

Andrena subgenera of the tallgrass prairie region and greater Midwest

M. Arduser

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[Note on the key below: in those cases where a subgenus contains only a single species, either because the subgenus is monotypic, or because in the TGP/Midwest region only one species of the subgenus is represented, that species name keys out with the subgenus name. In other cases, a species name keys out with the subgenus because the species characters are more recognizable than its subgeneric characters.]

FEMALES:

1. Pronotum with dorsal-ventral (DV) ridge present, may be strong or weak, carinate or not

.....

.....2

Pronotum lacking dorsal-ventral ridge, although the dorsal-lateral (DL) angle of the pronotum, i.e. humeral angle, may be present.....18

2(1). F1 short, less than the length of F2 + F3; T1-T4 with complete white fasciae, surface of tergites tessellate, punctation sparse; clypeus mostly dull, appearing almost impunctate; propodeal

corbiculae complete or lacking anterior fringe; rare bees.....

.....**Archiandrena**

[Note: *A. (Xiphandrena) mendica*, a rare eastern US species with a few Midwestern (IL, IN) records,

has F1 just slightly longer than F2 (shorter than F2+F3), clypeus with deep and distinct punctures,

propodeal corbiculae incomplete (no anterior fringe), and tergites lacking any apical fasciae.]

F1 usually as long or longer than F2+F3; other characters variable.....3

3(2). DV ridge of pronotum crossed by a deep narrow sulcus (the oblique pronotal suture), DV ridge

obsolete or reduced below the sulcus, DL angle pronounced; pygidial plate without internal triangle; large species, usually 12 mm or greater

.....**Tylandrena**

DV ridge of pronotum not crossed or terminated by a deep narrow sulcus, at most with a weakly

impressed line crossing the ridge; DL angle variable; pygidial plate often with an internal triangle; size variable.....

.....4

4(3). Forewings with two submarginal cells; vernal *Salix* oligoleges.....**Parandrena**

Forewings with the usual three submarginal cells.....5

5(4). Glossa long and threadlike, at least 8-10 times as long as broad or longer; clypeus strongly inflated (i.e., convex); T2-T4 with complete or almost complete fasciae, but T1 without fascia; vernal *Viola oligolege*
.....***lomelissa violae*** in part
Glossa short, acute, only 3-4 times as long as broad, clypeus less convex to flat; tergal fascia variable, may be present or absent.....6

6(5). Central area of clypeus (often more than just central area) highly polished, convex, shiny, with few scattered punctures; malar space absent, tergites impunctate and weakly shining; propodeal scopa variable (anterior fringe present or absent), usually with long internal

hairs.....***Lar andrena miserabilis***
Clypeus variable, dull to shiny in part, rarely highly polished with few scattered punctures, but **if so, then** clypeus flattened, not convex; other characters variable.
.....7

7(6). Hypostomal carina with lateral arms equal in length to longitudinal arms, **OR** with the following combination of characters: genae usually carinate at least in part, propodeal triangle entirely rugose-reticulate (but finely so), propodeal scopa lacking anterior fringe, internal hairs few or absent, simple, and pygidial plate with internal triangle present; *Cornus oligoleges*

.....***Gonandrena***
Hypostomal carina with lateral arms shorter in length than longitudinal arms; **OR** without the above combination of characters.....
.....8

8(7). Mid-basitarsus broadened medially, not uniformly narrow; T2-T4 usually with dense apical fasciae, or with much long hair; propodeal corbicula complete anteriorly; late summer-autumnal oligoleges of various Asteraceae.....
.....***Cnemiandrena***
Mid-basitarsi uniformly narrow, not broadened medially; not late summer-autumnal oligoleges

of
Asteraceae.....9

9(8). Scutum, scutellum and metanotum devoid of hairs except for extremely tiny short appressed hairs visible only at certain angles; propodeal corbicula without any hairs anteriorly but with strong dorsal and posterior fringe; facial foveae narrow throughout, terga finely, completely punctate throughout.....

