

Short Communication

Pakistan J. Sci. Ind. Res., Vol. 29, No. 5, October 1986

AMINO ACIDS AND SUGARS CONSTITUENTS OF *CARISSA CARANDAS*

Zafar Naim*, Mohammad Ataullah Khan* and Shaikh Sirajuddin Nizami

Department of Chemistry, University of Karachi, Karachi-32

(Received 27, October 1985; revised April 8, 1986)

Carissa carandas L. (Apocynaceae) commonly known as *kakronda* is a cultivated shrub. Different parts of the plant have been used in indigenous system of medicine [1,2]. Chemical constituents and pharmacological properties of some glycosides have been reported in the various species of *Carissa* [3-19]. Amino acids or sugars have not yet been reported from the fruits of *Carissa carandas*. A study of sugars and amino acids from the fruits of *Carissa carandas* was therefore undertaken. As a result of this investigation serine, glutamine, alanine, phenyl alanine, valine and glycine were found to be present using descending paper chromatographic technique. Three amino acids ($R_f=0.14, 0.18, 0.04$) could not be identified. Glucose/galactose were also identified by paper chromatography using two solvent systems. In addition to this physical characteristics of oil from the fruits of *Carissa carandas* were also determined by using standard methods and has been presented in Table 1

Table 1

Refractive Index	1.6835
Acid Value	31.463
Iodine Value	76.183
Saponification Value	112.5
Free Fatty Acid Contents	1.7%
Water Insoluble Fatty Acids	58.18%
Unsaponifiable Matter	0.092%

Paper chromatographic examination of amino acids. Whatman paper No. 1 was used for descending paper chromatography. The paper (56x22 cm) was spotted with sample and standard amino acids. It was eluted with a solvent (*n*-butanol-acetic acid-water 4:1:5) for 18 hr. The chromatogram was air dried, sprayed with ninhydrine solu-

tion and heated in an oven at 80° for about 15 min. when nine spots were developed. The results are shown in the following Table 2.

Table 2

R_f of samples	R_f of standards	Identified amino acids
0.2169	0.2235	Serine
0.2528	0.2597	Glutamine
0.3103	0.3177	Alanine
0.5816	0.5882	Valine
0.7241	0.7152	Phenyl alanine
0.2183	0.2155	Glycine
0.1471	—	Unidentified
0.1885	—	Unidentified
0.0485	—	Unidentified

Paper chromatographic examination of carbohydrates. Descending paper chromatographic technique was carried out on Whatman Paper No. 1 (56x22 cm). The paper was spotted with samples and standard sugars and run with the solvent. The chromatogram after drying in air was developed by spraying with aniline phthalate followed by heating in an oven at 100° for 20 min. A single spot was obtained for glucose/galactose. The results are shown in Table 3.

Table 3

Solvents systems	R_f sample	R_f glucose/galactose
<i>n</i> -Butanol-ethanol-water (4:1:5)	0.1882	0.1823
<i>n</i> -Butanol-acetic acid-water (4:1:5)	0.2326	0.2285

REFERENCES

1. K.R. Kirtikar and B.D. Basue, *Indian Medicinal Plants*,

*Reprint request; Department of Chemistry, University of Karachi, Karachi, Pakistan.

