THE RESULTS OF DEEP-SEA INVESTIGATION IN THE
TASMAN SEA.

3.—MOLLUSCA FROM EIGHTY FATHOMS OFF NARRABEEN.

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(Plates liv.-lvi.)

The fourth collection from the continental shelf of this coast
I have been privileged to examine was discussed in the last
issue of this serial. The fifth forms the subject of the present
article. It was obtained under the circumstances above related,
on 7th June, 1906, in a single haul of the bucket dredge in
eighty fathoms, twenty-two miles east of Narrabeen, New South
Wales.

Probably the alluvial of the Hawkesbury River is here spread
by the prevailing current, for at this point the continental shelf
extends in an unusually broad terrace. A depth of two hundred
and fifty fathoms is attained at the same distance east of Botany
Heads, while six hundred fathoms are reached south of Ulladulla
at no greater distance off the land.

According to the "Challenger" observations, long continued
west winds push the great warm current beyond this station, but
usually its stream sweeps over the position. A rich fauna in­
habits this spot. In all I have separated two hundred and forty
species of shells, a total far greater than was realised by the best
haul of the voyage of the "Challenger." This result is partly due to
the productive nature of the ground, and partly to the efficiency
of the bucket dredge as a collecting tool.

Assuming that we have here the entire molluscan fauna of
three square feet of the sea floor, it is interesting to speculate
what proportion of a fauna extending over thousands of square
miles of continental shelf, subsists on three square feet. If we
counted the plants of three square feet on a river bank, what pro­
portion would they represent of the total flora of the valley? I
am inclined to suppose that the cases are not parallel, that a
square foot of the sea floor contains a larger proportion of the
fauna of a square mile than happens on land. This is supported
by the continuity of fossil zones elaborated by modern palaeon­
tologists, and is deducible from the uniformity of conditions in