Genyandrena cerebrata

Scutum, scutellum and metanotum abundantly hairy (unless worn away), facial foveae usually broad above, propodeal corbicula usually with anterior hairs; other characters variable.....10

10(9). Upper portion of DV ridge weakly carinate (“pleated”), propodeal triangle irregularly roughened-rugose or finely reticulate throughout (never smooth), and terga completely, closely and strongly punctate with apical fasciae present laterally on T1-T4; propodeal corbicula anteriorly incomplete to absent.....

Holandrena cressonii

DV ridge rarely carinate, but if so, then propodeal triangle mostly smooth, not rugose-roughened or finely reticulate throughout; tergal punctures fine to obscure, tergites never completely, closely and densely punctate; tergal fasciae present or absent.....11

11(10). Tibial and femoral scopal hairs highly plumose and facial foveae short and narrow, not extending below antennal sockets, the space between the inner edge of foveae and outer edge of antennal socket as wide or wider than width of foveae at that point; propodeal corbicula functional but hairs not in a well-defined pattern; vernal species, primary oligoleges of *Claytonia* and *Geranium*.....

Ptilandrena

Scopal hairs usually simple and/or facial foveae either broader or longer; propodeal corbicula usually with well-defined dorsal fringe and often an anterior fringe, and a less-hairy central area, often forming a basket-like structure.....12

12(11). Small species, 6-8 mm; tergal fasciae usually present on T2-T4 but these tergites otherwise without long hairs; uncommon bees.....13
13
 Larger bees, 10mm or greater; tergal fasciae often absent but tergites usually with abundant long hairs; common bees.....14

13(12). Clypeus dull at least basally, with close, fine punctures; scutellum dull; pygidial plate rounded apically without any trace of raised internal triangle; DV ridge of pronotum prominent; propodeal corbicula incomplete anteriorly, trochanteral flocculus weak, incomplete; primary oligolege of *Nothoscordum*

.....***Notandrena nothoscordi***
 Clypeus shiny with strong punctures separated by 1-3 puncture widths; scutellum shiny; pygidial plate with raised internal triangle; DV ridge of pronotum very obscure, hardly noticeable; propodeal scopa more or less complete anteriorly; trochanteral scopa complete; oligoleges of *Potentilla*, *Phacelia* and *Uvularia*.....***Derandrena***

14(12). Posterior hind tibial spur flexed, bent or somewhat twisted medially or slightly beyond middle, not straight, and not evenly curved; tergites very densely, finely punctate; 12mm or more

.....***Leucandrena*, in part**
 Posterior hind tibial spur straight or evenly curved, resembling anterior tibial spur in shape, not flexed or slightly bent medially.....15

15(14). Malar space present.....***Andrena*, in part**
 Malar space absent.....
16

16(15). Basal process of labrum as long as broad or longer.....
.....**Leucandrena barbilabris**
Basal process of labrum broader than long, or
bidentate.....17

17(16). Clypeus flattened, with median impunctate line, propodeal corbicula lacking
internal hairs

.....**Leuc
andrena erythronii**
Clypeus not flattened, more convex, and lacking median impunctate line...
Andrena, in part

18(1). Dorso-lateral (DL) angle of pronotum present, but may be weak or obscure;
DV ridge very
obscure, easily interpreted as being absent (NOTE: the subgenera below
were all keyed
previously from couplet 1, but are included here as a precaution, since the
DV ridge in these
groups/species is indistinct, and can be interpreted as being absent):

18a.....DL angle strong, forming a prominent, though rounded, right
angle; DV ridge present but subdued, oblique suture crossing ridge faint; T1
densely, finely punctate, clypeus somewhat flattened; 12mm or
larger.....**Tylandrena wilmattae**

18b.....Basal process of labrum as long as broad or longer; T1 smooth,
somewhat shiny, impunctate; 10-12
mm.....**Leucandrena
barbilabris**

18c.....Smallish bees 8mm or less; clypeus shiny with strong
punctures separated by 1-3 puncture widths; galea narrow and pointed;
scutellum shiny; pygidial plate with raised internal triangle; propodeal scopa
more or less complete anteriorly; trochanteral scopa complete; oligoleges
of *Potentilla*, *Phacelia* and *Uvularia*

