

Notes on land slugs, 20-21¹

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20. ON TWO SPECIES OF DEROCERAS FROM JUGOSLAVIA AND AUSTRIA

Eight specimens of the genus *Deroceras* belonging to two species are discussed here. The measurements are of specimens preserved in alcohol 70% and kept in the Rijksmuseum van Natuurlijke Historie at Leiden.

Deroceras cf. *klemmi* Grossu

Deroceras klemmi Grossu, 1972, Annln. naturh. Mus. Wien 76: 642, figs. 2a-f.

Jugoslavia, Slovenia: (1) NNE of Tolmin, near Koča na Razor planini, 1335 m, IX-1970, 1 specimen, no. 8996; (2) valley of the Kokra, left bank, 600 m, 25-VIII-1971, 1 specimen, no. 8995; (3) valley of the Kokra, W of Kokra, right bank, 500 m, 25-VIII-1971, 1 specimen, no. 8994; (4) Austria, Kärnten: Karawanken, S of Eiskappler Hütte, 1350-1500 m, 23-VIII-1971, 2 specimens, no. 8993. All specimens were collected by A. & E. Gittenberger.

Short description. — The first specimen (fig. 1) has a length of 16 mm and is overall beige; mantle and front part of the dorsum very light brown except for a whitish spot round the respiratory orifice, grooves on the back dark grey, fading into broken white at the sides of the body, sole also broken white.

Rectum somewhat macerated, but almost certainly with coecum. Ootestis large, reaching almost to the end of the body cavity. The albumen gland is small and the prostate occupies the major part of the

¹ Notes sur les limaces, 19: Basteria 37: 25-28, 1973.

spermoviduct. The albumen gland is grey, the female part of the spermoviduct has the same colour, but at the beginning and at the end only slightly so. Duct of the receptaculum seminis debouching at the end of the penis; penis with well developed stimulator which is bent forward; there are some folds inside the penis which is continued in an appendix which latter is longer than the penis.

The second and third specimens are 16 and 17 mm long respectively; they are both very young. The second specimen has a stimulator which reminds one a little of the stimulators drawn by Grossu, but the third one already has a stimulator which could be a young stage as compared to the specimens of the fourth locality. These latter specimens, which are about 21 mm long, have a stimulator which is somewhat thinner and broader than that of the first, figured, specimen, and which is bent backward. All specimens from the second to the fourth localities have a rectum with a coecum which is of different length. It is longest in the second one and reaches to the end of the ovotestis and nearly to the end of the body cavity.

Discussion. — These specimens are all smaller than the type of the species, but the adults are still in the male phase, because they have a larger ovotestis and a smaller albumen gland than the type. Therefore the only difference of importance is the stimulator which in all Grossu's specimens is different. This is especially important because they had been found in widely distant localities: Trieste (Italy) and near Plzen (Pilsen, Czechoslovakia). Therefore future studies of new material may decide whether these specimens belong indeed to *D. klemmi* or to another, hitherto undescribed, but closely related species.

Deroceas cf. forcarti Grossu & Lupu

Deroceas forcarti Grossu & Lupu, 1961, Arch. Molluskenk. 90: 21, figs. 1, 2.

Jugoslavia, Slovenia: Kamniske Planine (= Steiner Alpen), NW Velika planina, 1500 m, IX-1970, 3 specimens, A. & E. Gittenberger coll., no. 8997.

Short description. — Length 11, 16 and 18 mm; small grey spots on the mantle and grey in the grooves on the back of the two smallest specimens; no grey on the largest specimen which is beige throughout. Caecum fairly long. The genitalia of the largest specimen have been studied; these are in a later, female, stage than those shown by Grossu & Lupu. Therefore the ovotestis is relatively smaller and the albumen gland relatively larger. The penis in all these specimens is bipartite. The first part, in which the vas deferens debouches, has a short appendix showing some small protuberances; the retractor muscle is attached to the second part and a small protuberance for the stimulator is present.

