

was consequently propagated. Now it deserves especial notice that these plants were sold by M. Adam, as a variety of *C. purpureus*, before they had flowered; and the account was published by Poiteau after the plants had flowered, but before they had exhibited their remarkable tendency to revert into the two parent species. So that there was no conceivable motive for falsification, and it is difficult to see how there could have been any error.⁹⁹ If we admit as true M. Adam's account, we must admit the extraordinary fact that two distinct species can unite by their cellular tissue, and subsequently produce a plant bearing leaves and sterile flowers intermediate in character between the scion and stock, and producing buds liable to reversion; in short, resembling in every important respect a hybrid formed in the ordinary way by seminal reproduction.

I will therefore give all the facts which I have been able to collect on the formation of hybrids between distinct species or varieties, without the intervention of the sexual organs. For if, as I am now convinced, this is possible, it is a most important fact, which will sooner or later change the views held by physiologists with respect to sexual reproduction. A sufficient body of facts will afterwards be adduced, showing that the segregation or separation of the characters of the two parent-forms by bud-variation, as in the case of *Cytisus adami*, is not an unusual though a striking phenomenon. We shall further see that a whole bud may thus revert, or only half, or some smaller segment.

The famous *bizzarria Orange* offers a strictly parallel case to that of *Cytisus adami*. The gardener who in 1644 in Florence raised this tree, declared that it was a seedling which had been grafted; and after the graft had perished, the stock sprouted and produced the *bizzarria*. Galesio, who carefully examined several living specimens and compared them with the description given by the original describer, P. Nato,¹⁰⁰ states that the tree produces at the same time leaves, flowers, and fruit identical with the bitter orange and with the citron of Florence, and likewise compound fruit, with the two kinds either blended together, both externally and internally,

⁹⁹ An account was given in the 'Gardener's Chronicle' (1857, pp. 382, 400) of a common laburnum on which grafts of *C. purpureus* had been inserted, and which gradually assumed the character of *C. adami*; but I have little doubt that *C. adami* had been sold to the purchaser, who was not a botanist, in the place of *C. purpureus*. I have

ascertained that this occurred in another instance.

¹⁰⁰ Galesio, 'Gli Agrumi dei Giard. Bot. Agrar. di Firenze,' 1839, p. 11. In his 'Traité du Citrus,' 1811, p. 146, he speaks as if the compound fruit consisted in part of a lemon, but this apparently was a mistake.