

Clapp, of Pittsburg, Pa., informs me that *Vallonia* has adapted itself to open life and can now be collected in immense numbers in places very different from its original haunts. The question of the adaptation of mollusks to changed conditions is one of great interest, and in no country can the subject be so well studied as in America, where man and man's inventions change the whole face of an immense tract of country in a very short time. We know that the object of molluscan life (and in fact all life) is to preserve its own existence and to reproduce its own species. With rapidly-changing conditions, the snail must either adapt itself to these conditions or cease to exist, and it will be most interesting for many years to come to watch the struggle and to record the cases of success or failure. Complete local lists of species carefully made up, collections of large series of species from every possible locality and a knowledge of that locality and its conditions, will enable all students in this branch of molluscan evolution to arrive at a convincing and satisfactory conclusion. While in the older countries of Europe the forest snail has become now adapted to open country life, we have no records to bear upon the time when this change was taking place, and in all probability it was much more gradual than will be the case in this country of rapid and great changes.

NEW LAND SHELLS OF THE JAPANESE EMPIRE.

BY H. A. PILSBRY AND Y. HIRASE.

As already stated in a former number of the NAUTILUS, Mr. Nakada spent the autumn in exploration in the Hokuriku region, which includes provinces along the west coast of middle Hondo. The material examined shows that area to have but few endemic species, most of those collected being widely-distributed forms, already well known from other places. He reached Sado Island, where he found numerous species, the more interesting being a handsome new *Euhadra*, a sharply-carinate new *Helicina*, and specimens of *Blanfordia japonica* A. Adams. This last is perfectly distinct from the mainland form I called *B. jap.* var. *simplex*, which will now be raised to specific rank. *B. japonica* has a strong rounded ridge or varix behind the lip, such as is seen in many *Truncatellas*. Mr. Nakada returned to Kyoto, and started, November 5th, for Tosa province, in

Shikoku, with Mr. Adzama. We hope to have still more good things from this prolific province.

Mr. Hatai, who assisted Mr. Nakada in Ogasawara (Bonin Islands), continued to collect there after Mr. Nakada's return. On September 25th he started from Chichijima to go to Yuo-jima, small islands southward from the Ogasawara group. He reached Kita-Yuō-jima safely, but owing to stormy weather, a landing on Naka-Yuō-jima could not be made. The vessel stayed at sea, but the storm increased, and the ship was lost. After more than eighty days, no tidings of him have come. Mr. Hatai was faithful to the work, and his untimely loss through his efforts to increase our knowledge of these island faunas is deeply felt.

Eulota (Euhadra) sadoensis P. & H., n. sp.

Shell rather narrowly umbilicate, somewhat trochoidal, buff-whitish, with a sharply-defined dark chestnut band just above the periphery, a wider one, fading at the edges, on the upper surface, and a very broad band extending over most of the base, the interior of the umbilicus also dark; these bands leave the pale ground-color in narrow belts below the suture, above and below the periphery, and around the umbilicus. Surface glossy, irregularly obliquely striate, and showing the usual very fine spiral lines. Spire elevated, conic, the apex obtuse. Whorls $5\frac{1}{2}$, moderately convex, the last depressed but not angular, very slightly descending in front. Aperture very oblique, somewhat lunate; peristome expanded and reflexed, dilated half over the umbilicus, white, except where colored by the bands. Alt. 17, diam. 24 mm.

Sotokaifu-mura, Sado. Type no. 83909 A. N. S. P., from no. 994 of Mr. Hirase's collection.

This seems quite distinct from other members of the *pelionophala* group of Helices. The coloration reminds one of *Epiphragmophora mormonum* var. *cala*.

Eulota (Plectotropis) kiusiuensis var. *oshimana* n. var.

Similar to *E. kiusiuensis* in texture, sculpture, umbilicus and peripheral keel; but the spire is higher, and the color chestnut-brown instead of yellowish.

Oshima, Osumi. Types no. 83891 A. N. S. P., from no. 914 of Mr. Hirase's collection.

Ganesella notoensis Pils. & Hir., n. sp.

