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γ-GLUTAMYLPHENYLALANINE IN *DOLICHOS* SEEDS

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Key Word Index—*Dolichos sericeus*; *D. trilobus*; *D. glabrescens*; Leguminosae; γ-glutamylphenylalanine.

Previous communications from this laboratory reported results obtained during a systematic investigation of the free amino acids in species of Phaseolinae.[1] In the course of these investigations the amino acids in seeds of *Dolichos sericeus* were examined by two dimensional PC, high voltage electrophoresis and an amino acid analyzer. This showed the presense of a compound with behaviour identical to that of γ-glutamylphenylalanine. The compound was isolated and identified by comparison with an authentic sample by use of IR, co-chromatography and co-electrophoresis. γ-Glutamylphenylalanine has been isolated previously from *Lupinus augustifolius* and *L. albus*,[2] *Glycine max*[3], *Allium cepa*,[4] *Aubrieta deltoidea*[5] and *Astragalus*.[6] We also found this peptide in *Dolichos trilobus* and *D. glabrescens* (Table 1).

TABLE 1. CONTENT OF NON-PROTEIN AMINO ACIDS OF *Dolichos* SEEDS

			μg/g fr. wt		
Species	Source*	U.I.†	Glutamic acid	Phenyl alanine	Glutamyl phenyl alanine
D. sericeus	Rwanda	351	430	310	3060
D. sericeus	Zambia	357	680	190	3640
D. glabrescens	Zambia	168	940	80	320
D. trilobus	Kenya	258	1960	70	470
Glycine max‡			636	57	393

* All collected in the wild.

† Voucher specimens of all taxa and seeds are deposited in the Herbarium, Phytotechnie des Régions Chaudes, Gembloux, Belgique.

‡ From J. F. THOMPSON and C. J. MORRIS, *Biochemistry* **1**, 706 (1962).

The γ-Glutamylphenylalanine contributes an appreciable portion of the non-protein amino nitrogen of the mature *Dolichos* seeds (6·3–50·9%) and accounts up to 2% of the total amino nitrogen.

The peptide is also of interest with respect to the chemotaxonomy of the groups *Dolichos*, *Macrotyloma* and *Pseudovigna*.

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