

LJUBLJANA, JUNE 2001

Vol. 9, No. 1: 13–20

***ANOPHTHALMUS SPECTABILIS VRHOVECI* SSP.N.
FROM KAČNA JAMA (SLOVENIA) (COLEOPTERA: CARABIDAE)**

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Abstract – *Anophthalmus spectabilis vrhoveci* ssp. n. from Kačna jama is described. The new subspecies is closely related to *A. spectabilis istrianus* (Ganglbauer, 1913), according to the shape of the aedeagus; it differs, however, from all subspecies of *A. spectabilis* (s.l.) mainly by the shape of the copulatory piece.

KEY WORDS: Coleoptera, Carabidae, *Anophthalmus*, new subspecies, Kačna jama.

Izvleček – *ANOPHTHALMUS SPECTABILIS VRHOVECI* SSP.N. IZ KAČNE JAME (SLOVENIJA) (COLEOPTERA: CARABIDAE)

Opisan je *Anophthalmus spectabilis vrhoveci* ssp. n. iz Kačne jame. Nova podvrsta je po obliki edeaga podobna podvrsti *A. spectabilis istrianus* (Ganglbauer, 1913). Od vseh drugih podvrst se razlikuje predvsem po obliki kopulacijskega dela penisa.

KLJUČNE BESEDE: Coleoptera, Carabidae, *Anophthalmus*, nova podvrsta, Kačna jama.

Introduction

Within the Cross Border Co-operation Programme PHARE, the cave group of Sežana (Jamarsko Društvo Sežana) has performed a series of investigations aimed at better understanding the karst environment in the area between Sežana and Divača; the research revealed the presence of a new subspecies of *A. spectabilis* (Joseph, 1870), living at the base of the deep entrance well of Kačna jama, near Divača. The description of the new subspecies is the subject of this paper.

***Anophthalmus spectabilis vrhoveci* ssp. n.**
(Figs 1-7)

Type locality: Kačna jama, Divača (KP), Slovenija

Type series: Holotypus ♂, Kačna jama, Divača (KP), Slovenija, 13.2.2000, M. Bognolo leg., coll. Prirodoslovni Muzej Slovenije. Paratypes: Kačna jama, Divača (KP), Slovenija, 7.11.1999, 2 ♂♂ and 1 ♀, M. Bognolo leg.; idem, 13.2.2000, 5 ♂♂ and 10 ♀♀, M. Bognolo leg.; idem, 7.5.2000, 2 ♂♂ and 3 ♀♀, M. Bognolo leg.; idem, 8.7.2000, 3 ♀♀, M. Bognolo leg., coll. Prirodoslovni Muzej Slovenije and coll. Bognolo.

Differential diagnosis

A medium-sized, yellowish, evolved *Anophthalmus* (Fig. 1) belonging to the species *A. spectabilis* (s.l.) and closely related to *A. spectabilis istrianus* with reference to the shape of the aedeagus (Figs. 8-13).

A. spectabilis vrhoveci ssp. n. is distinguishable from all other subspecies, owing to the exceptionally slender shape of both the aedeagus and copulatory piece. The latter (Figs. 14, 15) is clearly more elongated than in other subspecies; the apical teeth are distinctly turned forward instead of being bent downwards, almost forming a right angle (Figs. 16-19). Further, the body of *A. spectabilis vrhoveci* ssp. n. is rather paler, legs and antennae are thin and long, humeral margins evanescent; the latter features denote a marked convergence towards a phenotype quite typical for the deep-living forms of the genus *Anophthalmus*.

Description

Length: ♂♂ mm 5.6–6.2, ♀♀ mm 5.7–6.3 (from apices of mandibles to apices of elytra).

Head elongated, about four-fifth as wide as long; frons and supraorbital areas convex; microsculpture sharply impressed, mostly consisting of small isodiametric meshes; antennae nearly reaching the apical third of the elytra.

Pronotum elongated, almost as wide as long, widest at about three-fourths from base, with the sides convergent towards the apex from the level of anterior marginal setae; either sides subparallel in the middle third, then feebly sinuate and convergent at the base; apex slightly wider than base; hind angles obtuse, as well as the front ones; dorsum moderately convex, transversely rugulose; microsculpture fairly coarse, mostly consisting of wide and disordered meshes; apical transverse impression not sharply defined; the basal one rather deep, transversally extending from the median line and laterally merging into basal foveae.

Elytra ovate, widest at about middle; shoulders smoothly rounded, obtusely sub-angulate; prehumeral borders complete and nearly straight; sides gently arcuate, converging towards the apices, which are quite large and almost conjointly rounded; dorsum convex, though slantingly depressed on the basal declivity; microsculpture coarse, mostly consisting of wide meshes, disordered and not sharply impressed.

