

Colletes of the tallgrass prairie region and greater midwest
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Females:

1. Malar space much longer than broad, as long as half the length of compound eye; large species (14mm or greater), vernal, oligolege of Ericaceae (usually *Vaccinium*); northern TGP and Prairie Peninsula only.....**validus** Cresson
Malar space variable but never longer than broad, and never approaching half the length of the compound eye.....2
- 2 (1) T1-T2 (and T3 to a lesser extent) apical rims reflexed and carinate, their **pre**apical areas sulcate (these tergites when compared to T4 are very different in appearance; T4 has a flat, unmodified apical rim), and surfaces of all terga densely punctate; galea relatively acute apically; flight period May-June; widespread, in much of its TGP range is an oligolege of *Triodanis* (= *Specularia*).....**brevicornis** Robertson
Apical margins of T1-T3 variable, sometimes constricted or depressed, but never constricted or sulcate **pre**-apically, and rims never reflexed and carinate; galea not pointed apically, but rounded like a butter knife.....3
- 3(2) Hind basitarsi relatively short and broad, length x width ratio 2.5:1; clypeus mostly flattened and often with a broad, shallow median sulcus; pubescence on scutum and scutellum “grizzled” (mixed brown and gray-white); *Physalis* oligolege; (May-October)**latitarsis** Robertson
Hind basitarsi longer, not so short and broad, length to width ratio usually around 4:1, occasionally slightly shorter; other characters variable.....4
- 4(3) Terga without apical fasciae except occasionally very weakly so at extreme sides of T1 and T2, otherwise pubescence of T2-T5 very sparse, short, and almost entirely dark; thorax usually with all rufous hair; leg hairs including scopae mostly dark brownish; hypoepimeral area rugoso-punctate; large species, length 15 mm or so; vernal sand-obligate species, throughout TGP but uncommon**thoracicus** Smith
Tergites with complete pale apical fasciae (unless worn), present on at least T2-T4, often T1-T5.....5
- 5(4) Metapleural prominence (located just below base of hind wing) carinate, carina well-developed and overhanging the prominence or projecting from it like a tiny, miniature awning, usually but not always narrowly light-colored along its margin (often difficult to see because of the dense pubescence.....6
Metapleural prominence without an overhanging carina, at most with little more than a sharply raised line on its surface, which is never overhanging, and not light-colored along its margin.....11
- 6(5) Malar space present, about 1/3-1/4 as long as broad; dorso-lateral angle of pronotum

blunt, lacking spine or sharp projection; T1 shiny with very fine punctures, these 2-5 widths apart medially becoming closer laterally.....**albescens** Cresson
Malar space much shorter, usually absent or nearly so; other characters variable7

7(6) Pronotum with a complete continuous carina running up one side of the pronotum, across the dorsal surface, then down the other side (like a collar), this carina most conspicuous laterally, not interrupted laterally by a narrow sulcus, and without any dorso-lateral spines; pubescence of scutum “moss-like”, the hairs very short, thick and dense, but often worn away in part; *Dalea oligolege*, sand obligate**aberrans** Cockerell
[Note: *wilmattae* Cockerell is similar in appearance and habitat to *aberrans* (i.e., a *Dalea* specialist and a sand obligate), but has a “normal” pronotum, T1-T5 entirely covered with short, appressed pubescence, and the mesopleural punctures are mostly separated by 1 to 1 ½ puncture width, not as close as those of *aberrans*; the two species are largely sympatric.]
Pronotum without a complete continuous carina, however the dorso-ventral ridge is present and carinate, but narrowly interrupted laterally by a very narrow sulcus; dorso-lateral spines present (although sometimes small); pubescence of scutum longer, hairs feathery, not short and thick8

8(7) All pubescence snow-white, tergites largely covered with appressed snow-white pubescence (often worn off in part); wing veins pale honey-colored; procoxal processes conspicuous, twice as long as broad or a bit longer; median tubercle of labrum usually with a deep groove or sulcus; *Dalea oligolege*, sand obligate(?).....**susannae** Swenk
Pubescence variable but never entirely snow-white; wing veins darker, brownish-colored in general; median tubercle of labrum without a deep groove or sulcus, at most with a small depression; rarely at *Dalea*.....9

9(8) Pubescence largely brownish-golden in color, at least on dorsal surface of bee; T1 very finely, densely punctate, surface dull; apparent *Solidago oligolege*, sand obligate
.....**solidaginis** Swenk

Pubescence variable but never brownish-golden throughout dorsal surface; T1 punctures more scattered, tergal surface shiny.....10

