

UNIVERSITI TEKNOLOGI MARA

**THE BOTANICAL, CHEMICAL AND PHARMACOLOGICAL
PROPERTIES OF *SYZYGIUM SPECIES***

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ABSTRACT

Syzygium cumini, commonly known as black plum, jambolan or jamun, is a plant native to India. Annually, the trees produce in clusters, round or oblong fruits. They are green when raw and purplish black when fully ripe. The leaves are oblong-oval elliptic shape with leathery and glossy features when it matured. Studies have shown that *S. cumini* is rich in phytochemicals like anthocyanins, glycosides, tannins and various minerals that contribute to the pharmacological properties of this plant. Various extracts from different parts of *S. cumini* were reported for its antidiabetic, antimicrobial, antibacterial, antiviral, antifungal, anti-inflammatory, antidiarrheal, gastroprotective, neuropsychopharmacological, gastroprotective and other activities. In this methodology, the phytochemical screening and Thin Layer Chromatography (TLC) were involved to identify the presence of natural compounds. It is concluded that phytoconstituents such as phenol, terpene and saponins were present in the methanol extract of leaves, branch and bark of *S. cumini*.

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CHAPTER 1

INTRODUCTION

1.1 Introduction of *Syzygium* species

The genus *Syzygium* is one of the genera from the family of *Myrtaceae* which is native to the tropics, particularly tropical America and Australia. It has a worldwide, although highly uneven, distribution in tropical and subtropical regions. The genus covers about 1100 species, and has native range that extends from Africa to Madagascar through southern Asia east through the Pacific. The highest levels of diversity occur from Malaysia to north eastern Australia, where many species are very poorly known and many more have not been described taxonomically. Plant of this family are known to be rich in volatiles oils which are reported for their uses in medicine (Ayyanar *et al.*, 2012) and many fruits of the family have a rich history of uses both as edibles and as traditional medicines in different practices for a variety of illnesses and conditions throughout the tropical and subtropical world (Reynertson, 2005).

1.2 Introduction of *Syzygium cumini*

Based on the sample, it is believed that the sample is from the species of *Syzygium cumini* because of many similarities of the plant (Morton, 1987). The synonyms of *S.cumini* are *Eugenia jambolana* Lam., *Myrtus cumini* Linn., *Syzygium jambolana*