Derandrena

18d.....Usually larger; scutum, scutellum and metanotum devoid of
hairs except for extremely tiny short appressed hairs visible only at certain
angles; propodeal corbicula without any hairs anteriorly but with strong
dorsal and posterior fringe; facial foveae narrow throughout, terga finely,
completely punctate throughout.....**Genyandrena cerebrata**

18' Dorso-lateral (DL) angle of pronotum entirely absent, posterior margin of
pronotum evenly,
smoothly curved to nearly straight.....
.....19

19(18). Pleura rugoso-punctate to reticulate, at least in anterior half, **AND**
propodeal triangle
completely reticulate **AND** propodeal corbiculae incomplete
anteriorly.....20

Pleura smooth, rarely rugose, **IF** rugose then propodeal corbiculae complete anteriorly;

propodeal triangle variable, usually smooth/ tessellate, roughened, or minutely reticulate,

never strongly reticulate throughout.....

.....23

20(19). Facial foveae abruptly narrowed mid-length, often appearing constricted in contrast to broad

upper

portion.....**Trachandrena, in part**

Facial foveae not abruptly narrowed below, at most only gradually narrowed below, never appearing constricted mid-length.....

.....21

21(20). T2 apical impressed area equal in length to at least half the total length of T2; small weak

fovea (a “blemish”) usually present laterally on T2.....

Trachandrena, in part

T2 apical impressed area equal to about 1/3 of the total length of T2, or less; small weak fovea laterally on T2 sometimes

present.....22

22(21). Hind tibial spur strongly curved, and broadened (lamellate) at base, the lamella translucent; T2 laterally without a small

fovea.....**Plastandrena**

Hind tibial spur not strongly curved (usually more-or-less straight), and not broadened at

base; T2 laterally sometimes with a weak,

obscure, small fovea.....**Scapteropsis**

23(19). Malar space at least ½ as long as broad, or longer; clypeus extending about 2/3

below suborbital line, shiny, with distinct scattered punctures; tergal fascia extremely weak to

absent; Ericaceae oligolege.....

.....**Conandrena**

Malar space either absent or extremely short, never half as long as broad; clypeus usually

extending much less than 2/3 below suborbital line; tergal fasciae often present and

conspicuous.....

.....24

24(23). Clypeus strongly convex (inflated) and strongly, densely punctate; glossa long, 8-10 times as long as broad, somewhat threadlike; T2-T4 with more-or-less complete white fasciae, T1 without any fascia; *Viola*

oligolege.....**Iomelissa**

violae in part

Clypeus less convex to flattened, but may be strongly punctate; glossa shorter, only 3-4 times as long as broad; fasciae may be present or absent25

25(24). Small bees, 8mm or less, the crossvein separating the 1st and 2nd submarginal cells usually contacting the marginal cell within a few vein widths of the stigma; terga impunctate, tessellate, usually with fasciae on T2-T4 at least in part, but few if any erect hairs on the tergites

..... **Micrandrena**

Usually larger than 8mm, with the crossvein separating the 1st and 2nd submarginal cells contacting the marginal cell further from the stigma than a few vein widths; **if** approximately 8mm or smaller, **and** the crossvein separating the 1st and 2nd submarginal cells contacts the marginal cell within a few vein widths of the stigma, **then** either the tergites with abundant erect hairs, **or** without fasciae, **or** punctate, **or** with short facial foveae not extending below the upper margins of the antennal sockets.....26

26(25). Maxillary palps not reaching beyond the tips of the galea when palps and galea are extended; **midbasitarsis** often broadened medially; pygidial plate usually without defined internal triangle; often 12 mm or more; Asteraceae specialists.....

Callandrena, in part

Maxillary palps reaching beyond the tips of the galea when both are extended (usually last two palpal segments extend beyond tips of the galea); **midbasitarsi** parallel-sided, not medially broadened; pygidial plate often with a defined internal triangle; size variable; usually not found at Asteraceae27

27(26). Clypeus very flat, and densely, finely punctate, with a very narrow impunctate line medially when viewed at certain angles; all tergites extremely closely and finely punctate all the way to their rims, and hind tibia usually orangeish; pygidial plate with defined internal triangle

.....**Taeni**
andrena wilkella

Clypeus convex, not flattened (best seen in lateral view); tergites punctate or not, but if

punctate, then punctures usually either well-separated or tergites not densely punctate all the way to rims; hind tibia usually dark, occasionally orangeish or reddish.....28

28(27). Propodeal corbicula complete (with anterior, dorsal and posterior fringes), but without any internal hairs; tergites tessellate, punctures fine but obscure, T2-T4 with complete or nearly complete fasciae, T1 with fascia only on lateral margins.....

