

Supplementary Information

Pyrrolizidine Alkaloids in the Pericopine Moth *Scearctia figulina* (Erebidae: Arctiinae): Metabolism and Chemical Defense

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Table S1. Mass fragmentation pattern of pyrrolizidine alkaloids present in the host plant *Heliotropium transalpinum* and the pericopine moth *Scearctia figulina*

| Pyrrolizidine alkaloid | RI | Diagnostic ions (<i>m/z</i> , %) | Reference |
|--|------|--|-----------|
| Retronecine (I) | 1484 | [M] ⁺ 155 (23), 111 (60), 94 (17), 80 (100) | 1 |
| Unidentified PA | 1858 | 138 (100), 93 (91) | – |
| 7-Seneciolyretrotronecine type (III) | 1864 | [M] ⁺ 237 (4), 137 (20), 136 (16), 111 (30), 94 (23), 93 (9), 80 (100), 55 (38) | 1 |
| Isocreatonotine A (XIII) | 1877 | [M] ⁺ 255 (2), 237 (11), 138 (25), 137 (14), 136 (13), 124 (13), 120 (22), 106 (48), 94 (24), 93 (14), 80 (100), 55 (23), 43 (28) | 2 |
| 7-Deoxy-1,2-dihydrocallimorphine (XVI) | 1883 | [M] ⁺ 283 (3), 138 (17), 125(13), 124 (100), 122 (10), 93 (16), 83 (21), 82 (16), 55 (26), 43 (41) | 3 |
| 7-Deoxycallimorphine (XV) | 1890 | [M] ⁺ 281 (< 1), 123 (11), 122 (100), 121 (47), 120 (78), 93 (37), 80 (17), 43 (52) | 4 |
| 9-Seneciolyretrotronecine type (II) | 1895 | [M] ⁺ 237 (2), 154 (10), 138 (20), 137 (21), 136 (17), 94 (26), 93 (100), 80(25) | 1 |
| Creatonotine A (XII) | 1938 | [M] ⁺ 255 (3), 211 (7), 139 (15), 138 (99), 136 (12), 124 (13), 120 (11), 94 (40), 93 (100), 80 (25) | 2 |
| Supinine (IV) | 2010 | [M] ⁺ 283 (< 1), 140 (6), 123 (23), 122 (100), 121 (38), 120 (49), 108 (12), 93 (21), 80 (11), 43 (11) | 1 |

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Table S1. Mass fragmentation pattern of pyrrolizidine alkaloids present in the host plant *Heliotropium transalpinum* and the pericopine moth *Scearctia figulina* (cont.)

| Pyrrolizidine alkaloid | RI | Diagnostic ions (<i>m/z</i> , %) | Reference |
|-----------------------------|------|---|-----------|
| Callimorphine (XIV) | 2024 | [M] ⁺ 297 (2), 155 (10), 138 (66), 136 (13), 94 (34), 93 (100), 80 (21), 55 (10), 43 (48) | 2 |
| Amabiline (V) | 2027 | [M] ⁺ 283 (lacking), 123 (22), 122 (100), 121 (41), 120 (55), 108 (11), 93 (24), 80 (15), 43 (25) | 1 |
| 3'-Acetylsupinine (VI) | 2108 | [M] ⁺ 325 (1), 239 (3), 140 (3), 123 (18), 122 (100), 121 (25), 108 (12), 93 (20), 80 (10), 43 (20) | 5 |
| Unidentified PA | 2163 | 138 (77), 93 (100) | – |
| Intermedine (VII) | 2167 | [M] ⁺ 299 (< 1), 139 (27), 138 (100), 136 (13), 120 (12), 95 (11), 94 (26), 93 (68), 80 (20), 67 (12), 43 (26) | 1,5 |
| Lycopsamine (VIII) | 2175 | [M] ⁺ 299 (< 1), 139 (25), 138 (100), 136 (13), 120 (11), 95 (14), 94 (50), 93 (77), 80 (23), 67 (15), 43 (29) | 1,5 |
| Rinderine (IX) | 2185 | [M] ⁺ 299 (< 1), 139 (28), 138 (100), 136 (16), 120 (12), 95 (16), 94 (23), 93 (68), 80 (20), 67 (12), 43 (25) | 1,5 |
| 3'-Acetylintermedine (X) | 2220 | [M] ⁺ 341 (2), 139 (16), 138 (100), 136 (17), 120 (10), 95 (7), 94 (37), 93 (75), 80 (19), 43 (60) | 1,5 |
| Unidentified PA | 2231 | 138 (62), 93 (100) | – |
| 3'-Acetylrinderine (XI) | 2245 | [M] ⁺ 341 (1), 139 (19), 138 (100), 136 (11), 120 (7), 95 (5), 94 (22), 93 (65), 80 (15), 43 (40) | 1,5 |
| Unidentified PA | 2543 | 335 (11), 236 (15), 235 (15), 220 (41), 219 (20), 136 (97), 120 (57), 119 (54), 118 (21), 106 (14), 94 (66), 93 (100), 83 (58), 82 (15), 80 (34), 55 (64), 53 (27), 42 (18) | – |
| Unidentified PA | 2581 | 337 (2), 230 (13), 221 (14), 220 (100), 219 (22), 136 (59), 120 (40), 119 (31), 118 (14), 94 (71), 93 (73), 83 (21), 80 (25), 55 (48), 53 (18) | – |

