heads of this description have come under my notice, showing that the difference in the size of the horn does not always amount to a deformity.

In a note to an article published in the *Zoologist* for March, 1904, Mr. A. Heneage Cocks records the following: "I have never seen the fact noticed that the right eye of young mammals opens before the left. I do not remember an exception among wild animals, nor even among domestic animals, though it is very likely some occur in the latter class. From the time the lids of the right eye begin to part to the time the left eye is fully opened takes generally from thirty-six to forty hours." Commenting on this the editor of *Knowledge* remarks, "The fact is as new to us as it is to Mr. Cocks, and requires an explanation. The suggestion naturally occurs that the phenomenon is connected with 'right-handedness' in the human species."

It would be interesting to discover whether stags, when fighting, use the right and left horns indiscriminately, or whether they endeavour to strike with one horn more than the other.

Art. XXXIII.—*A New* Placostylus *from New Zealand.*

By Henry Suter.

[*Read before the Wellington Philosophical Society, 2nd October,* 1907.]

Plate XXV.

Many years back, when reading Dr. A. Lesson and Martinet's "Les Polynésiens," I came across, in vol. iv. (1884), p. 227, the following passage, of which I made a note: "Le *Bulimus hongi*, Pupuharakeke, se trouve surtout près du cap Nord; il y abonde parmi les *Phormiums*. Cette belle coquille est de couleur chocolat foncé, avec l'intérieur blanc ou orange brillant; elle a près de 4 *pouces de long*. On dit que le *Bulimus vibratus* abonde sur les Trois Rois."

When Captain J. Bollons told me last autumn that he had to visit and stay for several days at the Great King Island, I asked him to be good enough to have a search made for specimens of *Placostylus*, if time would permit it. How great was my joy when in the middle of April, 1907, he brought me a number of living and some empty specimens of a large and distinct *Placostylus* he had been successful in finding under dead leaves on the Great King Island. I was prepared for a form similar to that found at Cape Maria van Diemen, but certainly not for such a distinct new species. My very best thanks are due

to Captain J. Bollons for his courtesy and the trouble he has taken to procure the specimens.

The following is a description of the very remarkable new species :—

Placostylus bollonsi, n. sp. Plate XXV, figs. *a*, *b*, *c*.

Shell large, oblong-conic, with a very obtuse apex, rimate, fairly solid, axially closely striate, brown, peristome simple. Sculpture : The first 3 whorls are finely and regularly axially costate and mostly not punctate ; the 3rd and sometimes the 4th and part of the 5th whorl distinctly broadly plicate at the suture above ; the following whorls are densely wrinkle-striate, the striæ of unequal strength, slightly oblique and crossed by distant spiral striæ, which are mostly obsolete upon the base. Some examples show a secondary axial sculpture on the 4th and 5th whorl, consisting of strongly oblique costæ, which are directed forwards, and reticulate the primary axial sculpture, forming a more or less distinct network. On the last 2 whorls a distinct narrow groove is margining the suture below. Colour yellowish-brown, with numerous narrow blackish-brown streaks on the lower whorls, the apical whorls usually denuded and flesh-coloured ; peristome white, aperture purplish-red within ; a whitish narrow subsutural border is sometimes present, but it is much less conspicuous than in *P. hongii* and very often wanting. Epidermis brown, thin, slightly shining. Spire elevated-conic, with a very blunt apex, $1\frac{1}{4}$ to $1\frac{1}{2}$ times the height of the aperture ; outlines very slightly convex. Protoconch of 3 convex whorls, the nucleus with a raised inner carina. Whorls $6\frac{1}{2}$, the first few but little descending, lightly convex ; base flatly rounded. Suture not deep, somewhat uneven, margined below on the lower whorls. Aperture vertical, pyriform, angled above, broadly rounded and somewhat angled towards the pillar below. Peristome continuous ; outer lip not expanded and not much thickened, rounded and smooth, rarely with very slight indications of denticles within. Basal lip *slightly expanded, smooth* or with a few indistinct notches. Columella oblique, *lightly concave, indistinctly folded above ;* inner lip *not broad, with a well-marked rim forming the continuation* of the basal lip ; very rarely a few small tubercles may be found on the lower part of the parietal wall, but usually it is quite smooth. The umbilical fissure is always small.

Diameter, 40 mm. ; height, 91 mm. Type.

Diameter, 43 mm. ; height, 99 mm. One of the largest specimens.

