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Down,
Beckenham, Kent. I. xvii

May 14. 1874

My dear Dr Sanderson

I am very much obliged about the gluten, & what you are going to do is just what I shd have asked, viz. to see whether any indigestible residue is left, for this always happens with gluten on Drosera. Now that I have written out my notes, by far the greatest anomaly which I find is that fibrin is never wholly dissolved. Watts says that it is not a homogeneous substance, & I much want you to put a bit of fibrin with an excess of pepsin & propionic or butyric acids (

(I think the former wd be best as nearest to the acid of drosera) & see whether, at the ordinary temp. of the air, the whole of the fibrin is dissolved, or whether a residue is left. This experiment is of the greatest importance to me, as it will tend to shew whether the failure of Drosera to digest the whole of the fibrin is due to the acid or nature of the ferment. It is possible that the fibrin which I have used (preserved in glycerine) may be bad; wd you therefore be so kind as to put an atom of that herewith sent into pepsin & hydro-chloric A., & see if it is all dissolved like true fibrin. If mine proves

bad, will you send me an atom of good fibrin. I know well that I am giving you great trouble; but as my notes are now written out, I have come to the end of my requests.

So I will go on; if you add dry minute cubes of albumen with pepsin & propionic or butyric acids at ordinary temp., the whole or ought to be dissolved if the ferment of drosera has the same power as pepsin; & this experiment is manifestly very important for me.

When you tried the globulin prepared by Dr M., which I sent you, can you remember whether the splinters remained sharp, as happens with Drosera? I now find that particles of this globuline, left in cold

water for 3 days, ~~acts ene~~ yields something soluble which acts ener-getically on Drosera, though the sharpest angles are not rounded by the secretion or by water; & I dare say it was this soluble matter which was dissolved in your experiments with globulin in pepsin & H. A.

Can you send me a bit of fibro-cartilage from any animal, to try on Drosera? I am so ignorant I might blunder, & I have tried cartilage.

Lastly can you spare me a grain or two, or if liquid, a few drops, of propionic, butyric, valerianic, or oleic A-ds? I find immersion in olive oil has a potent effect on Drosera, & I suspect the fatty acids.

Heaven forgive me for making so many requests & believe me

yours very sincerely

Ch. Darwin