

## Native Plants for Moths

The following is a list of native plants that are potential hosts for moths in North Carolina. The list was compiled from the literature (potential hosts), in conjunction with our fieldwork and public submissions to the Moths of NC website (confirmed hosts). Keep in mind that the literature records are from around the world, and may not reflect which plants are being used in North Carolina. I have only included plant genera with 10 or more potential host records, but just because a plant doesn't support many species of moths doesn't mean it isn't important. We have numerous moth species that eat only a single species of uncommon plant. For example, pitcher plants didn't make this list, but we have 3 moth species (in the genus *Exyra*) that rely entirely on pitcher plants as hosts. The key is planting the greatest possible diversity of native plants.

For details about specific moth and plant species, visit our host plant list:

[https://auth1.dpr.ncparks.gov/moths/host\\_moths.php](https://auth1.dpr.ncparks.gov/moths/host_moths.php)

To learn more about the plants found in our state, visit the Vascular Plants of NC website:

<https://auth1.dpr.ncparks.gov/flora/index.php>

Host Rank <sup>1</sup>	Plant Genus	Moth Species (potential)	Moth Species (confirmed) <sup>2</sup>
67	<i>Abies</i> (Fir) <sup>3</sup>	62	0
<b>3</b>	<i>Acer</i> (Maple)	261	43
124	<i>Achillea</i> (Yarrow)	15	0
55	<i>Aesculus</i> (Buckeye)	29	5
<b>12</b>	<i>Alnus</i> (Alder)	167	8
97	<i>Amaranthus</i> (Pigweed, Water-hemp)	33	0
39	<i>Ambrosia</i> (Ragweed) <sup>4</sup>	52	6
36	<i>Amelanchier</i> (Serviceberry)	90	5

<sup>1</sup> Host ranks were determined using a formula that gives more weight to confirmed hosts than potential hosts. These ranks are somewhat arbitrary and should only be considered as a general reference for comparisons (i.e. there may be no meaningful difference between 5 and 6, but a great deal of difference between 5 and 100).

<sup>2</sup> Confirmed species are those that we have found moth caterpillars actually eating in the wild. Statistics as of 2024.

<sup>3</sup> Likely only a significant host at high elevations in the mountains.

<sup>4</sup> A solid host, but for many humans a troublesome allergen.

65	<i>Amorpha</i> (Indigo-bush)	23	4
83	<i>Apocynum</i> (Dogbane) <sup>5</sup>	19	3
118	<i>Aquilegia</i> (Columbine)	10	1
109	<i>Aralia</i> (Devil's-walking-stick, etc.)	14	1
85	<i>Aronia</i> (Chokeberry)	16	3
80	<i>Arundinaria</i> (Cane)	11	4
113	<i>Asclepias</i> (Milkweed)	11	1
47	<i>Asimina</i> (Pawpaw)	15	8
<b>30</b>	Asters ( <i>Symphyotrichum</i> etc.) <sup>6</sup>	93	8
105	<i>Baccharis</i> (Groundsel-tree, etc.)	19	1
116	<i>Baptisia</i> (Wild Indigo)	10	1
130	<i>Berberis</i> (Barberry)	11	0
<b>5</b>	<i>Betula</i> (Birch)	299	21
72	<i>Bidens</i> (Beggarticks)	18	4
73	<i>Carex</i> (Sedge) <sup>7</sup>	27	3
31	<i>Carpinus</i> (Hornbeam)	81	8
<b>4</b>	<i>Carya</i> (Hickory)	213	31
<b>21</b>	<i>Castanea</i> (Chestnut)	125	7
98	<i>Ceanothus</i> (New Jersey Tea)	32	0
37	<i>Celtis</i> (Hackberry)	45	8
51	<i>Cephalanthus</i> (Buttonbush)	18	7
56	<i>Cercis</i> (Redbud)	28	5
112	<i>Chamaecrista</i> (Partridge-pea)	12	1

<sup>5</sup> As the name implies, toxic to dogs (as well as cats and humans).

<sup>6</sup> This includes the genera *Symphyotrichum*, *Doellingeria*, and *Eurybia*. Many of these were formerly included in the genus *Aster*, and most references from literature are to this genus, which now includes only Eurasian species.

