better state, and included very few shrivelled grains. Although the pollen of the reverted purple flowers was in so poor a condition, the ovules were well formed, and the seeds, when mature, germinated freely with me. Mr. Herbert raised plants from seeds of the reverted purple flowers, and they differed a *v-ry little* from the usual state of *C. purpureus*. Some which I raised in the same manner did not differ at all, either in the character of their flowers or of the whole bush, from the pure *C. purpureus*.

Prof. Caspary has examined the ovules of the dingy-red and sterile flowers in several plants of C. adami on the Continent,93 and finds them generally monstrous. In three plants examined by me in England, the ovules were likewise monstrous, the nucleus varying much in shape, and projecting irregularly beyond the proper coats. The pollen grains, on the other hand, judging from their external appearance, were remarkably good, and readily protruded their tubes. By repeatedly counting, under the microscope, the proportional number of bad grains, Frof. Caspary ascertained that only 2.5 per cent. were bad, which is a less proportion than in the pollen of three pure species of Cytisus in their cultivated state, viz., C. purpureus, laburnum, and alpinus. Although the pollen of C. adami is thus in appearance good, it does not follow, according to M. Naudin's observation 94 on Mirabilis, that it would be functionally effective. The fact of the ovules of C. adami being monstrous, and the pollen apparently sound, is all the more remarkable, because it is opposed to what usually occurs not only with most hybrids,⁹⁵ but with two hybrids in the same genus, namely in C. purpureo-elongatus, and C. alpino-laburnum. In both these hybrids, the ovules, as observed by Prof. Caspary and myself, were well-formed, whilst many of the pollen-grains were ill-formed: in the latter hybrid 20.3 per cent., and in the former no less than 84.8 per cent. of the grains were ascertained by Prof. Caspary to be This unusual condition of the male and female reproductive bad. elements in C. adami has been used by Prof. Caspary as an argument against this plant being considered as an ordinary hybrid produced from seed; but we should remember that with hybrids the ovules have not been examined nearly so frequently as the pollen, and they may be much oftener imperfect than is generally supposed. Dr. E. Bornet, of Antibes, informs me (through Mr. J. Traherne Moggridge) that with hybrid Cisti the ovarium is frequently deformed, the ovules being in some cases quite absent, and in other cases incapable of fertilisation.

Several theories have been propounded to account for the origin of C. adami, and for the transformations which it undergoes. The

⁹³ See 'Transact. of Hort. Congress of Amsterdam,' 1865; but I owe most of the following information to *i*-rof. Caspary's letters.

^{94 &#}x27;Nouvelles Archives du Muséum,' tom. i. p. 143.

⁹⁵ See on this head, Naudin, ibid., p. 141.