

LETTERS TO THE EDITOR.

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The Cotton Plant.

ATTENTION has been directed in NATURE of January 16 to a work in which a writer on economic subjects deals with "The Wild and Cultivated Cotton Plants of the World." The subject is as difficult as it is important, and your reviewer, whose expert opinion is held in regard, shows that some of the questions involved may have two sides.

Your reviewer remarks that this work has been doomed to failure owing to the mode of study adopted by its author. If this means that the work is not without error and does not attain finality, the judgment has been anticipated by the author. But if this also means that the work adds nothing to what is known by those who do not happen to be experts in cotton, its readers will find that the verdict cannot be sustained.

The work is compared unfavourably with another on this subject by the late Prof. Todaro. Your reviewer attributes success to Todaro's book because Todaro dealt for the most part with living plants grown by him from seed. It is possibly true that the material studied by Todaro was, for the most part, obtained from the living plants the cultivation of which is related in the introductory fifth part of his monograph. But it is not the case that Todaro's revision of the cottons of the world was based for the most part on this material. Those who have studied Todaro's work know that, of the fifty-four species of *Gossypium* there enumerated, only eleven were certainly described from living plants, although it is possible that others may have been seen by him in the living state. In dealing with the remaining thirty-eight, Todaro has had to rely on the mode of study which your reviewer tells us is doomed to failure; indeed, as regards a considerable number of the species recognised, Todaro has had to depend on the accuracy of descriptions by other writers, because he did not have access to authentic herbarium specimens.

We are, however, less concerned with the work of Todaro than with the continuation and extension of that work which your reviewer says was needed, and which Sir G. Watt has tried to supply. A study of Watt's work shows that its chief merit and value lie in the exhaustive way in which it brings together references to all conceivable sources of information. On this account it will be indispensable to anyone who may hereafter be seriously at work on cotton, who will find it a comprehensive guide to the literature of the subject and to the whereabouts of authentic material. Its readers must follow the rule that applies to the study of subjects so critical, and reserve perfect freedom of judgment as regards the acceptance of Watt's conclusions. They are not bound to agree with Watt as to the provenance or the pedigree of any particular cultivated cotton, nor are they bound to adopt the advice Watt may give as to the kinds most suitable for a particular locality. But when, in deference to other views or on intuitive grounds, we question the validity of Watt's opinion, we are not entitled to do more than reserve our assent unless and until we have critically examined, and if need be supplemented, the material on which that opinion is based.

Believing, as he explains, that the work of Todaro does not require to be corrected, your reviewer is justified in refusing to accept any opinion expressed by Watt which is at variance with that of Todaro, and is free to imagine that, because Watt at times differs from Todaro, Watt's volume is rather a retrogression than an advance on Todaro's work. He is also entitled to assert the right to criticise details as to which he considers himself a competent judge. But his decision that when Watt differs from Todaro therefore Watt must be wrong does not prove this to be the case; his belief in the infallibility of Todaro does not establish that unusual quality; we know, indeed, that at least one of Todaro's species of *Gossypium* does not belong to the genus.

In exercising his right to criticise, your reviewer occasionally raises a doubt whether sound judgment as to the value of a cotton need include full appreciation of the difficulties connected with its botanical status, while his terminology does not make it clear that his conception of botanical characters, and his interpretation of words like "species" and "variety," accord with established usage. This prevents our commenting on his estimate of Watt's system of classification, which is based on those characters that Watt believes to be least subject to variation in truly wild cottons. That among cultivated forms even these characters prove unstable is only too true; but they may still be the best available, and the reviewer does not suggest an alternative method of arrangement.

In certain specific instances your reviewer directs attention to what he terms errors. Thus the treatment by Watt of *G. obtusifolium*, Roxb., and *G. Wightianum*, Tod., is cited as a case of "erroneous synonymy." The situation is this:—Todaro has shown that he only knew of *G. obtusifolium* from Roxburgh's description, and that he did not recognise Roxburgh's species in any of the plants he grew. Todaro has further concluded that a plant which most Indian botanists have treated as a form of *G. herbaceum* does not belong to *G. herbaceum*; this plant he has named *G. Wightianum*. Dealing anew with the subject, Watt has agreed with Todaro in considering *G. Wightianum* distinct from *G. herbaceum*. But Watt also thinks that he can recognise the plant which Roxburgh named *G. obtusifolium*, and believes that *G. Wightianum* is only a variety of *G. obtusifolium*. However the case may stand as to these conclusions, the synonymy they involve is accurate. Even if, as is possible, your reviewer by "erroneous synonymy" only implies that Watt differs from Todaro, the criticism fails. We are unable to say whether, if Todaro had been able to recognise *G. obtusifolium*, any difference of view would have existed. The subordinate questions as to whether Watt's limitation of *G. obtusifolium*, var. *Wightiana*, accords with natural facts, and whether *G. obtusifolium* proper and *G. Nanking*, var. *roji*, should be kept apart or united, are only differences of opinion between Watt and your reviewer on points as to which they are equally entitled to form a judgment.

Your reviewer cites two cases in which he believes that plants have been wrongly identified by Watt. He states that the figure of *G. microcarpum* given by Watt (plate 36) represents a plant other than the one figured by Todaro as *G. microcarpum*. He points out that Todaro describes the two lobes on either side of the central lobe as unequal, and states that the figure given by Watt does not display this peculiarity. On examining the figure of *G. microcarpum* given by Watt, we find that it does show this peculiarity, and on consulting the text we see that it is *G. microcarpum* of Todaro and no other species that is intended to be represented. There may be some mistake with regard to this species; if it be the case that the *G. microcarpum* grown by the reviewer is the true *G. microcarpum* of Todaro, and is at the same time the plant figured by Watt as *G. Schottii*, then the figure which Todaro has given of *G. microcarpum* can hardly represent his own species accurately; it is unlikely that a suggestion as to the identity of *G. Schottii* as figured by Watt (plate 35) and *G. microcarpum* as shown in Todaro's plate will be generally admitted. In the other case, your reviewer's conclusion as to misidentification rests partly on a statement that the name "Piura" indicates a cotton other than the one it connotes in Watt's book, partly on an assertion that Lamarck describes his species *G. vitifolium* as having the underside of its leaves glabrous. The incidence of vernacular names is not always so exact as to justify implicit confidence, but in this instance Spruce, who collected the Piura cotton in Peru and has described it with care, assigns the name to the plant with which Watt associates it. Finally, what Lamarck says with regard to the leaves of his *G. vitifolium* is:—"Elles sont glabres en dessus, un peu velues en dessous."

What we now await is a work on the cultivated cottons from the pen of your reviewer.

D. PRAIN.

Kew, January 20.