XVIII. *Observations on a remarkable* Coralline, *in a Letter from Mr.* John Ellis *to the Rev.* Thomas Birch, *D. D. Secret. R. S.*

SIR,

Read March 17, 1753. I BEG leave to present you with some observations, which I have made on a coralline, that I lately received from my curious and worthy friend Mr. Peter Collinson. It appears, from its size and firmness, to belong to a warmer climate than this, and is probably American.

We find some of the same genus, but of a different species, of this coralline, on our own coasts; but they are smaller, tenderer, and more transparent. There is one particularly, which comes very near this, called by Dr. Dillenius, in the third edition of *Ray*'s *Synopsis*, p. 37, N. 20, Tab. II. Fig. 1. *Corallina pumila erecta ramosior*: and in *Buddle*'s *Hortus siccus*, in the late Sir Hans Sloane's collection, there is a specimen like it, but not so fully advanced in its ramifications: this he calls *Fucus minimus hirsutus fibrillis herbaceis similis*, from *Doody*'s *Appendix* to *Ray*'s *Synopsis*, p. 330.

This curious sea production, which has the appearance of a plant, arises first from many small vermicular wrinkled tubes, by which it appears to have adhered, like ours, to rocks, shells, fucus's, or other submarine substances. These tubes uniting form a sort of stems, which, as they rise, insensibly change into rows of cells: these stretch out into many regular

dichotomous branches; each branch is made up of two rows of cells united together, and theſe cells placed in ſuch a manner ſide by ſide, that each cell joins two others on one ſide, and the bottom of one is inſerted in the top of the other. Their openings or faces look one way: they are nearly of an egg-ſhape, a little compreſs'd before: the broadeſt part is uppermoſt, and bends a little forward: the top of each is fortified by two angular points or ſpines.

By attentively viewing many ſpecimens of this genus of corallines in the microſcope, that have been taken out of the ſea at different ſeaſons of the year, I have obſerved the progreſs of nature to be pretty nearly thus:

The tubuli, or firſt beginning of the corallines in the younger ſtate, are found full of a yellow ſoft ſubſtance, which ſoon decays: in the more perfect ſtate they are clear and tranſparent.

The cells, which communicate with theſe tubes, have in the ſpring black ſpecks in each, which I take to be the embryo of the future production. During this very tender and minute ſtate, the opening of each cell is cover'd with an extreme fine tranſparent membrane, the uſe of which no doubt is to cheriſh and protect it.

Theſe ſpecks in time ſwelling into ſpherical teſtaceous bodies (as they are often found in ſummer) burſt through this membrane, and ſit in the front of the cell, ſupported by an umbilical ligament, which is faſten'd to the bottom of the inſide of each cell or matrix, till they come to maturity, which ſeems to be the caſe in the microſcopical drawing I have ſent you: wherein you will obſerve, they appear to be rows of very ſmall ſea ſnails, or rather teſtaceous bodies,

of

of the ſhape of a nautilus, ready to drop off, and provide for themſelves. In the ſame plate you have a microſcopical drawing of one of the Engliſh corallines of the ſame genus, with the embryo ſpecks in each cell.

I muſt further add, that I believe, if the curious, with good microſcopes, at the ſea-ſide, and at different ſeaſons of the year, would ſtrictly examine many of theſe beautiful ſea-productions, hitherto claim'd by the botaniſts, they would find, that ſeveral of the teſtaceous tribe proceed from ſome kinds of the larger corals, as well as, I am perſuaded, they will find, that many owe their original to the ſmaller corallines: and we are the more encouraged to try, ſince we obſerve, that various ſhapes and ſtages of the ſame animal are no new thing in the laws of nature.

