

Hoplitis of the tallgrass prairie region and eastern North America

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Females:

1. Clypeus with a conspicuous erect tubercle apico-medially; clypeus much wider than long, width x length about about 3:1 or wider; scopa pale.....**robusta** (Nylander)
(circumboreal; Ontario, Quebec; not known from US)
Clypeus without an apico-medial tubercle or other projection; clypeus longer, WxL about 2:1; scopa variable, but usually pale.....2
2. Clypeus with apical margin crenulate to denticulate; mandible relatively long and narrow, (length x maximum width at apex, about 2:1), three-toothed, apical tooth much larger than others.....**anthocopoides** (Schenck)
(introduced from Old World; rare, NE US, Echium oligolege, no Midwest/TGP records)
Clypeus with apical margin either entire, broadly concave or convex, or sometimes slightly undulate; mandible variable, **if** apical tooth much larger than others **then** scopa dark brown to blackish and mandible four-toothed.....3
3. Scopa dark brown; mandible much broader apically than basally; mandible with four teeth, apical tooth much larger than others; S6 with a stout, very short, apical mucro, sometimes concealed by pubescence.....**albifrons** (Kirby)
(boreal region south to transition zone; western NA forms of albifrons also have the S6 apical mucro)
Scopa pale; mandible width apically and basally approximate; **if** mandible with four teeth **then** apical tooth not much larger than others; S6 apically simple, entire, without a mucro.....4
4. Mandible with four teeth, these approximately similar in size and equidistant from each other; T1 anterior surface dull, tessellate; T6 with a thin, fragile, translucent lamella issuing from beneath the narrow, shelf-like apical margin of T6.....**spoliata** (Provancher)
(widespread in ENA; western NA "Chlorosmia" spp. are the only other Hoplitis species that have the thin lamella on the underside of the T6 shelf)
Mandible with three teeth; T1 anterior surface shiny, without tessellation; T6 lacking a thin fragile lamella on the underside of its narrow, shelf-like apical margin.....5

5. Genal basket (this is the set of long, recurved hairs bordering the hypostomal area) well-developed, nearly all hairs bordering hypostome very strongly curled; shelf-like apical margin of T6 quite short.....6

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Genal basket poorly developed, relatively few hairs bordering hypostome strongly curled, many straight hairs present; shelf-like apical margin of T6 longer, conspicuous, like the brim of a ball cap.....8

6(5). Clypeus medially with a narrow, shiny, somewhat raised longitudinal ridge; hind tibial spurs apically curved or weakly hooked, usually dark; scutellum convex; T3 and T4 with a deep, transverse groove or depression basally.....**truncata** (Cresson)
(widespread in ENA; strongly associated with Fabaceae)

Clypeus finely, closely punctate throughout, without a medial, narrow, shiny, raised longitudinal ridge; hind tibial spurs straight throughout, usually pale in color; scutellum flattened; T3 and T4 only weakly transversely grooved or depressed basally (all *Robertsonella* key here).....7

7(6). Females of the three species of *H. (Robertsonella)* are quite similar and difficult to separate reliably in the absence of associated males (which, conversely, are all quite distinct, see male key):

H. micheneri Mitchell tends to be the largest of the three, and separable from the other two: punctures on T1-T2 in **micheneri** are finer and more scattered than in the other two, and the surface of T1-T2 tends to be shinier in **H. micheneri**. This species is strongly associated with *Amorpha fruticosa*, the other two species (below) have never been collected from that plant species.

Females of **H. simplex** Cresson and **H. nemophilae** Neff are virtually identical. Both are strongly associated with riparian areas and plants in the family Hydrophyllaceae.

8(5). Shelf-like margin of T6 thinly but completely pubescent ventrally; T6 punctures usually as coarse, or coarser, as those on T5; T5 usually with apical fascia, sometimes weak; interspaces on T5 shining, without microsculpture.....**pilosifrons** (Cresson)
(widespread in ENA)

Shelf-like margin of T6 glabrous ventrally; T6 punctures usually finer and more dense than punctures on T5; T5 usually lacking apical fascia; interspaces on T5 tessellate

.....**producta** (Cresson)
(widespread in ENA)

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Males:

1. Flagellar segments in part modified, either F2-F5 broadened and flattened relative to F6-F11, or F11 drawn to a fine point.....