<sup>7</sup> Sedges and grasses are likely greatly underestimated as host plants due to the difficulty in finding the (often subterranean) larvae on these plants.

126	<i>Chamaecyparis</i> (White Cedar)	14	0
132	<i>Chamaedaphne</i> (Leatherleaf)	10	0
128	<i>Chamaenerion</i> (Fireweed)	13	0
75	<i>Chenopodium</i> (Lamb's-quarters)	37	2
106	<i>Cirsium</i> (Thistle)	18	1
117	<i>Clematis</i> (Clematis, Leatherflower, etc.)	10	1
133	<i>Clethra</i> (Sweet-pepperbush)	10	1
77	<i>Comptonia</i> (Sweetfern)	55	0
<b>23</b>	<i>Corylus</i> (Hazelnut)	129	6
<b>18</b>	<i>Crataegus</i> (Hawthorn)	141	6
61	<i>Desmodium</i> (Tick-trefoil)	18	5
<b>22</b>	<i>Diospyros</i> (Persimmon)	52	14
<b>17</b>	Dogwood ( <i>Benthamidia</i> , <i>Swida</i> ) <sup>8</sup>	91	11
122	<i>Epilobium</i> (Willowherb)	16	0
91	<i>Erigeron</i> (Fleabane)	22	2
53	<i>Eupatorium</i> (Thoroughwort, etc.)	43	4
87	<i>Eutrochium</i> (Joe-pye-weed)	15	3
<b>9</b>	<i>Fagus</i> (Beech)	150	13
64	<i>Fragaria</i> (Strawberry) <sup>9</sup>	64	0
<b>11</b>	<i>Fraxinus</i> (Ash)	129	12
119	<i>Galium</i> (Bedstraw)	10	1
69	<i>Gaylussacia</i> (Huckleberry)	41	2
107	<i>Geranium</i> (Geranium, Crane's-bill)	28	0
41	<i>Gleditsia</i> (Honey Locust)	48	6

<sup>8</sup> These species were formerly included in the genus *Cornus*, which is how they are referred to in most literature references.

<sup>9</sup> Many of these host records are likely the result of agricultural research on non-native species of strawberries.

34	<i>Hamamelis</i> (Witch-hazel)	66	8
66	<i>Helianthus</i> (Sunflower)	51	1
131	<i>Heterotheca</i> (Camphorweed)	11	0
99	<i>Hibiscus</i> (Rosemallow, Hibiscus)	22	1
70	<i>Hypericum</i> (St. John's-wort)	20	4
35	<i>Ilex</i> (Holly)	44	10
93	<i>Impatiens</i> (Jewelweed)	14	2
121	<i>Ipomoea</i> (Morning-glory)	17	0
134	<i>Iris</i>	10	0
<b>14</b>	<i>Juglans</i> (Walnut)	138	8
50	<i>Juniperus</i> (Red Cedar, Juniper)	40	5
88	<i>Kalmia</i> (Laurel)	25	2
110	<i>Lactuca</i> (Lettuce) <sup>10</sup>	24	0
54	<i>Lespedeza</i>	20	6
129	<i>Lilium</i> (Lily)	12	0
100	<i>Lindera</i> (Spicebush)	11	2
<b>25</b>	<i>Liquidambar</i> (Sweetgum)	45	14
78	<i>Liriodendron</i> (Tulip-tree)	22	3
82	<i>Lonicera</i> (Honeysuckle)	29	2
102	<i>Lupinus</i> (Lupine)	21	1
57	<i>Lyonia</i> (Fetterbush, Staggerbush, etc.)	16	6
76	<i>Magnolia</i>	25	3
<b>13</b>	<i>Malus</i> (Apple) <sup>11</sup>	198	3
111	<i>Mentha</i> (Mint)	23	0
101	<i>Mimosa</i> (Sensitive-briar)	11	2

<sup>10</sup> Many of these host records are likely from agricultural research on non-native species of lettuce.

<sup>11</sup> The majority of these records probably come from agricultural research on domesticated apple species.