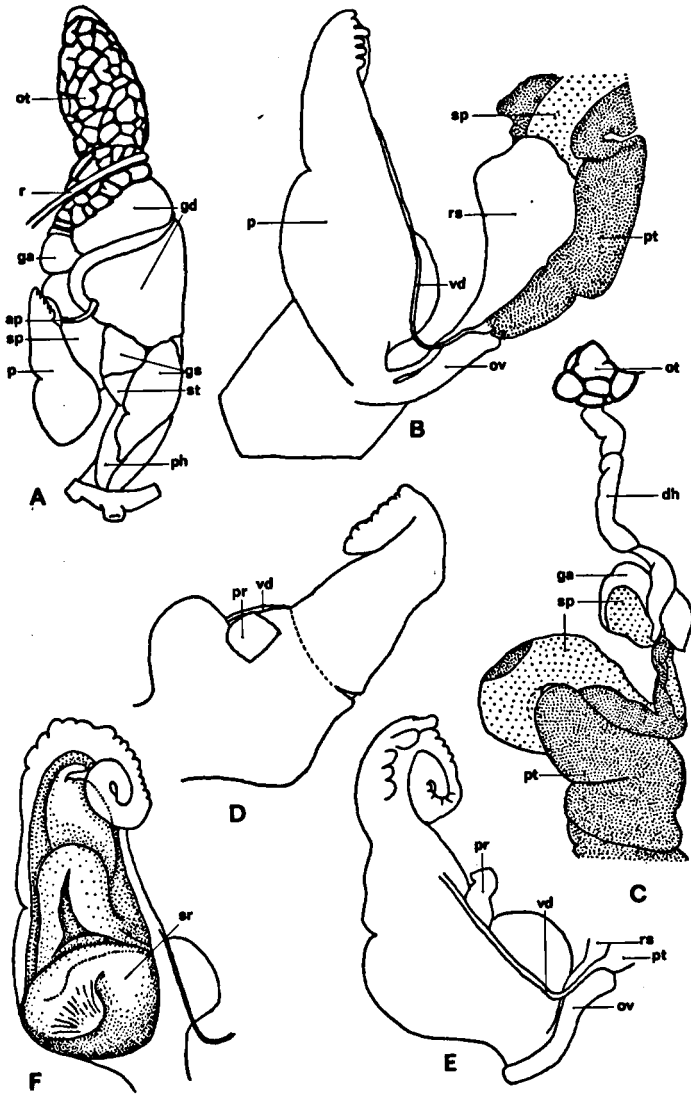


Fig. 1. *Deroceras cf. klemmi* Grossu. A: situs viscerum, X 5. B: penis with vas deferens, receptaculum seminis, oviduct, and beginning of spermoviduct with prostate, X 10. C: part of ovotestis with hermaphrodite duct, albumen gland, and part of spermoviduct with prostate, X 10. D, E: penis from different angles with retractor muscle and vas deferens, X 10. F: penis opened with stimulator and folds, X 10.

Discussion. — A bipartite penis with small protuberances is not shown in Grossu & Lupu's figure. Moreover the original specimens of *D. forcarti* were found at a locality far distant from the Kamniske Planine in Slovenia, namely in woods near Babadag, NE of the Dobruđa. So our identification is still open to some doubt.

Explanation of the abbreviations used in the figures:

ap : posterior aorta	pr : retractor muscle of the penis
dh : hermaphrodite duct	pt : prostate
ga : albumen gland	r : rectum
gd : digestive gland	rs : receptaculum seminis
gs : salivary gland	sp : spermo-viduct
ot : ovotestis	sr : stimulator
ov : oviduct	st : stomach
p : penis	vd : vas deferens
ph : pharynx	

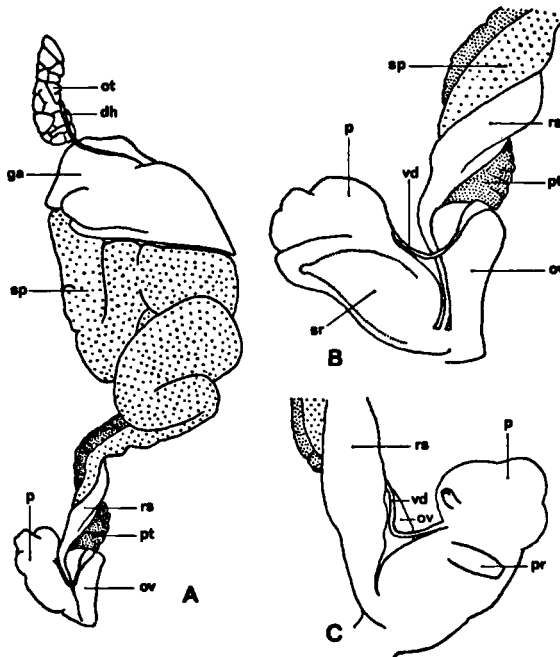


Fig. 2. *Derocheras* cf. *forcarti* Grossu & Lupu, A: genital organs, X 5, B: penis with stimulator, vas deferens, receptaculum seminis, oviduct, and beginning of spermo-viduct with prostate, X 10. C: penis from other side, with retractor muscle and part of the other organs, X 10.

