

## ALKALOIDS FROM LEAVES OF *Annona muricata*

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We previously isolated from leaves of *Annona muricata* L. (Annonaceae) and characterized the alkaloids anonaine, xylopine, isolaureline, and coclaurine. In continuation of the study of alkaloids from leaves of *A. muricata* collected in the Republic of Guinea, we communicate the isolation from the phenolic and non-phenolic parts of total bases another five alkaloids (1–5).

Phenolic and non-phenolic fractions of total alkaloids were separated using chromatography over a column of silica gel. Alkaloids were eluted by benzene and C<sub>6</sub>H<sub>6</sub>:EtOH in various ratios (99:1, 98:2, 95:5, and 90:10). The separation was monitored by TLC analysis. Eluates containing pure compounds were combined and condensed. Crystals of alkaloids were isolated by recrystallization from benzene, acetone, and CHCl<sub>3</sub> and by preparation of their salts. The pure alkaloids obtained in this manner were identified by chromatographic mobility, physical constants, and comparison of spectral data and with authentic samples.

**Base 1**, C<sub>18</sub>H<sub>21</sub>NO<sub>3</sub>, white crystals, mp 177–178°C (acetone), [α]<sub>D</sub> +25° (EtOH). A mixed sample with authentic *N*-methylcoclaurine [2] did not depress the melting point.

**Base 2**, C<sub>17</sub>H<sub>17</sub>NO<sub>2</sub>, crystals obtained by crystallization from acetone, mp 175–176°C, [α]<sub>D</sub> –210° (CHCl<sub>3</sub>). Comparison with an authentic sample identified it as asimilobin [3, 4].

**Base 3**, C<sub>19</sub>H<sub>21</sub>NO<sub>4</sub>, mp 125–126°C (C<sub>6</sub>H<sub>6</sub>), phenolic base, optically active, [α]<sub>D</sub> +42° (c 0.2, EtOH). UV spectrum (λ<sub>max</sub>, EtOH, nm, log ε): 220, 280, 313 (4.50, 4.20, 4.18). Mass spectrum (*m/z*): 327 [M]<sup>+</sup>, 326 (100) [M – 1]<sup>+</sup>, 312 [M – 15]<sup>+</sup>, 310 [M – 17]<sup>+</sup>, 296 [M – 31]<sup>+</sup>, 284 [M – 43]<sup>+</sup>, 269, 253, 163.5 [M]<sup>++</sup>. The data identified it as isoboldine [3, 5].

**Base 4**, non-phenolic, optically inactive, isolated as the hydrochloride of formula C<sub>18</sub>H<sub>17</sub>NO<sub>2</sub>·HCl, mp 263–265°C (dec.), identified as remerine [6, 7].

**Base 5**, C<sub>17</sub>H<sub>9</sub>NO<sub>3</sub>, non-phenolic, optically inactive, high-melting crystalline base, yellow, mp 273–275°C (CHCl<sub>3</sub>). Comparison of data given above with the literature [8, 9] suggested that **5** was liriodenine. A mixed sample with an authentic sample of liriodenine did not depress the melting point. One spot was seen on TLC.

Thus, another five bases, benzyltetrahydroisoquinoline *N*-methylcoclaurine (**1**), aporphine asimilobin (**2**), remerine (**3**), isoboldine (**4**), and oxoaporphine liriodenine (**5**) were isolated from leaves of *A. muricata* and identified in addition to previously described alkaloids [1]. Alkaloids **2–5** were found for the first time in this plant species.

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