

NOTE**Identification and Estimation of Amino Acids, Sugars and Ascorbic Acid in the Fruits of *Caryota urens***

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The different amino acids and sugars present in the fruits of *Caryota urens* have been identified. The total sugar and total amino acids present also have been estimated. The ascorbic acid content in the fruits is comparable to that of citrus fruits.

Caryota urens is a palm indigenous to India, Ceylon and Malaya.¹ Its fruits are eaten by birds, squirrels, civets and jackals. However, this palm is fast vanishing from the countryside due to intensive farming practices. The result of this work underscores the importance of this palm as it furnishes a lot of nutrient food for birds and animals.

In the present study the mesocarp of the fruits of *Caryota urens* was subjected to chemical investigation. It contains glucose, fructose and sucrose, the total amount of sugars being 5.5 mg/g. The amino acids found to be present are glycine, alanine, valine, leucine, isoleucine, tyrosine, proline, hydroxyproline, histidine, cystine and aspartic acid. The total amount of amino acids is estimated to be 0.22 mg/g. The ascorbic acid content of the mesocarp is 26.4 mg/100 g which is comparable to that of citrus fruits.

The quantitative estimation results furnished above are the averages of six experiments. The ripe black colored fruits for the study were collected from the premises of Calicut University.

About 10 g of the mesocarp was quantitatively extracted with 80% ethanol and used for both qualitative and quantitative analysis of sugars and amino acids. They were separated by ion exchange chromatography over Dowex 50 W× 8 (50–100 mesh). The sugars present in the extract were identified by paper chromatography using BAW (4 : 1 : 5) and comparing their R_f values with those of authentic samples spotted on the same paper. The colouring agent was aniline-diphenylamine-phosphoric acid.² The total sugar was estimated colorimetrically by phenol-sulphuric acid method³ using D-glucose as standard.

The identity of the different amino acids present could be ascertained by comparative TLC in two dimensions using butanol-acetic acid-water (4 : 1 : 1) and phenol-water (3 : 1) systems. The spots were made visible by spraying with ninhydrine reagent and heating at 105°C. For the colorimetric estimation of total

amino acids the method of Lee and Takahazhi⁵ was followed. Glycine solution was used as the standard.

Ascorbic acid was estimated colorimetrically by oxidising it to diketogluconic acid and converting to the highly coloured hydrazone.⁶

ACKNOWLEDGEMENT

The authors are thankful to C.S.I.R., New Delhi, for awarding a Junior Research Fellowship to one of them (M.K.G.N.).

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(Received: 8 January 1996 Accepted: 27 February 1996)

AJC-1093