CHAPTER III

PROXIMATE ANALYSIS
The leaves were dried in shade and reduced to a moderately coarse powder. The proximate analysis of the air dried drug was carried out according to the methods recommended by the Pharmacopoeia of India\textsuperscript{1}. The moisture content was determined by the British Pharmacopoeia\textsuperscript{2} method. A brief description of the methods used is given below and the average values are recorded in Table II.

\textbf{Ash values}

(i) Total ash

About 2 g of accurately weighed powder of the drug was taken in a dry, tared silica crucible. The drug was incinerated by gradually increasing the heat until the powder was free from carbon. The crucible was allowed to cool in dessicator to a constant weight.

(ii) Acid insoluble ash

The total ash obtained above was boiled with dilute hydrochloric acid (25 ml) for 5 minutes. The insoluble matter was taken on an ashless filter paper and washed with hot distilled water. The filter paper was allowed to dry and then ignited in a tared silica crucible until free from carbon. The crucible was allowed to cool in dessicator to a constant weight.
(iii) Sulphated ash

About 2 g accurately weighed powder of the drug was taken in a dry, tared silica crucible. The drug was moistened with sulphuric acid, ignited gently in a fume cup-board. The crucible was cooled in a dessicator. It was remoistened with sulphuric acid, and reignited till a constant weight was obtained upon cooling.

Moisture content

About 5 g of accurately weighed powder of the drug was taken in a previously weighed silica crucible, dried in an air-oven at 105°C and cooled in a dessicator until a constant weight was obtained.

Extractive values

(i) Alcohol soluble extractive

The powdered drug (5 g) was macerated with 100 ml ethanol (95%) in a closed flask for 24 hours. During the first 6 hours it was frequently shaken. At the end of 24 hours it was filtered rapidly, taking precautions to minimize the loss of alcohol. 25 ml of the filtrate was evaporated to dryness in a tared, shallow flat bottom dish, dried at 105°C and weighed.
(ii) Water soluble extractive

Five gram of the powdered drug was macerated with chloroform water (100 ml) in a closed flask for 24 hours. During the first 6 hours the flask was frequently shaken. The contents were filtered after 24 hours and 25 ml of the filtrate were evaporated to dryness in a shallow, flat bottom dish, dried at 105°C and weighed.

**TABLE II**

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Average value % w/w</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture content</td>
<td>5.90</td>
</tr>
<tr>
<td>Total ash</td>
<td>9.10</td>
</tr>
<tr>
<td>Acid insoluble ash</td>
<td>2.20</td>
</tr>
<tr>
<td>Sulphated ash</td>
<td>10.30</td>
</tr>
<tr>
<td>Alcohol (95%) soluble extractive</td>
<td>8.80</td>
</tr>
<tr>
<td>Water soluble extractive</td>
<td>14.70</td>
</tr>
</tbody>
</table>
DISCUSSION

The proximate analysis was primarily carried out to lay down certain standards for the air-dried leaves of *Mitragyna parvifolia*. The total ash value (9.10% w/w) is in agreement with the value reported earlier (8.78% w/w)⁴. The high total and sulphated ash (10.30% w/w) values indicate that inorganic matter like calcium and potassium salts, is present in fairly good amount. A high water soluble extractive (14.70% w/w) suggested the presence of carbohydrates, saponins and proteins.
REFERENCES