Legs long and slender.

Male genital organ quite long, slender and sclerotized; aedeagus (Figs. 2-4) one-half as long as elytra, clearly arcuate in lateral view at about one-fourth from base; basal part enlarged, apical lobe long and narrow, with a narrowly rounded tip.

Copulatory piece (Figs. 5-7) very large, nearly one-fourth as long as aedeagus; the apical teeth distinctly turned forward. Styles slender, one-third as long as aedeagus, each bearing three apical setae.

Derivatio nominis

The new subspecies is dedicated to the memory of the Slovenian cave-diver Tomo Vrhovec.

Distribution

Anophthalmus spectabilis vrhovci ssp. n. is known so far only from the type locality.

Observations and ecological remarks

The new subspecies was found at the base of the deep (about 200 m) entrance well of Kačna Jama, both by digging in the rock debris and using pitfalls. On the basis of the recorded data, a relevant distinction is to be pointed out regarding the ecology of *A. spectabilis vrhovci* ssp. n.; in fact, it shows evident wintry habits while in other populations of the species *A. spectabilis* the period of maximum activity always ranges from June to September. The particular adaptation of *A. spectabilis vrhovci* ssp. n. to the specific colonized habitat seems to be due to direct competitiveness with the cohabiting species *A. schmidti trebicianus*, which lives at the same site but has been found so far only during the summer.

Acknowledgements

I wish to heartily thank everybody who participated in this work: the Cross Border Co-operation Programme PHARE, which promoted the initiative and allowed it to be carried out; all friends, cavers of Jamarsko Društvo Sežana, for their

essential help during exploration; Guido Sussa, for helping me with his precious skill in photography.

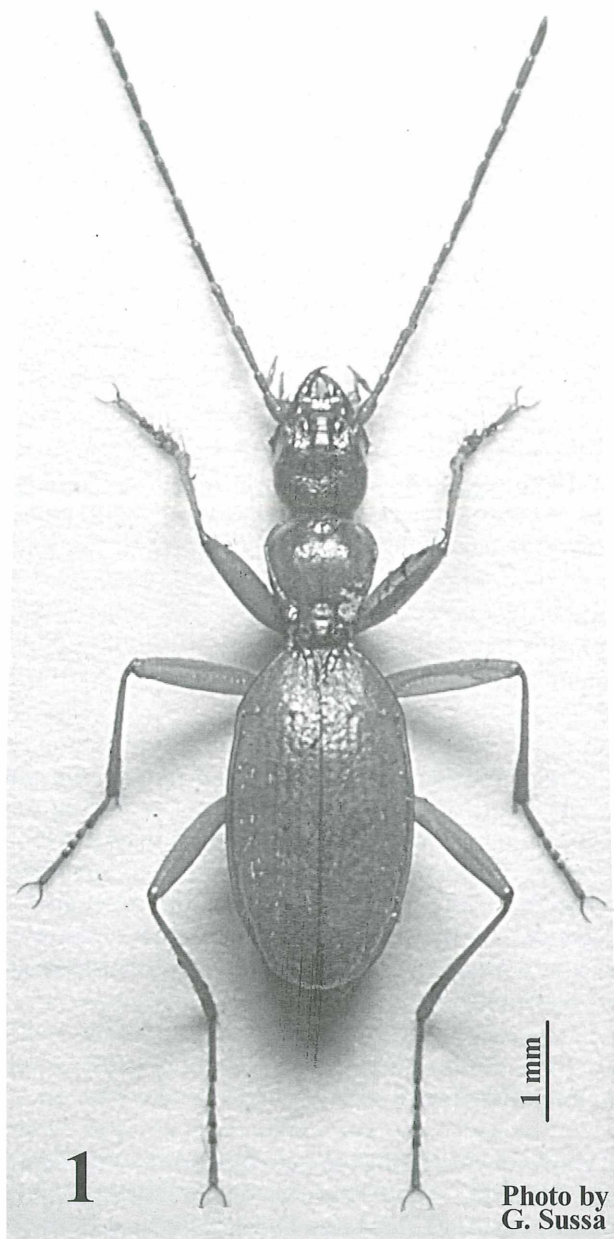
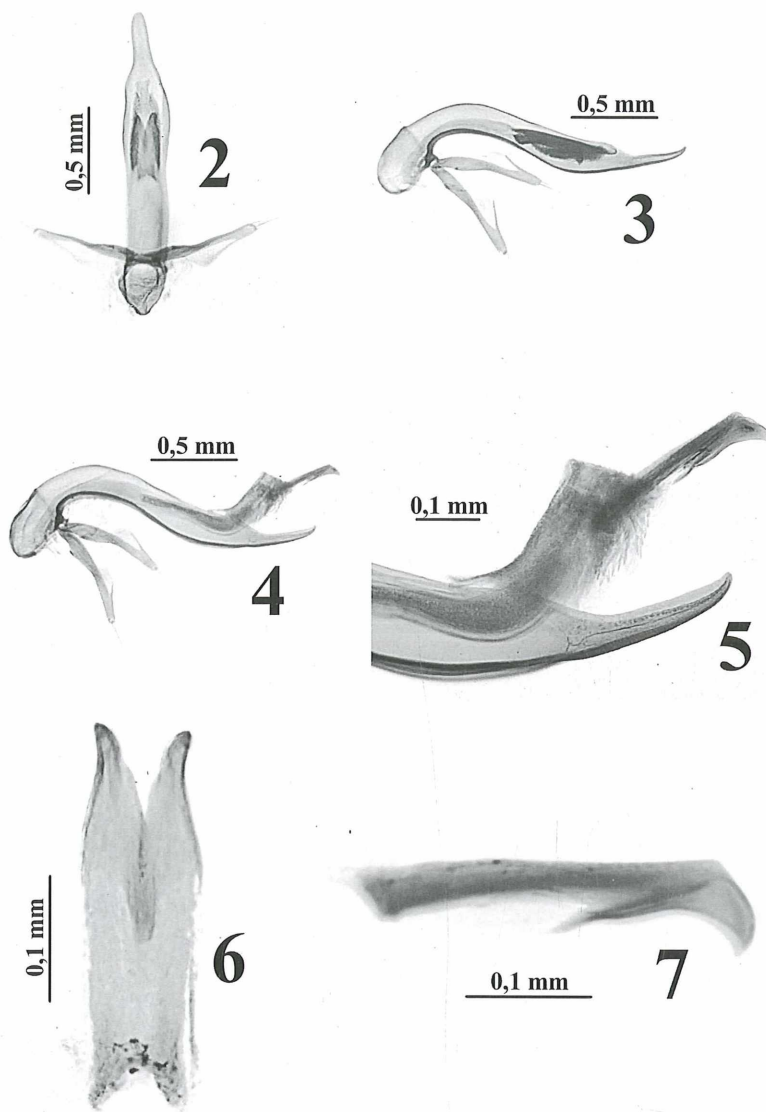


