

An observational note on parakeets feeding *Moringa* seeds

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Abstract: The rose-ringed or the ring-necked parakeet *Psittacula kramera* (Family: *Psittacidae*), herbivorous which feed on buds, fruits, vegetables, nuts, berries, and seeds in the wild. *Moringa oleifera* Lam. (*Moringaceae*) commonly known as horse-radish or drumstick tree is a deciduous tree native to India, and almost all the parts of *M. oleifera* are used for various ailments in the indigenous medicine of South Asia, including the treatment of diabetes, hypertension, inflammation and infectious diseases. The present observations were taken in a house garden situated in the city of Bikaner (28°N latitude and 73°18'E longitudes), Rajasthan, India. The observations were made in the last fortnight of April 2025. The parakeet *P. krameri* were observed to hold and hang on the pods of drumstick, tearing it open and eating the seeds with great liking.

Key Words: Parakeet, *Moringa*, pods, seed, feeding.

1. INTRODUCTION:

The rose-ringed or the ring-necked parakeet *Psittacula kramera* (Family: *Psittacidae*) is a medium-sized parrot, sexually dimorphic. The adult male has a red and black neck ring, and the female and immature birds of both sexes either show no neck rings, or display shadow-like pale to dark grey neck rings. These herbivorous parakeets feed on buds, fruits, vegetables, nuts, berries, and seeds in the wild while, in captivity they eat a large variety of food and can be fed on a number of fruits, vegetables, pellets, seeds, and even small amounts of cooked meat for protein. Wild flocks also fly several miles to forage in farmlands and orchards, causing extensive damage. In India, they feed on cereal grains, and during winter also on pigeon peas. *Moringa oleifera* Lam. (*Moringaceae*) commonly known as horse-radish or drumstick tree is a deciduous tree native to India, Africa, Arabia, Southeast Asia, the Pacific and Caribbean islands, and South America. The flowers and the fruits appear twice each year. Almost all the parts of *M. oleifera* are used for various ailments in the indigenous medicine of South Asia, including the treatment of diabetes, hypertension, inflammation and infectious diseases. Its leaves, pods and flowers are generally consumed for nourishment.

2. MATERIALS AND METHOD:

The present observations were taken in a house garden situated in the city of Bikaner (28°N latitude and 73°18'E longitudes), Rajasthan, India. The observations were made in the last fortnight of April 2025.

3. RESULTS AND DISCUSSION:

The parakeet *P. krameri* were observed to hold and hang on the pods of drumstick, tearing it open and feeding on the seeds with great liking (Plates 1 & 2).

M. oleifera seed kernels contain a significant amount of oil (up to 40%) with a high-quality fatty acid composition (oleic acid > 70%) and, after refining, a notable resistance to oxidative degradation¹. Apart from the oil, the seed has a high protein content, on average 31.4%, whereas carbohydrate, fibre and ash contents are 18.4%, 7.3% and 6.2%, respectively. Thus, the defatted seeds of *M. oleifera* could provide an economical source of protein for use as a food supplement. Furthermore, like the protein fraction, *M. oleifera* seeds have a high content of methionine and cysteine, close to that reported for milk and eggs². Moreover, *M. oleifera* seeds seem to be free of trypsin inhibitor and urease activity, confirming the high protein digestibility (93%) of *M. oleifera* seeds^{2,3}.

Several studies have found good antioxidant activity and have isolated phytochemical compounds that, because of their biological properties, can be used as nutraceutical molecules^{4,5}. The total phenolic content of *M. oleifera* seeds has been found to be in the range of 4581–4953 mg/100 g^{4,6}, similar to leaf amounts⁷. The flavonoids are represented by catechin, epicatechin, quercetin and kaempferol^{4,7}, present mainly in the bound form⁷. Moreover, several phenolic

acids have been identified, gallic acid predominating, followed by ellagic and caffeic acids. Phenolic acids, like *p*-coumaric, vanillic, protocatechuic, ferulic and cinnamic acids, have also been identified in *M. oleifera* seeds, but in smaller amounts^{4,7}. Interestingly, *M. oleifera* seed also contains important bioactive compounds including alkaloids, glucosinolates, isothiocyanates and thiocarbamates.

The seed extract has been found to possess good antimicrobial activity against numerous bacterial and fungal species⁷⁻¹². *Moringa* seeds are a source of various nutrients and bioactive compounds with potential health benefits. They contain significant amounts of protein, lipids, and carbohydrates, and are also rich in minerals like iron and zinc. Furthermore, they are a source of monounsaturated fatty acids, sterols, and tocopherols, and have been explored for their potential in food and non-food applications. A similar study has earlier been conducted by the author¹³. It is quite possible that there could be some natural mechanism in the parakeet of identifying the medicinal properties in the seeds and therefore being consumed. Long term studies are further required in this regard.

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Plate 1. Parakeets holding and hanging on drumstick pods



Plate 2. Parakeets tearing open the pods to eat the seeds