Shell imperforate, resembling *G. stearnsi* and *G. papilliformis* in general shape; pale greenish-buff, thin, dull with the luster of silk, but the early whorls are glossy, and there are some narrow, oblique, glossy streaks. Smooth to the eye, but under a lens showing slight growth-lines and almost obsolete spiral striation. Spire high, with slightly convex outlines. Whorls $6\frac{1}{2}$, moderately convex, the last slowly descending in front, convex beneath. Aperture very oblique, round-lunate, the peristome narrowly expanded, subreflexed; columella vertical, narrow, dilated over the umbilicus and appressed. Alt. 23, diam. 19 mm.

Kitanoshō, Noto. Type no. 83892 A. N. S. P., from no. 289 c of Mr. Hirase's collection.

This is a pale species, differing from *G. stearnsi* in color and the less convex whorls, which in *stearnsi* are swollen just below the suture. In *G. pagodula* and *G. papilliformis* the columella is different in shape.

Ganesella cardiostoma var. *kagaensis* Pils. & Hir., n. var.

Shell *imperforate*, somewhat globosely conic, light chestnut-colored, with an indistinct, pale, peripheral band; thin, somewhat transparent, smooth and glossy, slightly wrinkled by growth-lines, and very densely, minute striate spirally. Spire conic, with convex outlines. Whorls $5\frac{1}{2}$, convex, the last rounded peripherally, *very convex beneath*, especially at the last half; slightly descending in front, and contracted behind the lip. Aperture oblique, lunate-triangular, the lip thin, brownish, expanded, reflexed below, the steeply-sloping baso-columellar margin straightened, dilated over the umbilicus, where the base is deeply impressed. Alt. 13, diam. 14 mm.

Hakusan, Kaga. Type no. 84321 A. N. S. P., from no. 975 of Mr. Hirase's collection.

This form differs from *G. cardiostoma* Kob. (described from Kyoto, but not yet found there by Mr. Hirase), in the darker color (*cardiostoma* being yellowish-corneous, like *japonica*), and the very convex base, while *cardiostoma* is said to be flattened there.

Chloritis echizenensis Pils. & Hir., n. sp.

Shell shaped almost exactly like *C. bracteatus*, but glossy, the raised dots (not hairs) far less crowded, though still close; the apex

more obtuse, earlier $2\frac{1}{2}$ whorls coiled about in a plane. The sculpture is about as close as in *C. pumila*, but the processes are shorter, the shell larger, more elevated and glossy. *C. perpunctatus* is more depressed, smaller and narrowly umbilicate, while in *echizenensis* the perforation is almost closed by the reflection of the lip at its axial insertion. Alt. 13, diam. 19 mm., whorls $4\frac{1}{2}$.

Omiishi, Echizen. Type no. 84256 A. N. S. P., from no. 981 of Mr. Hirase's collection.

Related to the several species mentioned above, and best described by a comparison with them.

NOTE ON TRITONIA PALMERI COOPER, 1882.

BY T. D. A. COCKERELL.

The type locality of this species is San Diego, California, where it is said to be common. Cooper's description would hardly distinguish it from allied species, but as I know of only one species from southern California according with the description of *T. palmeri*, I assume that it is in fact the animal Cooper had in hand. The following notes, based on a specimen collected by Dr. W. R. Coe at Deadman's Island, San Pedro, California, July 18, 1901, may serve to facilitate the recognition of the species. The description is from life.

Length about 17 mm.; white, suffused with yellow dorsally; tentacles pale yellowish-brown; ends of lamellæ yellowish; dorsum rugose with small warts. Close to *T. lineata* A. & H., but differs by its strong yellow suffusion above and absence of opaque white dorsal lines. Ramose branchial lamellæ irregularly bipinnate, five on each side. Veil bilobed, each lobe produced into five or six finger-like filaments (two in *T. lineata*). Tentacles almost as in *T. lineata*; with the principal axis cylindrical and truncate, and numerous lateral branched processes, not so long as central axis. No eyes visible.

The species of *Tritonia* seem to be most easily distinguished by the character of the veil. *T. palmeri* has more processes on the veil than *T. lineata*, but very much fewer than in *T. holmbergii*, in which, however, they are very short.



Pilsbry, Henry Augustus and Hirase, Y. 1903. "New land shells of the Japanese empire." *The Nautilus* 16, 114-117.

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