

## Redescription of *Elodes novaki* MÜLLER, 1916 (Coleoptera: Scirtidae)

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### Abstract

The holotype of *Elodes novaki* MÜLLER (Coleoptera: Scirtidae) is redescribed and genitalia are illustrated for the first time. The morphology of the tegmen and other features confirm that the species belongs in *Elodes* PAYKULL.

**Key words:** Coleoptera, Scirtidae, *Elodes novaki*, redescription, Croatia.

### Introduction

*Elodes novaki* was described by MÜLLER (1916) on the basis of a single male collected in Knin (Croatia) by Peter Novak. The species was tentatively placed in *Odeles* KLAUSNITZER (KLAUSNITZER 2004a, b) on the basis of the original description; its type has never been re-examined. The manuscript of the Scirtidae chapter in the Catalogue of Palaearctic Coleoptera (KLAUSNITZER 2006) was prepared prior to describing *Odeles* (KLAUSNITZER 2004a), therefore the species figures there as *Elodes novaki*. During a visit to the Naturhistorisches Museum in Wien the author was able to carefully study the collection and found a single specimen which was labelled exactly as described in the original description, and revealed to be the holotype of *Elodes novaki*.

The specimen has been dissected, probably by J. Müller. The apical ventrite and male genitalia were glued to the card together with the specimen. Unfortunately only the penis and the slightly damaged tegmen were present. The remaining abdominal segments were missing, including tergite 8, which is highly diversified in *Elodes* PAYKULL and therefore important for understanding relationships between species. However, enough elements of the male genitalia are present to allow the classification of the species in the genus *Elodes* without any doubts. The apical part of the penis shows some remarkable features, unknown in other representatives of the genus.

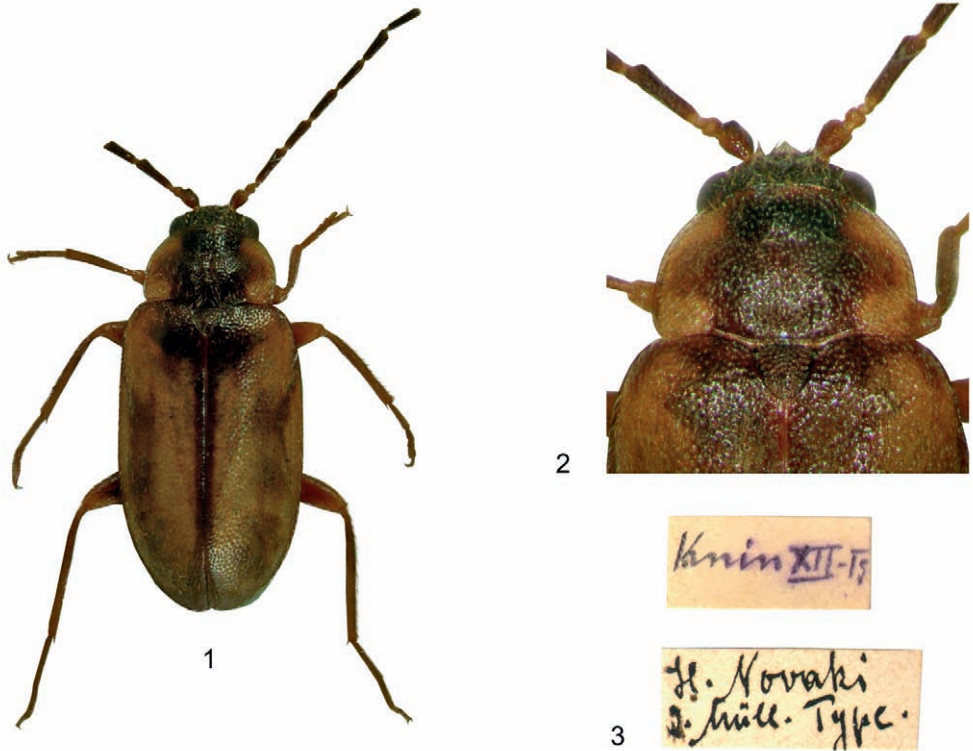
Measurements are given in millimetres. The following abbreviations are employed: EL – maximum elytral length, EW – maximum elytral width, HL – maximum head length, HW – maximum head width, L – length, PL – maximum pronotal length, PW – maximum pronotal width, TL – total length (measured from anterior margin of the pronotum to the apex of elytra), W – width.

### *Elodes novaki* MÜLLER, 1916

*Helodes novaki* MÜLLER 1916: 90.

*Odeles novaki* (MÜLLER, 1916): KLAUSNITZER 2004b: 261.

Type material: Holotype ♂: “Knin XII-15” [handwritten with a copying pencil]; “H. Novaki / J. Müll. Type.” [handwritten with black ink]; “HOLOTYPUS / *Elodes novaki* / J. Müller, 1916” [newly added red label, printed] (Fig. 3). Deposited in Naturhistorisches Museum Wien (NMW).



Figs. 1–3: *Elodes novaki*, holotype, 1) dorsal view, 2) head and pronotum, close-up, 3) holotype labels.

