On the Origin of the so-called Scorpioid Cyme.
By the Rev. George Henslow, M.A., F.L.S.

[Abstract, read November 6, 1879.]

This paper in full, with a Plate, will appear in the Society's 'Transactions.' The points of importance to which the author called the attention of the Fellows in the reading of the paper may be thus summarized.

He pointed out some errors in deducing the scorpioid from the dichotomous cyme, as follows:

1. Opposite pairs of bracts, being successively in planes at right angles to each other, the resulting sympode would be a volute, and not a helix.
2. The position of the bracts (when present, as in Borago) is such that they are not opposite to the flowers.
3. There are always two rows of flowers, not a single row, as would be the case.
4. The appearance of a flower in the fork between the two branches of the inflorescence (as in Myosotis) is not usual, and is due to the adhesion between the terminal and the highest axillary raceme.
5. The peculiar arrangement of the flowers has given rise to the supposition that there is a dichotomy of the apex—that while one half continues the axis, the other becomes a flower. The author, however, points out that there is no practical difference between the actual condition presented and lateral budding; so that this theory would seem to be superfluous.

Authors have hitherto confounded "the true scorpioid raceme" (Henslow) with spicate degradations of a sympodial inflorescence.

He (Mr. Henslow) refers it to the indefinite system, and explains its origin by a new principle of phyllotaxis, which he first discovered in Lagerstroemia, viz. in resolving opposite and decussate leaves into alternate, instead of their lying on a continuous spiral line, the line oscillates through three fourths of a circle; and if such a line be drawn from flower to bract, it will represent the so-called scorpioid cyme of the Boragineae. An intermediate stage is represented by the inflorescence of Lathyrus squamaria.
This consists of four vertical rows of bracteate flowers; and a line drawn through each successive bract, and projected on a plane, corresponds with the projection of a similar line for *Borago*.


[Read November 6, 1879.]

The subject of the present note was first described by the Rev. M. J. Berkeley in the 'Gardener's Chronicle' for 1869 (p. 1157, with woodcut). It was afterwards included in the list of Ceylon Fungi determined by Messrs. Berkeley and Broome, and published in the Linnean Society's Journal (Botany, vol. xiv. p. 93, pl. iii. fig. 10). A short notice appeared in the 'Quarterly Journal of Microscopical Science,' 1873, pp. 79–81*; and last year the subject was treated in greater detail by the Rev. R. Abbay, in a paper read before this Society, June 6, 1878 (Journ. Linn. Soc. Botany, vol. xvii. pp. 173–184, pls. xiii. & xiv.), which added considerably to our knowledge of the subject.

The leaf-disease, as mentioned by Mr. Abbay, first appeared in Ceylon in May 1869; and it soon spread with rapid strides over the cultivated and native coffee of the island. It was noticed in the coffee-districts of Southern India during 1869 and 1870, almost simultaneously with its appearance in Ceylon. In 1876 it was reported on coffee in Sumatra and Bencoolen; and this year (1879) the Director of the Botanic Garden at Buitenzorg, Java, reports its presence on the coffee-estates of that island in a severe form.

It is evident, therefore, that *Hemileia vastatrix* is gradually extending its ravages over the whole of the coffee-producing areas of the East Indies; and unless decisive steps are taken to con-

* In 1876 Dr. M. C. Cooke described and figured the fruit from Indian specimens, in the India-Museum Report, 1876, pp. 4–6.