

- Fig. 5. *Protopteris peregrina*, Newberry, impression of stem, one-fourth the natural size: *xx*, remains of petioles. *5 a*, scar, natural size, showing bundles of vessels at base; *5 b*, portion of a vascular bundle, magnified, showing scalariform vessels and cellular tissue; *5 c*, scalariform vessel, highly magnified.
- Fig. 6. Lower part of stem of the same, with aerial roots, one fourth the natural size. *6 a*, one of the roots, natural size.
- Fig. 7. Vascular bundle of *Rachiopteris*, natural size; *7 a*, portion of the same, showing vascular and cellular tissue, with rounded granules in the cells; *7 b*, one of the cells magnified, showing contained granules.
- Fig. 8. *Neggerathia gilboensis*, one-half the natural size.

DISCUSSION.

Dr. DUNCAN doubted the desirability of basing generic and specific terms on imperfectly preserved and indistinct specimens, and pointed out the disagreements among botanists that had resulted from so doing. He would prefer calling fossils such as those described "cryptogamous forms from certain strata." He was doubtful also whether the supposed petrified starch was not merely orbicular silix.

The CHAIRMAN (Prof. Morris) remarked on the four different conditions exhibited by existing tree ferns:—first, with roots running down the stem; secondly, the lower portion with oval scars; these are, thirdly, further up the stem, rhomboidal vertically; and, fourthly, higher up still, rhomboidal horizontally; so that were the plant fossil, distinct genera and species might be founded upon the different parts.