10(9) T1 smooth, shiny, weakly glaucous, with long, loose pubescence, not obscuring surface; T1 punctures scattered medially, becoming closer laterally; T2 basal fasciae very narrow; pubescence of thorax dorsally and laterally longer and thinner than that of *mandibularis* (below); common oligolege of Asteraceae**americanus** Cresson
[Note: the nearly identical and partly sympatric *C. speculiferus* Cockerell (= *mitchelli* Stephen), will key here; the metapleural carinae is all dark in *speculiferus*, without a testaceous/pale margin; the margin is testaceous/pale in *americanus*, although sometimes narrowly so; *americanus* is widespread, *speculiferus* is probably restricted in our region to the sandy areas of the Prairie Peninsula.]
T1 much more densely punctate throughout, not glaucous, but covered in part with appressed whitish tomentum, partially obscuring surface; T2 basal fasciae wide, nearly as wide as apical fasciae; pubescence of thorax shorter, denser and thicker than in *americanus***mandibularis** Smith

11(5) Malar space long, approximately half as long as wide or longer, **and** dorso-lateral

- prothoracic spines absent or very reduced.....12.
Malar space variable, sometimes absent; **if** malar space present, **then** its length at most only about 1/3 that of width; dorso-lateral prothoracic spines often present13
- 12(11) Pubescence of head and thorax dusky-gray, but without black hairs; T1 shiny, punctate, most punctures 1-2 puncture widths apart except more separated medially; metapleural protuberance with a very small dark carina; labrum completely smooth and shiny, without medial tubercle, grooves or depressions; lower Midwest south to the southeast US, Ericaceae specialist..... **productus** Robertson
Pubescence of thorax and head with many blackish hairs; T1 shiny but sparsely punctate; metapleural protuberance without any carina; labrum condition unknown; boreal, extreme nTGP only, polylectic(?)**impunctatus**
Nylander
- 13(11) Inner eye margins parallel, not converging below; sternal hairs long, dense; *Heuchera* oligoleges; rare bees.....**aestivalis/andrewsi**
[Note: *aestivalis* Patton and *andrewsi* Cockerell are very similar; *aestivalis* is southern and probably not in the TGP region except in the Prairie Peninsula; *andrewsi* is northern and western, and occurs in the nTGP and the Prairie Peninsula]
Inner eye margins converging below, not parallel.....14
- 14(12) Malar space essentially absent (no measurable space between eye margin and base of mandible)15
Malar space present, sometimes as little as 1/8 as long as wide but usually longer....16
- 15(14) S6 smooth, shiny, impunctate (but with some sparse hairs), unlike other sternites which are densely punctate; scutum hairs all pale, sometimes extremely short and sparse; forebasitarsi hairs all straight, not hooked or hamate.
.....**robertsonii** Dalla Torre, and **n. sp. nr. robertsonii**
[Note: *n. sp. nr. robertsonii* differs from *robertsonii* in the following ways: hairs on the scutum and T1 are long and plumose in the *n. sp.*, very short, sparse to nearly absent in *robertsonii*; wing membranes are clear in the *n. sp.*, light brownish in *robertsonii*; scutum punctures on anterior 1/4 or so are separated by a puncture width or so in *n. sp.*, contiguous in *robertsonii*; *n. sp. nr. robertsonii* is probably restricted to Ozark glades and the prairies of south-central Oklahoma and adjacent Texas; *robertsonii* is far more widespread, occurring throughout the TGP and most of the midwest.]
S6 densely punctate, punctures similar to those on other sternites, and covered with short hairs; scutum with many short dark hairs; forebasitarsi posteriorly with many hamate hairs; propodeal corbicula internally with long, weakly plumose hairs....**nudus**
Robertson
- 16(14) T2 shiny and largely impunctate; pleural punctures contiguous (“roughened”) or nearly so; extreme nTGP only; late summer flight.....**rufocinctus** Cockerell
T2 punctate, usually densely and finely so; pleural punctures usually (exceptions occur) discrete and separated by shiny interspaces.....17
- 17(16) Clypeus largely flattened (in lateral view), surface dull, punctures very obscure and sparse; forecoxae shiny, sparsely punctate and nearly bare; upper portion of facial foveae

