

October 23, 1975

Subject: Identification and Source of Initial Activity in  
Tripterygium (Based on Telephone Conversation  
with Dr. Beroza)

TO: Robert E. Perdue, Jr., Chief  
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The initial activity in Tripterygium was identified in the KB screen from fractions made and submitted by Dr. Kupchan of the extract - B99943. This extract was prepared by Dr. Beroza for his work on the isolation and identification of the insecticidal agents which are alkaloids (wilforine and other related compounds). According to Dr. Beroza, extract B99943 is a non-crystallized alkaloid fraction and the method by which it was prepared was published in the Journal of American Chemical Society 73: 3656, 1951.

Since triptolide, which was isolated from roots of T. wilfordii from Taiwan, is not an alkaloid, I asked Dr. Beroza if it is possible that triptolide was present in the alkaloid fraction. He said "it would be amazing for a hypoxide to be present because the hypoxide should have been destroyed by extraction with HCl." My question now - Is the original activity in Tripterygium due to alkaloids or was triptolide present? Dr. Beroza mentioned that one-half pound of this extract may still be around in the entomology laboratory where Mr. Jacobson is located (BARC-East). Maybe we should suggest that Dr. Kupchan further evaluate the original extract.

The source of the Tripterygium roots for Dr. Beroza's study is from plants cultivated at Glenn Dale, Maryland, (200 pounds-dry); Bogalusa, Louisiana, (100 pounds-dry) and some fresh roots from Wellborn, Texas. Memoranda by Murray Kinman (1952) indicate the source of Tripterygium cultivated at Bogalusa and Wellborn to be from PI-113544. From a report on the experimental cultivation of Tripterygium by F. R. Reid, W. H. Cowgill, B. F. Chaney and H. L. Kenfield; the large quantity of Tripterygium grown at Glenn Dale represents the source PI-113544 (which is the same as that for Bogalusa and Wellborn). Thus, it would appear that the extract B99943 originates from the cuttings accessioned under PI-113544.

Cuttings of PI-113544 were collected from Shih Hsiu K'ouin, Chuki District, Chekiang Province, China, and were planted at Glenn Dale in 1939. These cuttings were accessioned under the name - Tripterygium wilfordii var. exesum. A herbarium specimen appears to be listed at the National Arboretum (N.A.H. 161723) for this PI number.

The two taxonomists who studied the genus Tripterygium (Loesener and Lin) treated T. wilfordii var. exesum as a synonym of T. hypoglaucum. If we accept their treatment of Tripterygium, than the name given to the extract, B99943, should be changed from Tripterygium wilfordii Hook. f. to Tripterygium hypoglaucum (Levl.) Hutchins. Also we should <sup>check</sup> change the identification of the herbarium specimen at the National Arboretum.

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cc: A. S. Barclay  
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