***Andrena*** subgenera of the tallgrass prairie region and greater Midwest

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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 ………………………………………………………………….***Iomelissa 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…………………………………………………………………………………………………..***Larandrena 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 anteriorally; late summer-

autumnal oligoleges of various Asteraceae (exception: one species oligolectic on *Parnassia*

spp.)…………………………………………………………….………………….……………………………..***Cnemidandrena***

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 anteriorally but with

strong dorsal and posterior fringe; facial foveae narrow throughout, terga finely, completely

punctate throughout; hind tibial scopal hairs extremely dense, integument not visible

………………………………………………………..………………………………………………***Genyandrena cerebrata***

Scutum, scutellum and metanotum abundantly hairy (unless worn away), facial foveae usually

broad above, propodeal corbicula usually with at least some 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 anteriorally 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

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; pygidial plate rounded apically without

any trace of raised internal triangle; DV ridge of pronotum prominent; propodeal corbicula

incomplete anteriorally, trochanteral flocculus weak, incomplete; primary oligoleges of

*Nothoscordum* ……………………………………………………………………….…………….………..***Notandrena***

Clypeus shiny with strong punctures separated by 1-3 puncture widths; pygidial plate with

raised internal triangle; DV ridge of pronotum very obscure, hardly noticeable; propodeal

scopa more or less complete anteriorally; 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

……………………………………………………………………………………………………….***Leucandrena 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 anteriorally; 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 anteriorally but with strong dorsal and posterior fringe; facial foveae narrow throughout, terga finely, completely punctate throughout; hind tibial scopal hairs extremely dense, integument not visible…………………………………………………***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 anteriorally………………………..20

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

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 transluscent;T2 laterally without a small fovea***……………………………………………………………………Plastandrena***

Hind tibial spur not strongly curved (usually more-or-less straight), and not broadened at base; T2 lateral margin sometimes with a weak, obscure, very small fovea…….….***Scrapteropsis***

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 absent ……………………………………………………………..25

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;

*mid*basitarsis 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 Asteraceae ………………………………….…………………………………………………………………………………..27

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

……………………………………………………………………………………………………….***Taeniandrena 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 at least some internal hairs, usually incomplete or very weak

anteriorally (propodeal corbicula rarely very reduced, almost absent); tergal punctures and

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 relatively narrow and

extending only to level of antennal sockets, not below them; clypeus mostly shiny with large

irregular punctures; tergites tessellate with small, scattered punctures; fairly large bees, 12mm

or so, early spring 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 uncomfortably 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 2/24/23

**Notes:** an unknown *Andrena* found in the Missouri 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 un-named *Andrena* (the males with malar spines and a dorso-ventral pronotal ridge) has been collected recently (2018, 2019, 2021) in several locations in southern Illinois, in southern Missouri, southern Indiana, and in Georgia. The females are similar in a general way to *Andrena (Andrena) mandibularis* but have a prominently raised vertex in facial view, a completely smooth and largely shiny propodeal triangle, impunctate terga, etc.

A third unknown *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.

A fourth ….