex, male: fig. 6. *E. erythronotus*; fig. 7. *E. burri burri*; fig. 8. and 9. *E. burri macedonicus*

Ectobius erythronotus Burr 1913

(figs. 5., 6.)

The males of this species have a body of light colour. They never come across the dark pigmented specimen. Pronotum disc has a light yellow stain and thick transparent margin. Now and then the splotches of musculae insertion are seen in the central part. Elytra long, going over the abdomen tip; they are of yellowish colour with numerous brown stains along the nervs. The wings are not longer than elytra and they are a bit dim. Head is of brownish colour from top to ocelli. From ocel to labrum it is a bit darker; mandibulae, antennae and composed eyes are dark brown. Legs are brown, the first tarsus joint being of lighter colores while the other ones are darker. Abdomen ventral, cerci and subgenital plate are dark brown. The central part of tergits is yellow, while the lateral parts are covered with dark brown stains. The last two tergits are complet yellow.

Abdominal gland is of elliptic form with a common sensila wisp. The near edge of glands is enlarged in form of deep sacks characteristic for the species (fig. 5.). Cerci are somewhat narrower regarding *E. burri* the last joint being top pointed and considerably longer and narrower than the next to last one. Females are light in colour like those of *E. burri* species.

Dimensions:	♂	♀
long. corp.	9,6-11,3 mm	9,4-10 mm
long. pronot.	1,9- 2,2 mm	1,6- 2,0 mm
long. elytr.	8,2- 9,6 mm	7,5- 8,0 mm
Rami anteriores R-vein	12 -17	12 -13
Rami posteriores R-vein	3 - 6	4 - 5

Material investigated: 46 ♂♂, 14 ♀♀

Istra: 30 ♂♂, 2 ♀♀ Vozilici 1975-82 leg. **F. Perović**; 9 ♂♂, 1 ♀ Učka, Veprinac 05.1971 leg. **D. Rucner**; 1 ♂ Vinčenat, Pula 05.1971 leg. **D. Rucner**; 3 ♂♂ Pomet, Medulin 05.1971.

Croatia: 3 ♀♀ Samoborsko gorje 08.1970 leg. **D. Rucner**; 2 ♂♂, 8 ♀♀ Rijeka 07.1971; 1 ♂ Velebit, Zavižan 07.1982 leg. **F. Perović**.

Distribution: The species is spread in Northern Italy, Austria and northern Yugoslavia (Istra, Slovenia, Croatia, Bosna?).

Ectobius burri Adelung 1916

Body colour of males of the species varies from yellowbrown and blackish to complete black forms resembling *E. balcani* and *E. lapponicus* specimen. Disc of pronotum can be of light yellow to dark colour with a wide transparent margin. Elytra and wings are like *E. erythronotus* but a bit darker. Head, dorsaly with yellowish to light brown stripe, the part from the stripe to ocelli being brown. Lower part of head with jaws and antennae is dark brown to black. Legs are brown to dark brown with yellow spines. The first joint of tarsus is of lighter colour than the other ones. The lower parts of abdomen and cerci are dark brown to black. Central parts of the anterior tergites brown and lateral margins dark pigmented. Other tergites are yellowish. Abdominal gland more of oval than that of *E. erythronotus*. In mid part ist sensila

wisp. Lower edge is enlarged in shallow sack, characteristic for the species (fig. 4.) Cerci are thicker as in *E. erythronotus*, an apical cercus joint more or less rounded (fig. 7., 8.). Tip joint sometimes divided (fig. 9.). Femal light yellow and does not differ from *E. erythronotus*. This species forms tree subspecies:

E. burri burri **Adelung** 1916 (figs. 1., 4., 7.)

Our investigations indicate that this subspecies is not smaller dimensions as stated by **Adelung**. Pronotum colour varies from yellow-brown to blackish. The light specimens of this subspecies greatly resemble to *E. erythronotus*. In 1923 **Ramme** described the darker specimens as variety *nigricans* from Hungary. We often found this variety together with light forms in various regions of Serbia. In Serbia going southward increases the frequency of dark forms.

Dimensions:	♂	♀
long corp.	10–12 mm	7,2–9,3 mm
long pronot.	1,9–2,2 mm	2,1–2,3 mm
long elytra	8,0–9,8 mm	5,5–7,2 mm
Rami anteriores R-veins	11–16	12–16
Rami posterior R-vein	2,0–6,0	3,0–6,0

Material investigated: 73 ♂♂, 25 ♀♀
 Serbia: 2 ♂♂, 2 ♀♀ Deliblato 15.07.1954 leg. **Z. Gradojević**; 3 ♂♂ Dobanovci 16.06.1955, 3 ♂♂, 1 ♀ Jakovački ključ 20.06.1959, 2 ♀♀ Šiljača 29.07.1952 leg. **Lj. Janković**; 3 ♂♂ Arandjelovac 08.1981; 1 ♂ Borač 19.07.1979; 2 ♂♂ Kuršumljija 16.07.1979; 1 ♂, 2 ♀♀ Niška banja 24.06.1982; 1 ♂ Vlasinsko jezero 17.07.1971; 9 ♂♂ Priština 1.05.1974; 2 ♂♂, 2 ♀♀ Priština 10.06.1970; 3 ♂♂, 2 ♀♀ Peč 16.06.1974; 25 ♂♂, 4 ♀♀ Kragujevac 4.06.1979; 12 ♂♂, 5 ♀♀ Fruška gora, Vrdnik 12.05.1986; 6 ♂♂, 5 ♀♀ Kučaj, Sisevac 25.07.1986.

Distribution: Serbia, Hungary, Bosna?, Bulgaria?

E. burri macedonicus n. ssp. (figs. 2., 8., 9.)
 Syn.: *E. balcani* **Failla** and **Messina** 1979

This subspecies is characterised by completely dark pigmented body like those of *E. balcani* and *E. lapponicus*, so it can easily be mistaken for these. **Failla** and **Messina** 1979 mistakenly determined this subspecies from northern Greece (Vernon, Vernon) as *E. balcani* because of its dark body. Specimens of *E. balcani* were described as a new species *E. willemsei* **Failla** and **Messina** 1979 (syn. nov.). This subspecies is easily distinguished from *E. lapponicus* and *E. balcani* by pronotum form, abdominal gland and styli. On the investigated area no specimen of light colour is found so far. This subspecies does not differ from *ssp. burri* by pronotum form, dimensions and abdominal gland.

Dimensions:	♂	♀
long. corp.	10–11 mm	7,3–8,1 mm
long. pronot.	1,75–2,0 mm	2,1–2,25 mm
long. elytr.	8,0–9,1 mm	5,5–6,6 mm

Rami anteriores R-vein	11–16	10–14
Rami posteriores R-vein	3,0–6,0	3,0–4,0

Material investigated: 40 ♂♂, 9 ♀♀

Macedonia: 37 ♂♂, 9 ♀♀ Kajmakčelan locus typicus 18.07.1976; 3 ♂♂ Mavrovo 13.03.1971

Distribution: Macedonia, nord Greece, Albania?

E. burri ater **Bazyluk** 1961

This subspecies from Poland and USSR is described by **Bazyluk**. In body colour it resembles *ssp. burri*. In form cerci and stili clearly differ from other subspecies.

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