

NEW NORTH AMERICAN SPECIES OF BEES BELONGING TO THE GENUS HALICTUS (CHLORALICTUS).

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INTRODUCTION.

Since the name *Chloralictus* was suggested by Robertson in 1902 for certain of the metallic-colored Halictine bees, many interesting new species have been added to this subgenus. The Rocky Mountain States, with their very diverse habitats, have yielded a majority of the species, and still continue to yield many species. Through the efforts of Robertson considerable knowledge of the *Chloralicti* of Illinois has been given us, and the *Chloralictus* fauna of the east-central States seems to be quite like that of Illinois. The number of species reported from the Southern States has been remarkably small, a few having been recorded from Florida. In the Pacific States, California has yielded several very interesting species.

In the collection of Prof. T. D. A. Cockerell, of the University of Colorado, is a number of *Chloralictus*—both male and females—from widely separated localities. During the last year the writer has been privileged to work up this collection under the supervision of Professor Cockerell. The result has been an unusually large number of new species. In very few cases were there representatives of the two sexes from one locality; or, if so represented, the differences between the sexes were so great that it was not considered advisable to attempt to match them until further data were obtained. Keys have been compiled for all of the species represented in Professor Cockerell's collection as well as the new species, but it was not found practicable to include in these key species known only from descriptions.

KEY TO FEMALES OF HALICTUS (CHLORALICTUS).¹

Comparatively large, anterior wing at least 6 mm. long; wings somewhat dusky, except in <i>connexus</i>	1
Smaller species, usually with paler wings	9
1. Abdomen blue or green	2
Abdomen black	4

¹ See second paragraph of introduction for statement of species included in this key.

2. Mesothorax dark blue, coarsely granular (Costa Rica)..... *sudus* Vachal.
 Mesothorax green 3
3. Mesothorax shining olive green, with scattered punctures.... *aquilae* Cockerell.
 Mesothorax brassy green, closely punctured (Colorado).. *olivarius*, new species.
4. Head and thorax dark blue or blue-green 5
 Head and thorax largely green; no blue tints 6
5. Mesothorax dullish, with rather close punctures; disk of propodeum with
 plicae largely confined to the basal part (New Mexico)..... *euryceps* Ellis
 Mesothorax somewhat shining, more sparsely punctured; disk of propodeum
 rugose (Massachusetts) *nigroviridis* Graenicher.
6. Mesothorax rugoso-punctate (Iowa) *bruneri* Crawford.
 Mesothorax distinctly punctured 7
7. Mesothorax with small close punctures; disk of propodeum with somewhat
 discontinuous rugae (Colorado) *zophops* Ellis.
 Mesothorax coarsely punctured (Eastern States)..... 8
8. Wings clear; disk of propodeum brassy green, crescentic, plicate.
connexus Cresson.
 (Tegulae and wings reddish)..... *subconnexus* Ellis.
 Wings not clear; tegulae dark; disk of propodeum blue, strongly rugose.
nymphaearum Robertson.
9. Cheeks with a large tubercle below; head large; abdomen with greenish
 luster (New Mexico) *oleosus* Cockerell.
 Cheeks not thus tuberculate 10
10. Small species with punctured tegulae 11
 Tegulae not thus punctured 15
11. Wings clear; stigma pale; head and thorax blue-green 12
 Wings somewhat dusky; head and thorax green, sometimes brassy 13
12. Tegulae truncate posteriorly; disk of propodeum with irregularly anasto-
 mosing rugae (Illinois)..... *tegaris* Robertson.
 Tegulae pointed posteriorly; disk of propodeum granular (New Mexico).
tegariformis Crawford.
13. Mesothorax green; disk of propodeum plicate (Massachusetts).
ellisiae, new species.
 Mesothorax often brassy or coppery; disk of propodeum not plicate 14
14. Mesothorax brassy with purplish reflections; tegulae strongly punctured; disk
 of propodeum long with radiating rugae *perparvus* Ellis.
 Mesothorax golden green; disk of propodeum short, granular; tegulae deli-
 cately punctured..... *pseudotegaris* Cockerell.
 Mesothorax very dark olive green; disk of propodeum long, granular; tegulae
 strongly punctured (California)..... *helianthi* Cockerell.
15. Abdomen largely blue or green 16
 Abdomen red 30
 Abdomen black or brown 43
16. Brilliant steel blue species; wings somewhat dusky; stigma dark (Illinois).
coeruleus Robertson.
 Not so colored 17
17. Wings white, very clear; stigma honey color; pubescence pure white 18
 Wings not thus clear; stigma darker; pubescence dull or yellowish white.... 22
18. Mesothorax blue, sparsely punctured; abdomen polished, impunctate (New
 Mexico)..... *semicoeruleus* Cockerell.
 Mesothorax golden or blue-green, more closely punctured; abdomen punc-
 tured 19
19. Head oval; disk of propodeum with discontinuous plicae.... *pruinus* Robertson.
 Head normal, subcircular 20

