to local variations in soil composition and other sources were too large, however, to permit the recognition of such potential differences.

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Dahllite Identified as a Constituent of Prodissoconch I of Pinctada martensii (Dunker)

Werner (*1*) reported that prodissoconchs (larval shells) of *Mytilus edulis* L., *Macoma baltica* L., *Zirphaea crispata* L., and other species are composed of two parts, prodissoconch I (prod. I), and prodissoconch II (prod. II), named by him, respectively.

Prodissoconch I is the shell that is formed prior to the D-shaped stage. It has radial stripes composed of many fine spots, but it has no concentric growth rings. Prodissoconch II is the shell that is formed around prod. I during the free-swimming stage. Prodissoconch II is markedly distinguished from prod. I by its concentric growth rings.

I found (*2*), in addition, similar configurations in the prodissoconchs of *Pinctada martensii* (Dunker) obtained by artificial fertilization after the method of Kobayashi and Yuki (*3*). About 7 hours after fertilization, fertilized eggs develop into post-trochophores. At the end of this stage (about 20 hours after fertilization), vellum appears, and prod. I begins to develop in accordance with the formation of the shell gland. In about 4 hours, prod. I develops into the D-shaped form. Thereafter, the formation of prod. II takes place. This shell continues to grow until the settled stage is reached. The appearance and growth of prod. II correspond to those of the mantle. It is therefore conceivable that prod. I is formed from the shell gland, and prod. II from the mantle.

Table 1. Electron diffraction data for prod. I of *Pinctada martensii* (Dunker) compared with x-ray data for dahllite.

Prod. I		Dahllite (*6*)	
I	d A	I	d A
S	3.73	2	3.75
vvW	3.36	1.5	3.34
W	3.05	1.5	3.02
m	2.74	10	2.72
vvW	2.64	1	2.60
vW	2.23	2	2.24
vvW	2.11	0.5	2.11
W	1.93	2.5	1.93
vvW	1.86	1.5	1.87
vW	1.84	2.5	1.83
vvW	1.70	0.5	1.71

Werner ascertained the calcification of both prod. I and prod. II, but no report has appeared concerned with the constituents of prod. I or prod. II. For this reason, I tried to identify these under a polarizing microscope (*4*).

Both prod. I and prod. II are soluble in HCl and HNO_3. Prodissoconch II is colorless and uniaxial negative with very strong birefringence. The refractive indices are $N_O = 1.659$ and $N_E = 1.484$, respectively. Hence, the inorganic part of prod. II is shown to be composed of calcite crystals. In contrast, prod. I is pale green in color and uniaxial negative with very weak birefringence, showing dark gray color under crossed nicols. These characters indicate that crystals of prod. I apparently differ from those of prod. II. The refractive indices are $N_O = 1.633$ and $N_E = 1.612$, respectively. These indices approximately coincide with the Winchels' value (*5*) for dahllite, with 53 mole percent of podolite and 47 mole percent of hydroxyapatite. Therefore, the inorganic component of prod. I must be considered to be dahllite rather than calcite.

For more complete verification, the crystalline form of prod. I and its electron diffraction patterns have recently been examined. (For these purposes, prod. I was not so finely powdered as in the ordinary method, and photographs were taken with a newly built Hitachi superhigh-voltage electron microscope at 200 kv.) The lattice spacings that were calculated from the diffraction patterns agreed fairly well with figures for dahllite given by Roseberry *et al.* (*6*) (see Table 1). With these results dahllite is identified as a constituent of prod. I of *Pinctada martensii*.

It is known that mineral components of bones or teeth of vertebrates are hydroxyapatite (or dahllite according to McConnell, *7*), but the existence of dahllite in shells has never been reported. Although shells or pearls contain tricalcium phosphate (Shimizu, *8*, Tanaka and Hatano, *9*, and Stolkowski, *10*), only a trace is present. The mechanism of the dahllite formation has not yet been studied, but a future study is planned.

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References and Notes

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2. I am very grateful to Yaichiro Okada, dean of the Faculty of Fisheries, for his direction and encouragement. Electron micrographs were taken by the courtesy of Fumiya Tadano, Central Laboratory of Hitachi Seisakusho, whose kindness is greatly appreciated. I also wish to express my sincere thanks to C. B. Rees, Scottish Oceanographic Laboratory, who kindly informed me about the paper by Werner (*1*).
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Correction

In the article "Radiosensitivity factors in oat seeds: dormancy, water and development" [*Science* **123**, 1125 (22 June 1956)], the journal in reference 4 is incorrectly given as *Bot. Rev.*; it should be *Bot. Gazette.*

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Correction

It has been brought to our attention that we did not designate the correct collectors of several of the samples reported in "Lamont radiocarbon measurements III" [*Science* 124, 154 (27 July 1956)]. The following list gives the proper collectors for several samples in Table 4 under *V. Arctic studies*: L192B, R. D. Cotell (1952); L261A,B,C, G. Hattersley-Smith (1953); L254A, L248A, R. L. Christie (1954); L254B,C,D, E. W. Marshall (1954); and L248B, G. Hattersley-Smith and A. P. Crary (1954).

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