

Opisthobranch Newsletter

March, 2000 -- 26(3):13

Steven J. Long, editor; 20220 21st Avenue N.W., Shoreline, WA 98177-2314; 206-546-5977; 206-546-5076 fax; SteveLong@seaslug.com A monthly publication. Subscriptions to the electronic edition are \$10.00 per year (voluntary). The paper edition is \$20.00 per year (required). <http://www.seaslug.com>. Copyright © 2000.

EDITOR'S NOTES

The Seaslug Listserver is up and running well. I am able to distribute the ON via the listserver to all subscribers. You will see above – I have made the electronic version available with a voluntary \$10.00 per year subscription so that everyone who joins the listserver receives the January through November issues. The December issue will be printed and mailed via postal services to subscribers who have paid the \$20.00 rate. The December issue will reprint material from the January through November issues and compile all of the bibliography, addresses and other information to make it more useful. I will also consider including larger works relating to opisthobranchs.

IN MEMORIAM

Gilbert Arthur Davis (July 4, 1912 – January 11, 2000). Sally's father died suddenly last month, at home with us. He had been living with us for the the past six years or so and had spent six months each year with us since about 1987. A master tailor/cutter, he retired at age 76. We miss him! – Steve Long

READER FORUM

Notes on *Trinchesia viridis* (Forbes, 1840) (Nudibranchia, Tergipedidae) and its veligers.

I.S. Roginskaya. P.P. Shirshov Institute of Oceanology, Moscow, Russia.

The small aeolid *Trinchesia viridis* (Forbes) is widely distributed in the Russian sector of the Arctic. This species is common in the White Sea and in the Barents Sea (Roginskaya, 1987). In early summer, *T. viridis* is the most common nudibranch in the intertidal zone of the Murman coast of the Barents Sea. Numerous animals can be observed at low tide amongst hydroids, bryozoans, sponges, seaweeds encrusted rocks and stones, and in subtidal pools, where *T. viridis* are found crawling on the thalli and interlacing rhizoids of laminarians. In the White Sea, this species can also be considered common, but in low abundance. Near the White Sea Biological Station of Moscow State University

(Kandalaksha Bay) *T. viridis* are usually obtained by dredging from the depth 5-10 m.

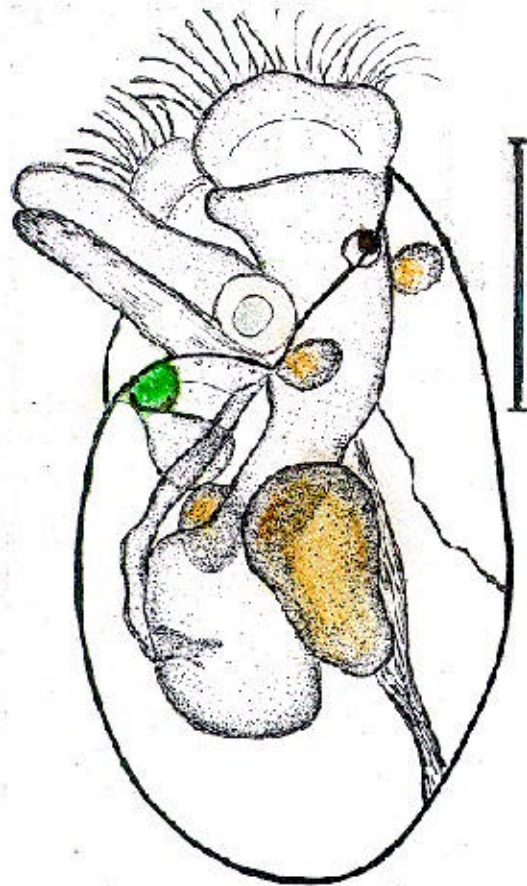


Figure 1: Camera lucida drawing of the veliger of *Trinchesia viridis* hatched from the egg-capsule in aquarium. Scale bar = 100 mkm (White Sea).