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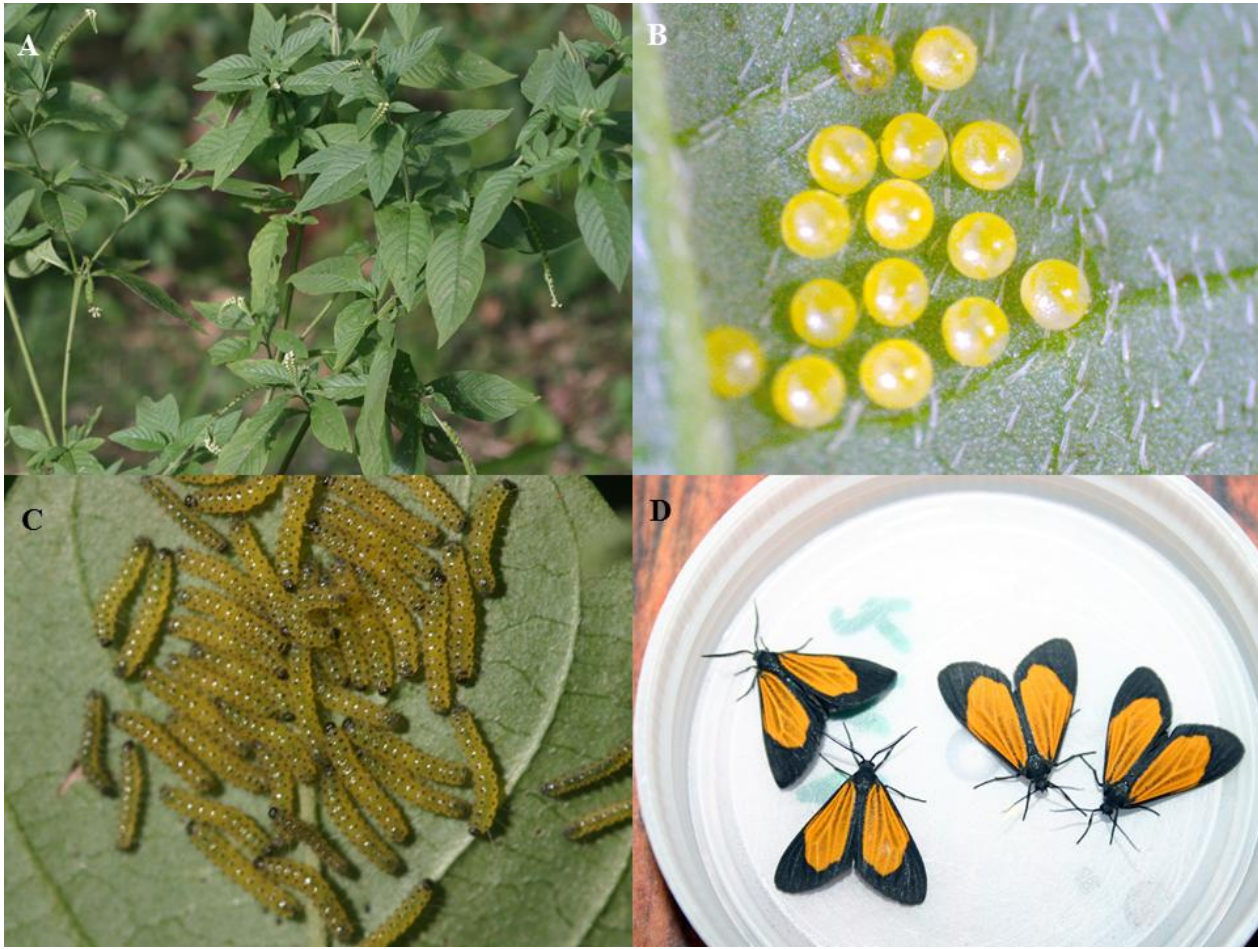


Figure S1. The host plant *Heliotropium transalpinum* (A) and its herbivore, the arctiine moth *Searctia figulina* (B) eggs; (C) larvae; (D) adults.