Fig. 1: *Anophthalmus spectabilis vrhovci* ssp.n. (holotypus ♂; Slovenija: Kačna jama), habitus.



Figs. 2-7: *Anophthalmus spectabilis vrhovci* ssp.n.

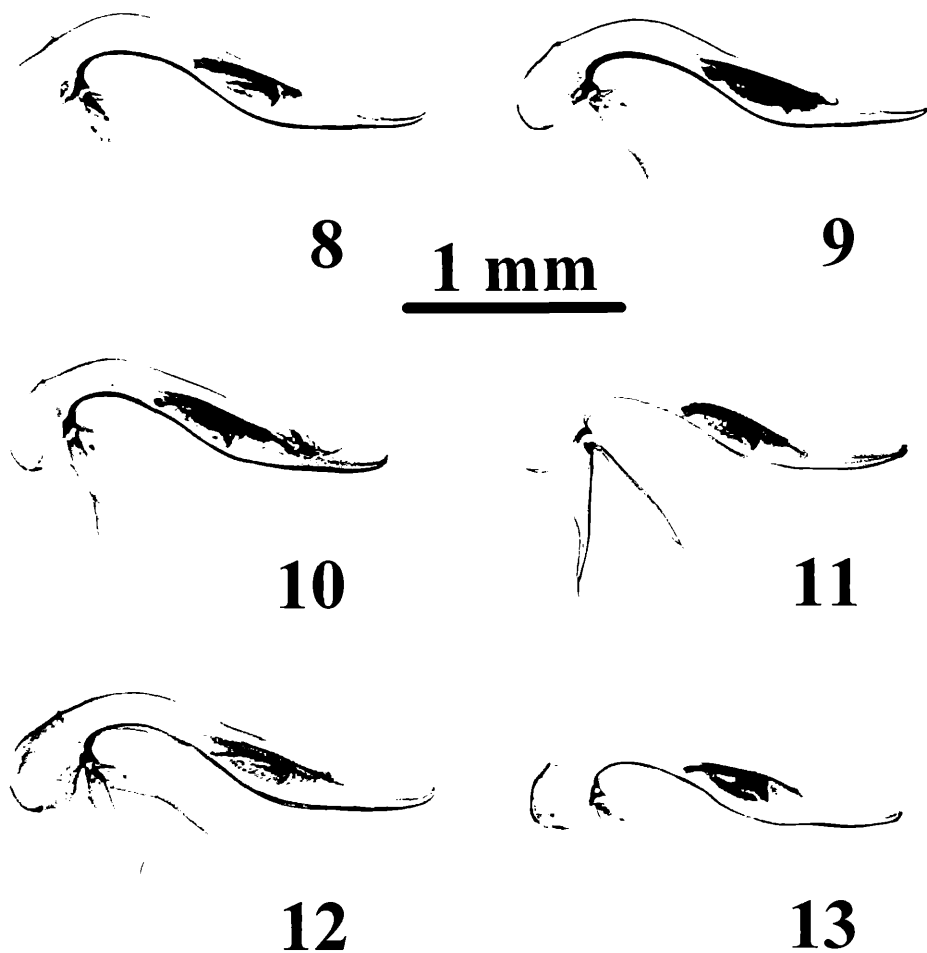
2: aedeagus in dorsal view (holotype)