Explanation of Lettering to figures 1 and 2

1. -velum
2. - eye
3. -excretory organ / so called "anal gland" /
4. -green fluorescent organ
- 5.-operculum
- 6.-stomach
7. -columellar muscle
8. -intestine
- 9,10. -lobes of digestive gland
- 11.-larval kidneys
- 11.-statocyst

T. viridis is reproductively active in summer with the major spawning period in June and July. Spawn consists of a ribbon which is counter-clockwise, planispiral coiled, in 1.5-3.5 whorls (fig.4). One specimen can produce within a period of two weeks, up to 8 spawns with total amount of more than 3000 eggs.

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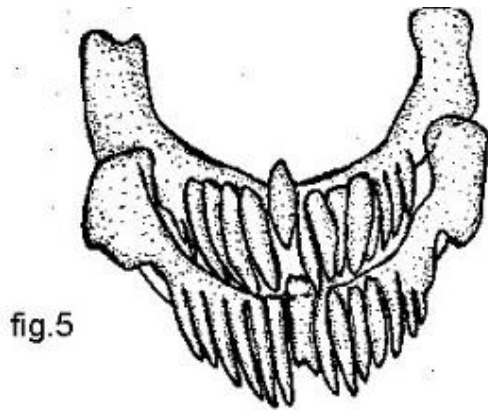


Figure 5: Camera lucida drawing of the worn radular tooth of *Trinchesia viridis* (White Sea).

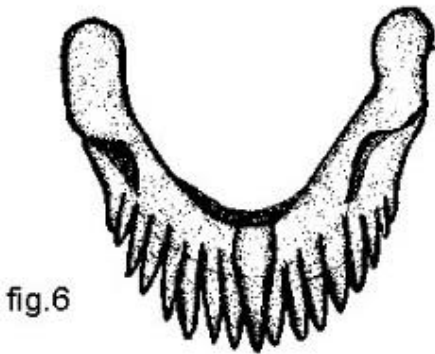


Figure 6: Camera lucida drawing of the radular tooth of *Trinchesia viridis*. (White Sea).

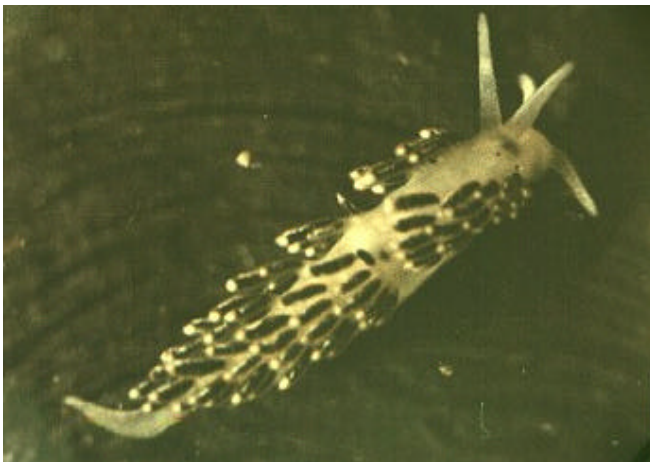


Figure 7 : Dorsal view of *Trinchesia viridis* (Barents Sea, Bolshoy Aynov Island (Ἰνόδια Αἰεῦσῆς Αἰνιά)).

Adult *T. viridis*, due to their characteristic dark-green

cerata, arranged in up to 14 distinct rows (fig.7), are the most recognizable northern aeolidaceans. Usually the cerata display the slight rosy hew, and the large white bulbous cnidosacs are slightly greenish (fig.3). White spots are irregularly scattered on the tentacles and on the cerata. The radular ribbon is rather long - up to 60 rows of yellowish-brown pectinate teeth (fig.6). Obliteration of old teeth is sometimes striking, completely changing the appearance of the tooth plate (fig.5). During the spawning period, the projecting tip of the penis with brown tubular stylet is often seen (fig.8) in adult animals. The most distinctive feature of *T. viridis* is the constant rhythmic circulation of the green fluid in the vessel of the digestive gland. The dark-green ceratal contents runs from the central vessel to the cerata and back, entering and flowing out, leaving them empty and transparent. First the fluid flows in the cerata of the right and left lobes of digestive gland, then – in the cerata of the posterior lobe. From time to time dark-green fecal strings appear from the anal pore.