21. ON A NEW SPECIES OF DEROCERAS FROM
THE ISLAND OF KÉA, GREECE

Deroceras keaensis nov. spec.

Holotype: Greece, island of Kéa, environment of the town of Kéa, IV-1972, leg. H. Chevallier, Laboratoire de Malacologie, Muséum National d'Histoire Naturelle, Paris.

Paratypes: same locality, date and collector; six specimens, Laboratoire de Malacologie, Paris; three specimens, Rijksmuseum van Natuurlijke Historie, Leiden, no. 9002.

Description. — Length of holotype in alcohol about 34 mm, mantle 14 mm, respiratory orifice about 10 mm from front of mantle. Mantle and dorsum dark grey, a lighter grey ring around the respiratory orifice; colour of the sides gradually fading into a lighter grey, but especially anteriorly into beige; outer margins of the sole and the sole itself also beige. Keel present from the posterior end to about $\frac{1}{4}$ of the dorsum. In the paratypes the colour varies from nearly black to light grey on mantle and back. When the colour is nearly black the lateral zones of the sole are light grey and only the middle zone is beige; when the colour is light grey the sides already change into beige over the whole length.

Shell of one of the paratypes 5.25 x 3.75 mm, very thin.

Rectum with a well developed coecum. Otestis black, reaching from the coecum to about half the distance between where the coecum passes into the rectum to the end of the body cavity; hermaphrodite duct scarcely folded and ending where the spermiduct reaches the albumen gland, wholly enveloped by this gland and with a very narrow part alongside the about four times broader talon. The female part of the spermiduct initially beige, then grey and the last part again beige; the prostate over its whole length greyish black; the female part dominates at the beginning of the spermiduct, the last part is thin and the prostate is broader. Oviduct somewhat tortuous; duct of the receptaculum seminis debouching into the penis and nearly as long as the oviduct; receptaculum seminis somewhat longer than its duct. Penis with a long gland attached to the outer side of the first part; the second part, when seen from above, first with a diverticulum on the outer and upper side and secondly with a tuft of appendices on a short stalk on the top; on the other side the retractor muscle inserts above the gland and there is a kidney-shaped diverticulum on the second part; under this diverticulum the vas deferens debouches into the penis. The atrium is very short. The inside of the penis shows in the first part along the gland a long and sharp wall which is folded up at the front side; in the