3: aedeagus in lateral view (holotype)

4,5: aedeagus with extracted copulatory piece (paratype)

6: copulatory piece in dorsal view (paratype)

7: copulatory piece in lateral view (paratype)



Figs. 8-13: *Anophthalmus spectabilis* Joseph, 1870 and its subspecies: aedeagi.

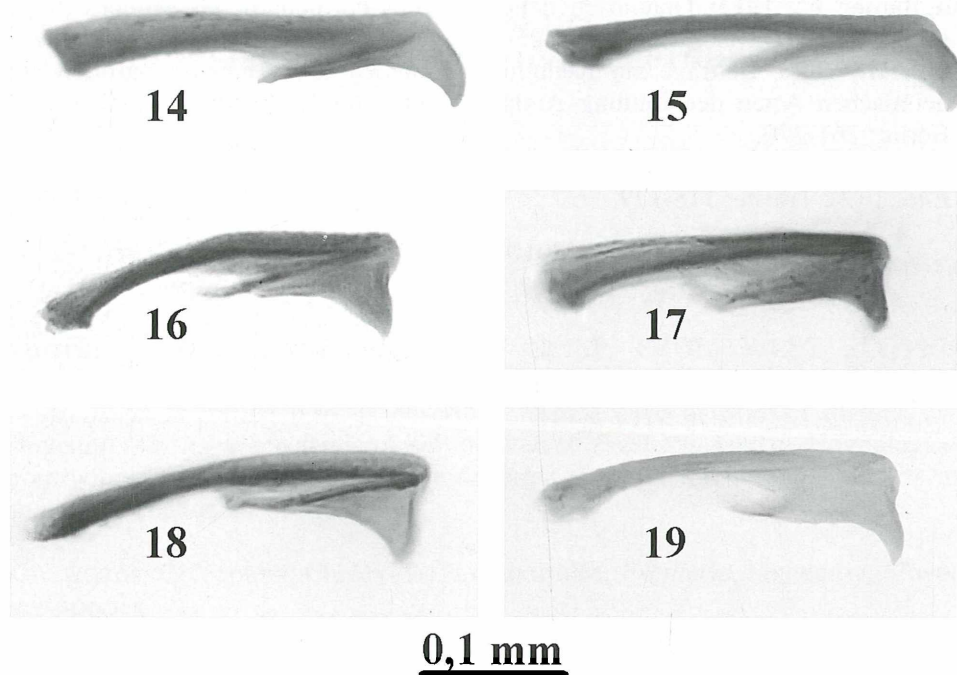
8,9: *Anophthalmus spectabilis vrhoveci* ssp.n – Kačna jama

10: *Anophthalmus spectabilis stygius* – Pečina Petnjak

11: *Anophthalmus spectabilis* – Golobinja jama

12: *Anophthalmus spectabilis istrianus* – Jama Dimnice

13: *Anophthalmus spectabilis* – Žegnana jama



Figs. 14-19: *Anophthalmus spectabilis* Joseph, 1870 and its subspecies: copulatory pieces.

14,15: *Anophthalmus spectabilis vrhovci* ssp.n – Kačna jama

16: *Anophthalmus spectabilis stygius* – Pečina Petnjak

17: *Anophthalmus spectabilis* – Golobinja jama

18: *Anophthalmus spectabilis istrianus* – Jama Dimnice

19: *Anophthalmus spectabilis* – Žegnana jama

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Received / Prejeto: 2. 10. 2000