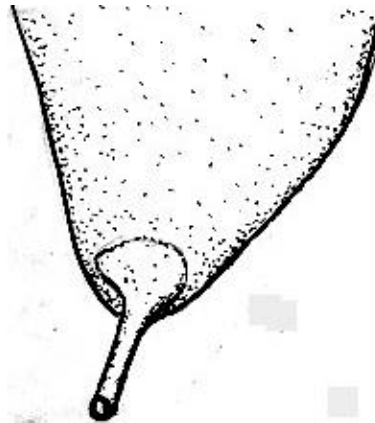


Figure 8 : Camera lucida drawing of the penial stylet of *Trinchesia viridis*. (White Sea).

It was Forbes (1840) who first observed the circulation of green digestive fluid in the cerata of his *Montagua viridis* – 160 years ago! *T. viridis* like other aeolidaceans is carnivorous, feeding on hydroids (Thompson & Brown, 1976). The green color of ceratal contents and of digestive fluid, circulating along the digestive system, and the green fecal strings lead one to think that perhaps this species is storing zooxanthellae, obtained from their hydroid diet. Maybe *T. viridis* can be added to the list of "solar powered" nudibranchs, like *Phyllodesmium* species (Rudman, 1991) and some other aeolidaceans keeping zooxanthellae in their bodies. It is also possible that the species which retain color pigments in the digestive system only use zooxanthellae as color camouflage. The sight of green *T. viridis* basking in the sun like some sacoglossans (e.g. *Alderia modesta*),

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and becoming almost invisible in the shallow tidal pools on the fields of *Ulva*, or green filamentous alga, is an argument that this species obtains additional food via photosynthesis.

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[Note: Reviewer prefers *Cuthona* for *Trinchesia*]

INFORMATION WANTED

From G. Thomas Waters: Any pteropod experts out there? I have a species of *Diacria* cf. *danae* van Leyen & van der Spoel, 1982, and *Cavolinia* cf. *gibbosa* (d'Orbigny, 1836) that approach 20 mm in shell length, from off South Carolina. These aren't supposed to be anywhere near this size (according to Abbott). Any ideas what they are? - gwatters@POSTBOX.ACS.OHIO-STATE.EDU

PERSONAL NOTES

From Sandra Millen: I am currently teaching and not getting much free time to look at nudibranchs. I have a number of unfinished papers and am eager to find time to get working on them when I stop teaching in April. My first grandchild arrives in April so that may prove to be a bit of a distraction. I did look at the mystery *Flabellina* (slug sites branch of the week #203) and found it to be *F. cooperi*. I have also been looking at an interesting *Philine* dredged from local (British Columbia) waters.

From Alexander Martynov: At present time I am work at Zoological Institute. My love subjects is the taxonomy and phylogeny, mainly, Nudibranchia. I began to collect Nudibranchs on the coast of Peter the Great Bay (Gulf), Japan Sea, in so far 1987, and certainly still its my favorable region, including Far-Eastern Seas

of Russia. Also, I study Arctic and Antarctic Nudibranchs and occasionally have determined a little bit of tropical collections. In December, 1999 I have, finally, defended Ph.D. thesis about Nudibranchia of NE (Russian) part of the Sea of Japan. - martyn@AM3963.spb.edu

CURRENT EVENTS

- July 7-13, 2000 - The combined AMS/ WSM meetings will be in San Francisco. Terry Gosliner is AMS president and Ron Shimek is WSM president.
- August 19-25, 2001 - The 14th International Congress of Unita Malacologica will be held in Vienna, Austria. <http://www.univie.ac.at/WCM2001/index.htm>. You can also contact us by email: luitfried.salvini-plawen@univie.ac.at, gerhard.steiner@univie.ac.at

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