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Flagellar segments not modified, all segments more or less cylindrical and of equal width, F11 rounded apically.....

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2(1). F2-F5 broadened and flattened relative to F6-F11, F11 apically rounded; S1 apically upturned with a short, blunt projection; S2 surface shallowly concave, shiny, smooth with few hairs, but with a strong apical fringe.....**spoliata** (Provancher)

(widespread in ENA)

F2-F5 not broadened and flattened, instead similar to other segments, but F11 drawn to a fine point; S1 flat, not upturned, without any projection; S2 surface either flat and hairy, or convex with a strong central projection or swelling.....3

3(2). S2 surface flat, hairy, without any projection; T7 apically truncate.....**truncata** (Cresson)

S2 surface with a strong projection or swelling medially, not flat; T7 apically pointed or narrowly triangular.....4

4(3). S2 medial projection a relatively low transverse swelling, in profile not triangular or pointed; apex of T7 process blunt.....
.....**pilosifrons** (Cresson)

(widespread in ENA)

S2 medial projection strongly produced, in profile triangular or pointed; apex of T7 process pointed.....
producta (Cresson)

(widespread in ENA)

5(1). T7 apically with four teeth or toothlike processes; boreal.....**robusta** (Nylander)

(circumboreal; Ontario, Quebec; not known from EUS)

T7 apically rounded or truncate, without any teeth or toothlike processes.....6

6(5). Clypeus covered with very short appressed white pubescence; S2 apico-medially with a tiny mucro (minute spine), which is shorter than adjacent hairs; large, 10mm or larger; northern, in our area only in MN, WI, MI, Canada.....**albifrons** (Kirby)

Clypeus with longer hairs; S2 apical margin without any process or minute spine; usually smaller

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7(6). Length of F4-F8 segments slightly less than their width; penis valves broader than gonostyli, gonostyli very narrow and not broadened apically; introduced species in NEUS, not known from the Midwest or prairie region, *Echium oligolege*.....**anthocopoides** (Schenck)

F4-F8 segments slightly longer than broad; penis valves more or less as wide as gonostyli, gonostyli broadened apically; uncommon native species

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8(7). Base of mandible very broad, almost equalling length of mandible (length of base of mandible at least 2/3 of the max. length of mandible); mandibular fringe (pubescence along ventral margin of mandible) long and dense, the basal hairs as long as, or longer than adjacent genal hairs; clypeal pubescence short, dense, sub-appressed (white); gonocoxites with ventral

hairs very short and dense, angled towards base of gonoxite, and much shorter than the long hairs at the apices of the gonocoxites..... **simplex** Cresson
Base of mandible not as broad, no more than half the length of the mandible; mandibular fringe weak, basal hairs no longer (and usually slightly shorter) than adjacent genal hairs; clypeal pubescence longer, erect or sub-erect, surface of clypeus visible in part; gonocoxites with ventral hairs longer, erect, not angled towards base of gonocoxite

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9(8). T6 with a broad, shiny, shallow median depression which lacks hairs or punctures; gonocoxites with hairs at apex long; gonocoxites ventrally with hairs present on apical half, these hairs shorter than the hairs at the apex of the gonocoxites; frons punctation fine and mostly contiguous; oligolege of *Amorpha fruticosa***micheneri** Mitchell

T6 flat to weakly convex, without a medial depression, the surface with scattered hairs and punctures; gonocoxites with hairs at apex short; gonocoxites ventrally with hairs throughout most of ventral surface, but with a denser cluster on medial section, these hairs as long or longer than the apical hairs of the gonocoxites; frons punctation similar to above but punctures a bit more separated, not quite so contiguous; usually at Hydrophyllaceae

.....**nemophilae** Neff

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