SIR,

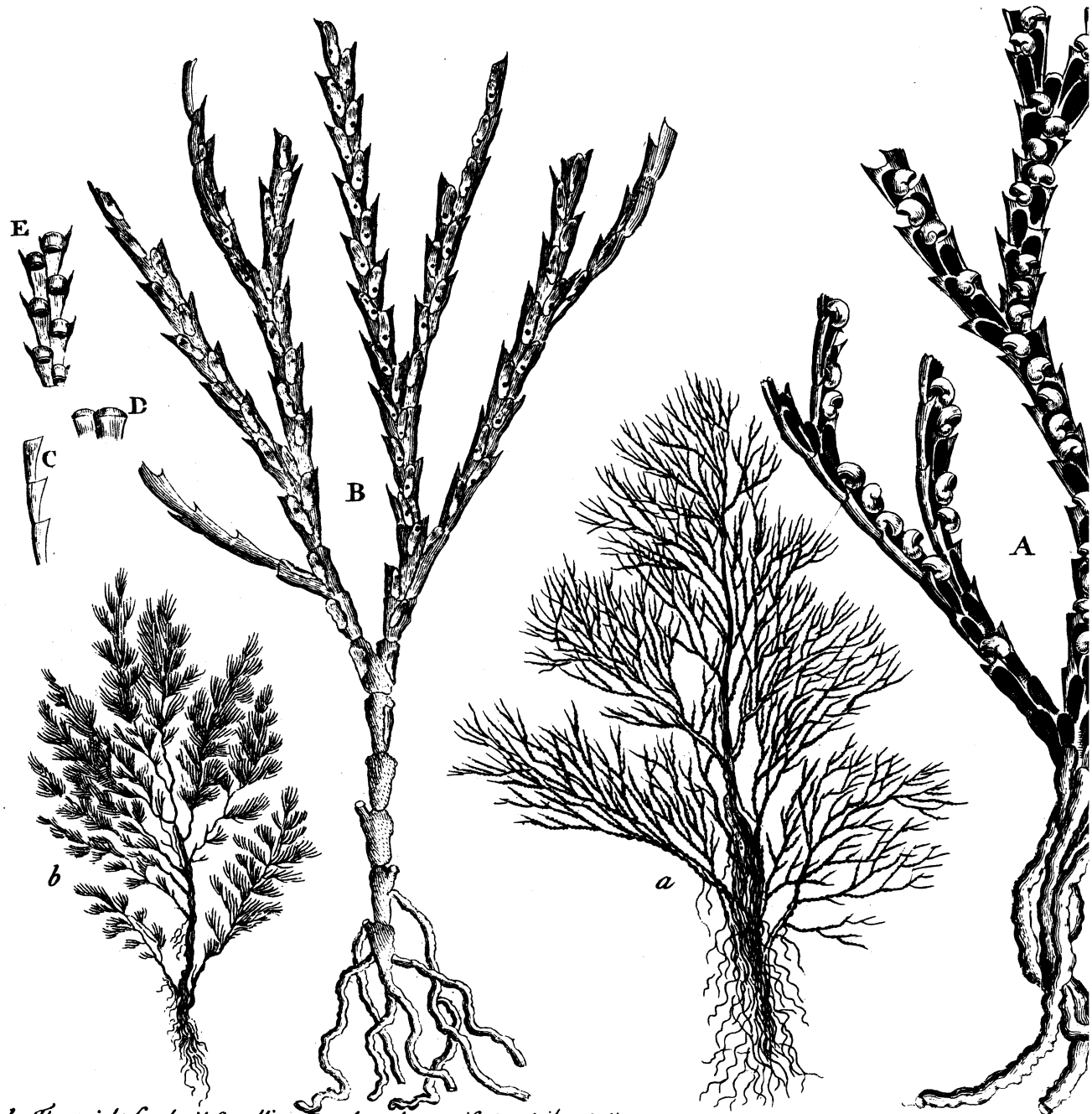
Your moſt obedient humble ſervant,

John Ellis.

XIX. *An Account of ſome uncommon* foſſil Bodies, *by Mr.* Henry Baker, *F. R. S.*

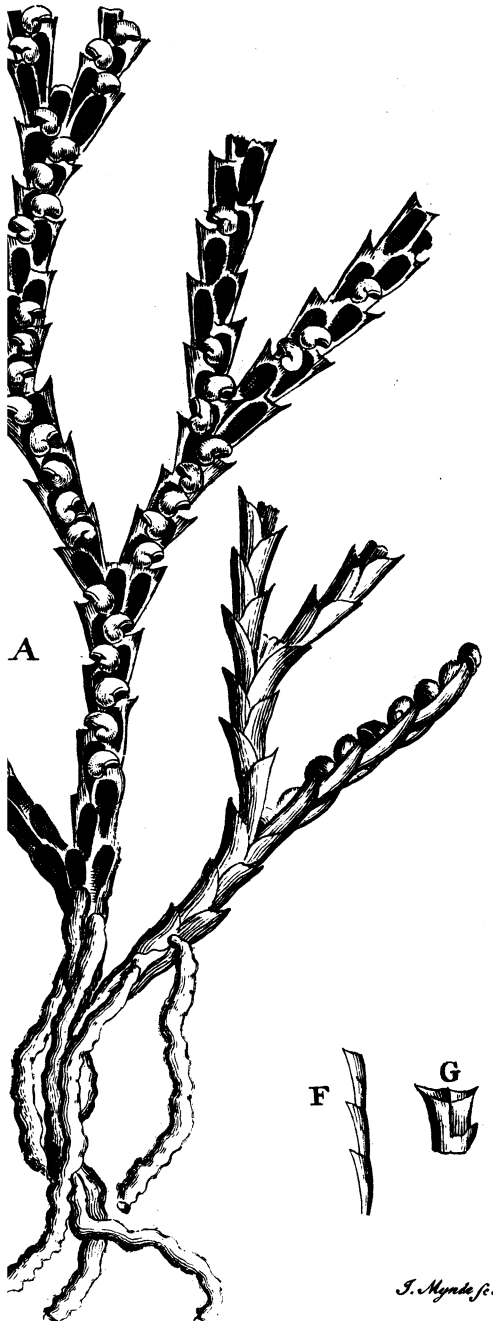
Read March 29, 1753.

