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ON A LARGE MESOZOIC *Mytilus* FROM THE BARCOO.

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The following specimen was given to me for description by the Hon. A. Archer, of Gracemere, Queensland. The locality from which it was taken was uncertain, but he believed that it was found on the rocky banks of the Upper Barcoo at the foot of a sandstone tableland. It is therefore probably from the edge of the Upper or Middle Mesozoic strata in that locality. The fossil was accompanied with *Belemnites* and there were no less than two other specimens in Mr. Archer's possession so that I should conclude that it was abundant. It is a very large species of *Mytilus*, so large in fact that I do not believe any larger has been described. Unfortunately very little of the shelly matter has been preserved and therefore the description refers rather to a very perfect cast of the interior of the valves, but as the form is singularly regular and even and the shelly matter thin the details are well preserved and distinct.

MYTILUS INGENS, *n. s.*

M. t. oblong, oval, or elliptical, tumid or gibbous in the centre, so as to form an arched broad regularly sloping carina, depressed at the anterior side, thick, but not clumsy at the posterior margin, the whole very equally sulcate with lines of growth, the younger ones deep ridged and with a beautiful curve, the latter less distinct

and broad. Umbones terminal small corroded curved. Ligamental fossa somewhat small, broad terminal shallow, with a long narrow slit for the byssus. Pallial impression long and wedge-shaped. Length 30 centimetres, breadth 19, height 17. Length of hinge depression 9.

The size and regular shape should distinguish this species. In the lines of growth the younger ones are deep, broad, regular and distinctly margined. The free portions of shelly matter left on the cast show that in spite of its size the testa was not very thick.

Locality —? Barcoo, Queensland. Horizon —?

It is impossible to say yet whether the specimen should be referred to the Oolitic or Cretaceous rocks, both of which are known to occur in that locality. Mr. Chas. Moore, F.G.S., describes three species of *Mytilus*,* but none of them resemble this in the remotest degree in regard to size. In form *M. inflatus* approaches it, but it is scarcely an inch in length. The rock mass is like that of Wollumbilla in form. I may state that I have a large mass of materials for description, partly derived from the collections of various explorers and partly derived from my own collections of Mesozoic fossils, made during many journeys and explorations in North Queensland. I prefer however to deal with them in one monograph, so that their relative affinities may be perceived. This magnificent species merits an exception because of its size and beauty of form, which so easily distinguish it from all others. For the information of many continental correspondents I append the following observations in Latin:

MYTILUS INGENS, n. s. M. t. oblongo-ovali vel elliptica; medio tumida vel gibbosa indeque late, regulariter, obscure carinata; antice depressa postice crassa, haud ponderosa;

* Australian Mesozoic Geology and Paleontology, Quart. Jour. Geological Soc. Lond. 1870, p. 252. The species described are *M. rugo-costatus*, *M. planus*, and *M. inflatus*, all from Wollumbilla, where *Mytilus* is said to be abundant on the rocks.

undique regulariter sulcata lineis incrementi, primis profundis, latis, eleganter curvatis, et conspicue marginatis, deinde latis, obsoletis. Umbonibus terminalibus, parvis, curvatis, corrosis. Fossa ligamenti haud magna, lata, profunda; bysso angusto, Impressionibus pallii et musculari longis et cuneiformibus.

Per terras intra-tropicas Australiæ peregrinantes eximias collectiones fossilium reportarunt multi indagatorum et viatorum. Ut taceam cl. Leichhardtii et Mitchelli collectiones in Musæo Sydneyense vel Mus. Geol. Lond. nunc servatas, jam pridem in variis scriptis recensuit Rev. W. B. Clarke collectiones aliorum peregrinatorum. Ultimis annis novæ et spectabiles collectiones cl. Gregorii e colonia Australiæ occidentalis (Greenough River) e Wollumbilla, Gordon Downs, ex Aust. orientali, ab illustrissimo Carolo Moore in Jour. Geol. Soc. Lond. descriptæ sunt. Novissime, collectiones a cl. Daintree sub expeditionibus speculatoriis, variisque partibus Australiæ conquistæ ab illust. R. Etheridge amplissime descriptæ et illustratæ (in eodem Jour. Geol. Soc. Lond.) in Mus. Brisbaneense reperiuntur.

Nuper a me collectiones factæ variis peregrinationibus Australia septentrionali. Additæ his variæ collectiones, quæ meæ determinationi amice demandatæ sunt, commentarii præbuere materiam quibus addidi paucas species nondum publicatas in iisdem terris ab aliis inventas. Cum species sæpe in pluribus eodem adsint, vel affines se invicem illustrantes, aptius mihi visum est reservare et in unico opusculo has symbolas conjunctas recensere quam singulas illustrare. Attamen hoc loco inserui descriptionem hujus magnificæ speciei Mytili, nondum adhuc descriptæ, magnitudine formaque necnon testa tenui ab omnibus aliis mytilorum facillime divellendæ. Certissime mihi dictum non est stratum in quo specimina tria hujus speciei inventa, sed probabiliter mihi videtur e rivulis rupestribus ad pedes plagæ elevatæ juxta fluminis Barcoo partes orientales passim provenientibus. In Collectionibus supra dictis molluscorum, Gasteropoda minorem, lamellibranchiata vero pro more longe majorem numerum præbent.

Ea, exceptis paucis Cephalopodis et Belemnitis, solus collegit Daintree, et loco citato Etheridge specimina illustravit. Etiam ob genera et subgenera incertitudo inter illos feliciter stabilita, quam per characteres magis constantes bivalvatos rite determinare istis completis exemplaribus facilius est quam per descriptiones tantum, longe magis per incompletas et incertas quarum forma maxime fallax est. Cum plurimæ definitiones ad specimina singula Musæorum propositæ sint, facile intelligitur, quam parum ad specierum determinationem et specificam differentiam dijudicandum sufficiant sine amplissima experientia variationis legum inter indigenas. Ex his rationibus ex magna parte pendere fingimus immensum novarum specierum numerum ultimis annis propositarum, quarum dimidium saltem numerum vel synonymas vel jam descriptas sine temeritate enuntiare ausim, quamvis multas, quarum locus et affinitas in generibus tam vastis haud indicata sunt sine ectýporum comparatione numquam determinare liceat. Non satis est speciem ignotam sub nomine novo describere, sed hanc tamdiu in animo volutare donec nexus cum omnibus, ut ait illust. Elias Fries, jam rite cognitis plene eluceat.*

* Nov. Sym. Myc. in peregr. terris Dan. coll. prolog.