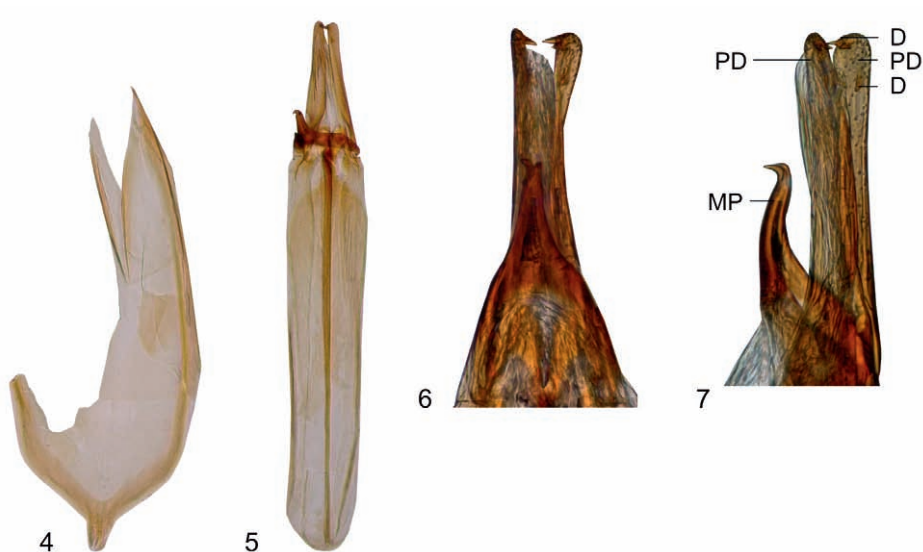
**DIAGNOSIS:** Relatively small, dark dorsal pattern and granulate punctation on pronotum resemble some species of *Odeles*. Penis with a median bifid process and parameroids with incurved denticles, separate this species from any other known *Elodes*.

**REDESCRIPTION:** Male. Measurements: TL 3.88, EW 1.83, EL 3.25, PW 1.30, PL 0.81, HW 0.88, interocular space 0.53, greatest depth of body 1.33.

Body (Fig. 1) elongate, elytra subparallel-sided, slightly depressed, covered with brown suberect setae. Head black; pronotum brownish black with yellow lateral margins; scutellum dark brown; elytra yellowish with dark brown suture, adscutellar portion, apices of elytra, and lateral spots; scape brown, antennomeres 2–3 yellow, remaining antennomeres black; legs yellow; ventrum dark brown. Body 2.1 times as long as broad.

Head 1.7 times wider than width of interocular space, with dense granulate punctation, eyes finely faceted, large and strongly protuberant. Antennae filiform, antennomeres 10–11 are missing in the holotype, antennomeres 1–2 subglobular, 3 very short, 4 longest, antennomeres 5–9 of subequal length; length ratios of antennomeres 3.5 : 1.5 : 1.0 : 7.0 : 6.0 : 6.0 : 6.0 : 6.0 : 6.0; length/width ratios of antennomeres 1.4, 0.9, 0.8, 3.5, 3.0, 3.0, 3.0, 3.0, 3.0.

Pronotum transverse, semicircular, 1.6 times as broad as long, widest in posterior half. Disc of pronotum covered with strong granulate punctation (punctures separated by 1.0–1.5 diameters). Posterior margin of pronotum bisinuate, with a pair of basal pits. Anterior angles unmarked, posterior angles almost straight, sides of pronotum subparallel in basal half, then regularly rounded.



Figs. 4–7: *Elodes novaki*, holotype, 4) tegmen, 5) penis, 6) apex of penis, close-up, 7) apex of penis, lateral view. Scale bar (for Figs. 4–5) = 0.5 mm. D: denticles, MP: median process, PD: parameroide.

Scutellum subtriangular, apex rounded, with rugose punctation. Angle between pronotum and elytra well marked in dorsal outline.

Elytra long, without traces of longitudinal ridges, adsutural stria not marked, 1.8 times as long as broad and 4.0 times as long as pronotum, with subparallel sides. Sides regularly converging to apex in posterior 1/5. Humeri well marked. Punctation relatively strong, distance between punctures ca. 1.0 diameter of a puncture. Epipleura regularly narrowing towards apices. Hind wings fully developed.

Abdomen missing in the specimen studied, with the exception of last ventrite (L 0.41), which is shallowly emarginated at apex, without longitudinal depression.

Male genitalia (Figs. 4–7). Penis (L 1.30, W 0.23) long, with a bifid unpaired median process and peculiar parameroids, each with three incurved denticles on inner side: two near its apex, and an additional one slightly below apical portion, pala with median bar; tegmen (L 1.10, W 0.45) relatively narrow, elongate, without apical processes or denticles, its left part damaged in the holotype. Genital segments missing in the holotype.

Female unknown.

DISTRIBUTION: Known only from the type locality, Knin in Croatia (Dinara Range).

### Discussion

In the original description this species was compared with *Odeles marginata* (FABRICIUS), which caused its inclusion in *Odeles* by KLAUSNITZER (2004b). The structure of the tegmen is of a typical *Elodes* form, similar to that in *E. sericea* KIESENWETTER and *E. sternalis* KLAUSNITZER, what allows to confirm that the species should be included in *Elodes*. The penis of *Elodes novaki* is very remarkable and substantially differs from the other species. Structures somewhat

resembling the bifid process of the penis in this species are known in several *Sacodes* LECONTE species, but are virtually unknown in any other *Elodes*.

Only a few species of *Elodes* are known to occur exclusively on the Balkan Peninsula: *E. arcana* KLAUSNITZER is known from Croatia and Montenegro, *E. pendens* KLAUSNITZER is known from Bosnia-Herzegovina and Croatia, *E. longulus* KLAUSNITZER from Bulgaria, and several species, *E. amricula* KLAUSNITZER, *E. australis* KLAUSNITZER, *E. holgeri* KLAUSNITZER, *E. nocturna* KLAUSNITZER, and *E. sericea* KIESENWETTER, are known from Greece (species known exclusively from islands are omitted). It is highly probable that several undescribed species may inhabit the western Balkans, and the Dinaric Alps in particular.

The collecting date of the holotype (December) seems to be erroneous. Imagines of all known European *Elodes* species occur in late spring or summer and have relatively short life span.

### Acknowledgements

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