- terminating close (within ½ of one ocellar diameter) to lateral ocellus; T1 punctures very fine and dense; lower portion of dorso-ventral ridge of pronotum carinate; punctures of sternites exceptionally fine and dense, even at 40X.....**willistoni** Robertson
 Clypeus more convex in lateral view, not flattened (occasionally weakly flattened or slightly sulcate or depressed medially); forecoxae hairy; facial foveae, T1 punctures, lower portion of dorso-ventral ridge of pronotum, and sternal punctures variable.....18
- 18(17) Pleura strongly rugose, without discrete punctures; admixture of black and fuscous hairs on thorax and head; pronotal spines conspicuous, at least 2-3 times longer than width at base; tergites densely and finely punctate, many punctures almost touching; late summer/fall Asteraceae oligolege**simulans** Cresson
 Pleura punctate, punctures close but discrete, usually with shiny, narrow interspaces; **if** pleura dull and punctures somewhat obscure, **then** bee large (>12mm), vernal, and pronotal spines very short to absent; other characters variable19
- 19(18) T1 shiny with scattered, faint, tiny punctures, much finer than those on scutum; facial foveae broad, at widest point wider than width of mid-ocellus; most sternal hairs brownish; dorso-ventral ridge of pronotum not carinate; nTGP.....**consors** Cresson
 T1 more closely and strongly punctate; facial foveae variable, either vestigial or narrow (narrower than width of mid-ocellus); dorso-ventral ridge of pronotum variable, often carinate.....20
- 20(19) Large bee, >12mm, pleura usually with weak tessellation between the close punctures; T1 punctures slightly larger and more separated than the smaller, closer punctures on T2; pronotal spines absent or reduced to mere points; vernal flight; throughout TGP
**inaequalis** Cresson
 Pleura shiny, usually without tessellation between the punctures, rarely pleura dull, roughened, without obvious punctures; bee usually smaller, **if** large (12mm or >), **then** bee with late summer/fall flight period21
- 21(20) Propodeum with a sharp carina separating the dorsal surface from the posterior (vertical) surface.....22
 Propodeum with dorsal and posterior surfaces confluent, not separated by a carina into discrete dorsal and posterior faces; large bee, usually 12mm or greater, with strong admixture of long black and fuscous hairs on head and thorax; pronotal spines either absent or reduced to mere points; late summer/fall oligolege of Asteraceae.
**compactus** Cresson
- 22(21) Hairs on T3-T5 (excluding pale apical fasciae) dark, mostly short and appressed, best seen in lateral view23
 Hairs on T3-T5 all pale (whitish to greyish).....24
- 23(21) T1 densely punctate, most punctures separated by about one puncture width, and of similar diameter; lower portion of dorso-ventral ridge of pronotum in line with upper portion, not offset from it at an angle; procoxal process usually absent
**eulophi/kincaidii** complex

[Note: *eulophi* Robertson is more southern (Osage Plains and southern portions of central TGP), bivoltine, in flight May-June, August-October, highly polylectic; sternal punctures are usually more coarse than those of *kincaidii*; *kincaidii* Cockerell is more northern (northern and central TGP), univoltine with a mid-summer flight period, and is possibly a primary oligolege of Fabaceae.]

T1 less densely punctate, punctures more widely separated and of several different sizes; lower portion of dorso-ventral ridge of pronotum obliquely offset from upper portion; procoxal processes present, small and triangular; extreme nTGP only

.....**hyalinus** Provancher

24(22). Pleura dull, roughened, without obvious punctures; pronotal spines absent; anterior portion of scutum finely rugoso-punctate; rare species, *Cuscuta oligolege*

.....**ciliatus** Patton

Pleura clearly punctate, pronotal spines present but may be short.....25

25(24) T2-T5 with apical margins colored pale yellowish (testaceous) beneath the broad white fasciae, fasciae nearly as long medially as non-fasciate part of tergite; pronotal spines long, narrow, 3-4 times as long as width at base; pubescence white, long and dense over most of body; pleural punctures slightly separated; T1 punctures dense, most punctures 1-2 puncture widths apart; T2-T3 with apical areas slightly but noticeably depressed laterally; northern ½ of TGP.....**phaceliae** Cockerell

T2-T5 with apical margins dark brownish-translucent beneath the white fasciae, fasciae shorter than in *phaceliae*, only about half the length of the non-fasciate part of tergite; pronotal spines shorter, 1-2 times as long as width at base; pubescence with a yellowish tinge at least on dorsum of thorax, otherwise whitish; pleural punctures almost contiguous; T1 punctures mostly 4-5 puncture widths apart or more, except for a band of very fine, dense punctures along the apical area; southern ½ of TGP....**birkmanni** Swenk

end of female key 10/2/2020