.....**Simandrena**

Propodeal corbicula always with some internal hairs, usually incomplete or very weak

anteriorly (propodeal corbicula rarely very reduced, almost absent); tergal fasciae may be present or absent.....

.....29

29(28). Large bees 12mm or greater, tergites without appressed white fasciae (but sub-erect hairs may occasionally be present on some tergal margins resembling fasciae); pygidial plate often without a defined internal triangle.....

.....**Melandrena**

Bees usually smaller, **if** about 12mm or so, **then** T2-T4 with strong, appressed white fasciae or

the pygidial plate has a defined internal triangle; hind tibial scopa always pale, never black..30

30(29). T2-T4 with complete or nearly complete dense fasciae, **and** facial foveae short, extending only to level of antennal sockets, not below them; tergites tessellate with small, scattered punctures; fairly large bees, 12mm or so, Brassicaceae specialists.....

Scaphandrena arabis

Tergal fasciae variable, may be present or absent, **if** T2-T4 with complete or nearly complete

appressed fasciae, **then** facial foveae extend below lower margins of antennal sockets.....31

31(30). T2-T4 with appressed fasciae, varying from complete to incomplete, sometimes weak and thin, **and** facial foveae extending below lower margins of antennal sockets; tergites tessellate but

sometimes weakly so, partly shining, variously punctate; size usually a little less than 12mm

.....
..... **Rhacandrena**

T2-T4 usually without appressed fasciae, but **if** fasciae present, even weakly so, **then** bee has
at least one of the following: sharply pointed galea; a faintly blueish integument; facial foveae
that do not extend below the lower margins of the antennal sockets; or impunctate terga

.....
.....32

32(31). Galea narrow, sharply pointed, spear-like; integument often faintly but distinctly blueish

.....
... **Euandrena**, in part

[Note: *Derandrena* may key out here if humeral angle is considered absent; see *cplt 18c*.]

Galea not so tapered and sharply pointed, not spear-like; integument dark, never faintly blueish

.....
.....33

33(32). Tergites smooth, somewhat shiny, without any punctures.....34

Tergites punctate to some degree, sometimes faintly so.....35

34(33). Facial foveae not extending below lower margins of antennal sockets; propodeum outside of triangle (enclosure) punctate on tessellate background; T1-T4 with weak but complete decumbent (not appressed) fasciae (but often worn).....**Euandrena algida**

Facial foveae extending below lower margins of antennal sockets by about one socket diameter or nearly so; propodeum outside of enclosure tessellate but without punctures; tergal fasciae variable but not as above.....**Thysandrena**

35(33). Clypeus dull, punctures fine, crowded; hind tibial scopal hairs highly plumose; facial foveae very short, only reaching the upper margins of the antennal sockets; *Krigia* specialist

.....***Callandrena krigiana***

Clypeus shiny, punctures larger and more separated; hind tibial scopal hairs appearing simple, with few branches; facial foveae not as short, reaching to lower margins of antennal sockets.....

.....***Euandrena nigrihirta***

References: Michener (2007) provides a complete listing of all subgeneric revisions.

End of female key 3/4/20

Note: a mystery *Andrena* from the Ozarks (specimens from three different counties) will key to the *Euandrena* complex (*algida-nigrihirta*) but the propodeal scopa is extremely reduced, more so than any other *Andrena* in our region. Another mystery *Andrena*, the males with malar spines and a dorso-ventral pronotal ridge (no associated females as yet), has been collected recently (2018, 2019) in several locations in southern Illinois and in southern Missouri. A third mystery *Andrena* (only a single female individual known) from southern Illinois has all the features of a *Gonandrena*, including being collected from *Cornus*, but the scutum is entirely impunctate and roughened with micro-ridges, and the clypeus is exceptionally flattened, broad and shiny.