94	<i>Monarda</i> (Beebalm, Bergamot)	14	2
<b>15</b>	<i>Morella</i> (Waxmyrtle, Bayberry)	76	13
103	<i>Morus</i> (Mulberry)	10	2
46	<i>Nyssa</i> (Tupelo)	36	6
49	<i>Oenothera</i> (Evening-primrose)	21	7
<b>28</b>	<i>Ostrya</i> (Hop-hornbeam)	95	8
52	<i>Oxydendrum</i> (Sourwood)	17	7
40	<i>Parthenocissus</i> (Virginia Creeper)	40	7
63	<i>Persea</i> (Redbay)	15	5
120	<i>Persicaria</i> (Smartweed)	19	0
90	<i>Phaseolus</i> (Bean)	43	0
114	<i>Physalis</i> (Ground-cherry)	11	1
89	<i>Physocarpus</i> (Ninebark)	33	1
92	<i>Phytolacca</i> (Pokeweed)	11	3
43	<i>Picea</i> (Spruce)	93	1
<b>10</b>	<i>Pinus</i> (Pine)	159	10
81	<i>Plantago</i> (Plantain)	51	0
<b>27</b>	<i>Platanus</i> (Sycamore)	47	13
<b>20</b>	<i>Populus</i> (Cottonwood, Aspen)	191	1
<b>2</b>	<i>Prunus</i> (Cherry)	352	34
95	<i>Pteridium</i> (Bracken)	13	2
<b>1</b>	<i>Quercus</i> (Oak) <sup>12</sup>	498	83
42	<i>Rhododendron</i> (Rhododendron, Azalea)	56	5
38	<i>Rhus</i> (Sumac)	57	6
60	<i>Ribes</i> (Gooseberry, Currant)	61	1

<sup>12</sup> Without question the top host genus. If you could only plant one tree, it should probably be a White Oak.

33	<i>Robinia</i> (Locust)	75	8
32	<i>Rosa</i> (Rose)	126	3
<b>26</b>	<i>Rubus</i> (Blackberry)	124	6
68	<i>Rudbeckia</i> (Coneflower)	21	4
96	<i>Rumex</i> (Dock)	33	0
<b>6</b>	<i>Salix</i> (Willow)	318	18
86	<i>Sambucus</i> (Elderberry)	37	1
62	<i>Sassafras</i>	36	3
78	<i>Smallanthus</i> (Leafcup)	5	5
45	<i>Smilax</i> (Greenbrier)	27	7
104	<i>Solanum</i> (Nightshade, Horsenettle)	20	1
<b>24</b>	<i>Solidago</i> (Goldenrod)	106	8
59	<i>Sorbus</i> (Mountain-ash)	61	1
123	<i>Spartina</i> (Cordgrass)	16	0
71	<i>Spiraea</i> (Meadowsweet)	59	0
135	<i>Stenotaphrum</i> (St. Augustine Grass)	10	0
127	<i>Symphoricarpos</i> (Coralberry)	13	0
74	<i>Taxodium</i> (Cypress)	27	3
108	<i>Thalictrum</i> (Meadow-rue)	16	1
<b>19</b>	<i>Tilia</i> (Basswood)	141	6
58	<i>Toxicodendron</i> (Poison Ivy, etc.) <sup>13</sup>	21	5
48	<i>Tsuga</i> (Hemlock)	75	2
84	<i>Typha</i> (Cattail)	17	3
<b>8</b>	<i>Ulmus</i> (Elm)	188	20
<b>7</b>	<i>Vaccinium</i> (Blueberry, etc.)	246	18
136	<i>Verbena</i> (Vervain)	10	0

<sup>13</sup> Toxic to humans, but not to moths or most other animals.

44	<i>Verbesina</i> (Wingstem, Crownbeard)	18	8
79	<i>Vernonia</i> (Ironweed)	22	3
<b>29</b>	<i>Viburnum</i>	93	8
<b>16</b>	<i>Vitis</i> (Grape)	83	12
115	<i>Wisteria</i>	11	1
125	<i>Xanthium</i> (Cocklebur)	15	0

A great deal of research is still needed into the host plants that are being used by moths in our state. While we have confirmed over a thousand host plants, this only covers about a quarter of the more than 3,000 moth species in North Carolina. For hundreds of species, we have no idea what they eat, and larvae have apparently never been observed in the wild. If you find a caterpillar and can identify what it is eating, please submit a photo to the Moths of NC website!

North Carolina Biodiversity Project  
Data compiled by David George, 2024