THE foſſil bodies I have now the honour to lay before this Royal Society, I have never met with before, nor remember any deſcription of. They were ſent to me from Oxford, by Mr. William Frankcombe, a young gentleman reſiding there, who is very diligent in ſearching



b. The upright feather'd Coralline B. *a branch magnified with its tubuli.*
C. *The upright section of the cells shewing the Eggs.* D. *the cross section.*

a. The Snail bearing Coralline. A. *a branch*
F. *the upright section.* G. *the cross section*



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a branch magnified. **E.** *The Eggs turn'd to*
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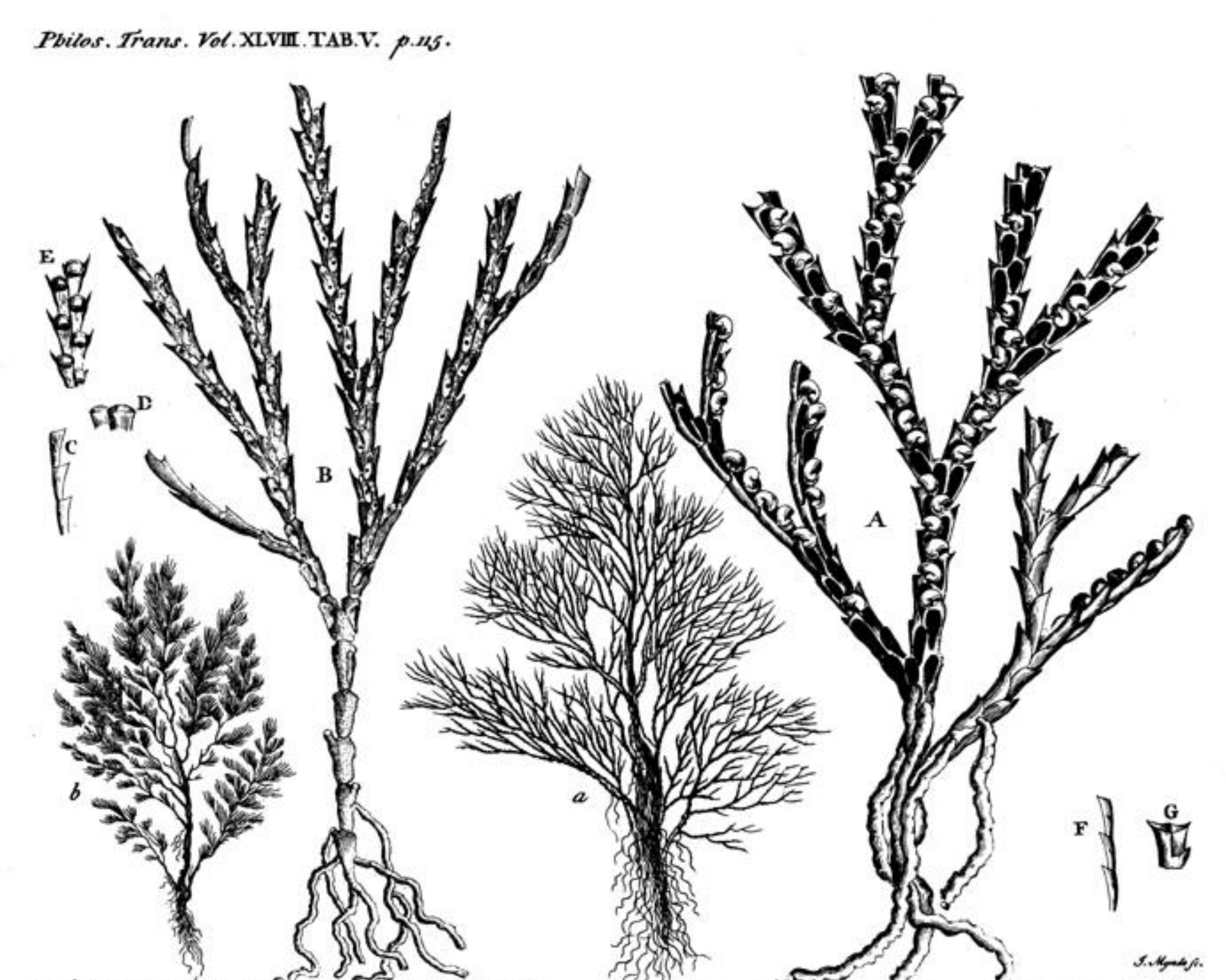

b. The upright feather'd Coralline B. *a branch magnified with its tubuli.*
C. *The upright section of the cells shewing the Eggs.* D. *the croſs section.*

a. The Snail bearing Coralline. A. *a branch magnified.* E. *The Eggs turn'd to*
F. *the upright section.* G. *the croſs section.* (*testaceous animals*