Animal black, irregularly and coarsely granular, the granules arranged in longitudinal rows on the back, sloping on the sides, a band of squarish and large granules along the pedal margin.

Anterior tentacles short, ommatophores distant, long, granular, with very broad bases. Foot broad, narrowly rounded behind. Mantle margin even, with a fold on the under surface in front of the respiratory orifice. Genital orifice behind the right ommatophore.

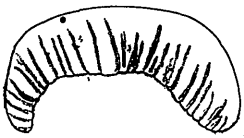

Fig. 1.

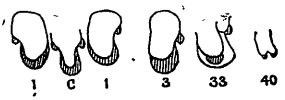

Fig. 2.

Jaw (fig. 1) arcuate, attenuated at the ends, irregularly striated by infoldings of the membrane.

Radula (fig. 2) tongue-shaped, of about 130 transverse rows of teeth, which are nearly straight, forming a very obtuse angle, salient posteriorly. Formula of radula: 20 . 30 . 1 . 30 . 20. The central tooth elongated, with a long and broad mesodont and a low and broadly rounded mesocone; usually there are two minute side-cusps present. Lateral teeth, numbering about 30, with a very broad rounded mesodont, the mesocone short and broad; there is no endodont, but the ectodont is distinct, narrowly rounded, bearing a minute cutting-point. The marginals are narrower and with two cutting-points; towards the margins they are getting very narrow and indistinct, and it is impossible to exactly ascertain their number.

Reproductive Organs (fig. 3).—The male organ is very large, with the retractor muscle at its apex and the walls very thick. The vas deferens enters near the apex, and it is free only for a very short distance at the base. The albumen-gland is large. The most remarkable feature is the absence of a receptaculum seminis, which is present in *P. hongii*.

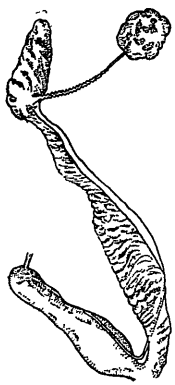

Fig. 3.

Remarks.—The teeth of the radula differ somewhat from those of *P. hongii*; in the latter the central tooth has no side cusps, the transition teeth between laterals and marginals are getting tricuspidate, and most of the marginals show the same character. There is no difference in the reproductive organs of the two species except the absence of the spermatheca in *P. bollonsi*, and I found it to be absent in four specimens which I dissected.

The anatomy of *P. hongii* has been ably described and figured by Mr. R. Murdoch in Proc. Mal. Soc., vol. iii, p. 324, pl. 16, fig. 8.

P. bollonsi is distinguished from all the other species of the genus known to me by the obtuse, broadly rounded apex. Interesting features are the costate, very rarely punctate protoconch, and the loss of the spermatheca. As I pointed out in my paper on *P. hongii ambagiosus* (Journ. de Conch., vol. liv, p. 255), it is very likely that during the Pliocene a form closely allied to *P. bivaricosus solidus*, Eth., spread from Lord Howe Island southward, and that from it was derived *P. hongii ambagiosus*, and from this again the more simple form of *P. hongii*. We may not be very far from the truth if we assume that *P. hongii* and *P. bollonsi* are the offsprings of a common ancestor, and we may look upon the Great King species as a splendid example of the originating of a new species by isolation.

It gives me very great pleasure to unite the name of the discoverer of this interesting and fine shell with the species.

Since writing the above Captain J. Bollons has revisited the Great King Island, and to his unremitting kindness I am indebted for an egg and embryonic shell of *P. bollonsi*. As was to be expected, the egg is very large, elongately regularly oval, rounded at both ends, calcareous, thin, white, finely granular, with a few larger granules irregularly interspersed; its length is 18 mm.; diameter, 13 mm. Compared with the egg of *P. hongii*, which measures 7 mm. by 5½ mm., it is a real giant. The egg of *Paryphanta busbyi* is 13 mm. by 11 mm. The embryonic shell, of 3¼ whorls, is axially finely ribbed, and on the upper half of the last whorl the riblets are decussated by fine spiral liræ. There is a distinct, narrow, and open umbilicus. Height, 17 mm.; diameter, 12 mm.; height of aperture, 13 mm.

EXPLANATION OF PLATE XXV.

Figs. *a*, *b*. *Placostylus bollonsi*, Suter. Type specimen.
Fig. *c*. „ „ Specimen showing the reticulated sculpture.