Basteria

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Holotype of *Rahula kleini*
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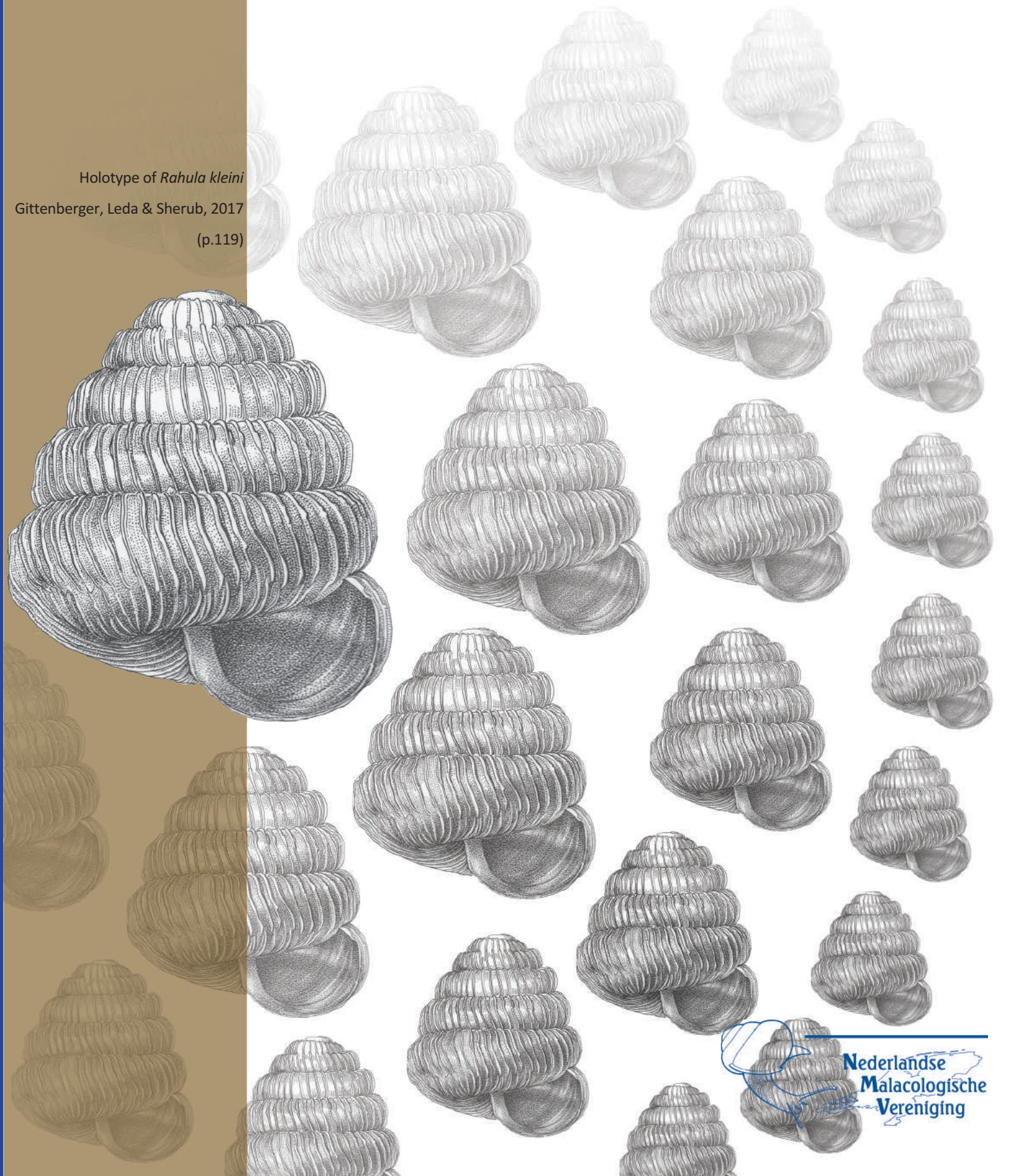

Nederlandse Malacologische Vereniging

Inhoudsopgave

BASTERA VOLUME 81 (4-6) | 18 DECEMBER 2017

The perpetrator of unusually curved *Ensis leei* (Bivalvia, Pharidae) caught in the act?

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A malformed specimen of *Ensis leei* Huber, 2015, with a dead specimen of *Littorina littorea* (Linnaeus, 1758) inside is reported upon. It is argued that the malformation of the bivalve was due to the intrusion of the littorinid. Despite this intrusion, that happened when the Ensis specimen had a shell length of c. 4 cm, the bivalve animal grew to a shell length of 12 cm. This is the first record of such a phenomenon.

Key words: *Ensis*, malformation, *Littorina*, The Netherlands.

Unusually curved specimens of the invasive species *Ensis leei* Huber, 2015 [previously known as *E. directus* (Conrad, 1840) and *E. americanus* (Gould, 1870); see Huber, 2015: 599-600] have been recently reported from Dutch beaches through social media platforms. Martin Cadée (Leiden) reported and illustrated such a specimen from the beach of Katwijk, collected 3.v.2017, on the facebook page of the Dutch Malacological Society (www.nmv.nl).

His report led me to examine a similar specimen in my own collection and further inspection revealed the

Fig. 1. Malformed specimen of *Ensis leei* Huber, 2015. Beach next to Fort Rammekens near Ritthem, 1997. **a-e,** *Ensis* shell in closed position where the included *Littorina* is visible in **d** and **e**.

Fig. 1. Malformed specimen of *Ensis leei* Huber, 2015. Beach next to Fort Rammekens near Ritthem, 1997. **f-k,** *Ensis* shell in opened position showing the damage visible in **i**, **j** and **k**. **l,** the worn *Littorina*.

possible cause of the malformation: a specimen of the gastropod *Littorina littorea* (Linnaeus, 1758) stuck inside the shell.

The *Ensis* specimen was collected at the beach next to Fort Rammekens near Ritthem (province of Zeeland, The Netherlands) in 1997. The *Littorina* specimen in the paired *Ensis* is worn, and was dead "collected" by the *Ensis*. Apparently it got stuck between the mantle and valves during a burrowing event (Fig. 1d, e). The inclusion of the snail must have occurred during a sub adult stage, when the razor clam was approximately 4 cm long. Despite the inconvenience, it appears that the clam could grow to a length of 12 cm.

The bivalve had to endure a huge encumbrance, because the snail shell could not be expelled.

From a crack in the shell, when the *Ensis* was 4 cm long, it is evident that the bivalve attempted to expel the *Littorina* shell. At the time the *Littorina* shell entered the bivalve, sediment also entered, to which the *Ensis* reacted by depositing calcium carbonate resulting in the formation of an internal ridge (Fig. 2j-k).

The Littorina shell with a diameter of 11mm, was situated at the cracked shell edge at a stage when the shell opening of the bivalve had dimensions of 22x16mm. (Fig. 2k, l)

In my opinion it is clear that the curvature of the adult shell is the result of the injury caused by the *Littorina* shell. (Fig. 1d, e). To my knowledge, this is the first report of a dead and worn shell being lodged inside a bivalve. Beu & Zibrowius (2007) reported a living *Monoplex* (Ranellidae) inside the shell of a living pinnid, but this in all probability has been a case of deliberate entry by the predatory gastropod.

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References

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