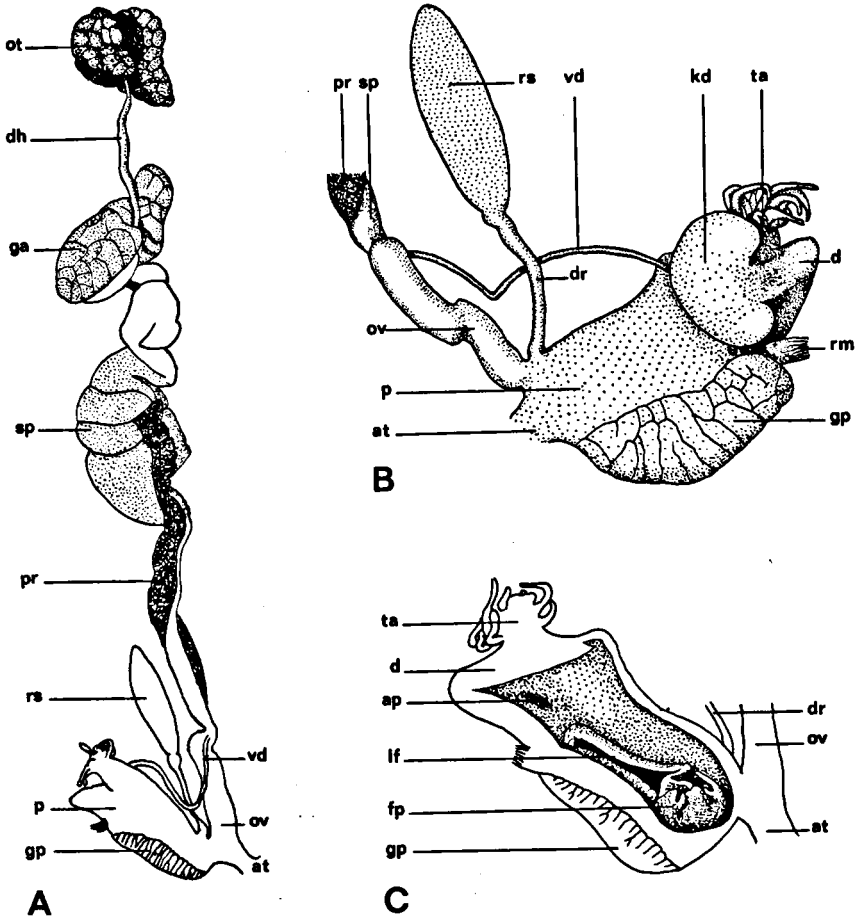


Fig. 1. *Derocheras keaensis* nov. spec. A: genitalia, X 3; B: lower side of penis, vas deferens, receptaculum seminis with duct, oviduct and part of spermoviduct, X 6; C: upper side of penis opened, with atrium, part of oviduct and duct of receptaculum seminis, X 6. ap: aperture of kidney-shaped diverticulum, at: atrium, d: diverticulum, dh: hermaphrodite duct, dr: duct of receptaculum, fp: folded part, ga: albumen gland, gp: penis gland, kd: kidney-shaped diverticulum, lf: long sharp wall, ot: ovotestis, ov: oviduct, p: penis, pr: prostate, rm: retractor muscle, rs: receptaculum seminis, sp: female part of spermoviduct, ta: tuft of appendices, vd: vas deferens.

second part an aperture to the kidney-shaped diverticulum is seen.

Derivatio nominis. — *D. keaensis* is named after the island of Kéa.

Discussion. — At first sight the penis reminded me of that of *D. thersites* (Simroth) (Urbanski & Wiktor, 1968: 70, with further literature; Grossu, 1972), also because the type locality of that slug is Athens and because *D. thersites* seems to be distributed over a large area. But the gland of the penis is a remarkable feature which I have seen only in several figures by Simroth of *Agriolimax* [= *Deroceras*] species from Abyssinia, e.g., the figure of *A. gardullanus* Simroth (1904, pl. 41 fig. 64), although in *D. keaensis* nov. spec. the tubes of the gland are twisted and difficult to separate from the connective tissue. The penis is, moreover, not clearly divided into two parts and on the inside it does not have a long stimulator, but a long and sharp wall which is multiplicate at its end. Simroth says of *Agriolimax cyprius* Simroth (1906: 85) “..., die distale Wand zeigt hier und da schwach drüsige Verdickung, also mit einem Anklang an die Abessinier, dazu kommt eine Reizplatte, die sich nur mässig zu einem Reizkörper zuspitzt, hier und da noch mit einer Nebenspitze.” Simroth unfortunately gives no figure of the penis, but this species seems to be related to *D. keaensis* nov. spec., although in details it is certainly different.

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SAMENVATTING

In nummer 20 van de serie "Aantekeningen over naaktslakken" worden twee soorten *Deroceras* van Joegoslavië en Oostenrijk besproken, gebaseerd op materiaal verzameld door het echtpaar Gittenberger. Het is niet mogelijk beide soorten exact op naam te brengen omdat het materiaal kleine verschillen vertoont met de oorspronkelijke beschrijvingen van respectievelijk *Deroceras klemmi* Grossu en *D. forcarti* Grossu & Lupu. Bovendien zijn de besproken exemplaren afkomstig van vindplaatsen die vrij ver, respectievelijk zeer ver (*D. forcarti*), van de in de literatuur genoemde localiteiten verwijderd zijn.

In nummer 21 van dezelfde serie wordt een nieuwe soort beschreven, *Deroceras keaensis*, van het Griekse eiland Kéa gebaseerd op materiaal in het museum te Parijs verzameld door H. Chevallier. De verwantschap van deze nieuwe soort ligt vermoedelijk in de buurt van soorten van Cyprus en Abessinië.