20. Apex of flagellum ferruginous; mesothorax opaque, closely punctured; disk of propodeum with irregularly anastomosing rugae (New Mexico).
microlepidoides Ellis.
 Flagellum not ferruginous; mesothorax polished, coarsely punctured. 21
21. Disk of propodeum brilliant blue, rugose. *pruinosisiformis* Crawford.
 Disk of propodeum color of mesothorax, rugulose (Colorado).
glaucovirrens Cockerell.
22. Mesothorax very closely punctured with both coarse and finer punctures; disk of propodeum plicate (California). *diversopunctatus* Ellis.
 Mesothorax not thus punctured. 23
23. Head narrow; orbits almost parallel; flagellum yellow-testaceous beneath (Colorado). *pavoninus* Ellis.
 Head normal, subcircular; orbits converging. 24
24. Tegulae dark; dark blue-green species. 25
 Tegulae light; lighter species. 26
25. Abdomen obovate; disk of propodeum shining, plicate (Colorado).
sedi, new species.
 Abdomen more slender; disk of propodeum brilliant blue, with irregularly anastomosing rugae (New Mexico). *veganus* Cockerell.
26. Wings and tegulae reddish; mesothorax opaque, very closely punctured; disk of propodeum granular (Colorado). *lazulis* Ellis.
 Wings and tegulae not reddened. 27
27. Mesothorax polished olive green, delicately punctured; disk of propodeum long, plicae confined to basal part (Colorado). *academicus*, new species.
 Mesothorax golden green, closely punctured. 28
28. Head comparatively broad; disk of propodeum granular; pubescence yellowish; flagellum yellow-testaceous beneath (California).
actinosus, new species.
 Head normal. 29
29. (These seem to be very closely related.)
 Flagellum dusky ferruginous at apex; disk of propodeum microscopically tessellate between anastomosing rugae (Illinois) *pilosus* Smith.
 Species little smaller:
 Flagellum clear ferruginous at apex; scutellum golden green (Colorado)
succinipennis Ellis.
 Scutellum color of mesothorax; disk of propodeum longer than in the two preceding species, polished at the apex (Maine).
pilosus leucocomus Lovell.
30. Abdomen dusky red. 31
 Abdomen clear red or orange-red. 35
31. Larger, 6-7 mm. long. 32
 Smaller, less than 5 mm. long. 33
32. Wings faintly dusky; head and thorax olive green, very closely punctured (California). *petrellus* Cockerell.
 Wings very clear; head and thorax shining blue-green, more sparsely punctured (New Mexico). *eophilus* Ellis.
33. Head and thorax blue-green; flagellum ferruginous, paler beneath.
stultus Cresson.
 Head and thorax olive green; flagellum dark. 34
34. Abdomen largely dark and submetallic; the light parts orange-ferruginous (Florida). *nymphalis* Smith.
 Abdomen chestnut red, a little greenish on middle of third segment (Nebraska). *pictus* Crawford.

35. Head and thorax quite densely clothed with short ochraceous hair (Eastern States).....*vierecki* Crawford.
 Head and thorax not thus clothed..... 36
36. Mesothorax blue, shining, delicately punctured..... 37
 Mesothorax green..... 38
37. Face quadrate; disk of propodeum polished, with weak plicae on base only (Arizona).....*kunzei* Cockerell.
 Face subcircular; disk of propodeum with anastomosing rugae (New Mexico).....*clarissimus* Ellis.
38. Disk of propodeum shining, plicate, abdomen hoary with yellowish hair (Wisconsin).....*graenicheri* Ellis.
 Disk of propodeum granular or reticulated..... 39
39. Mesothorax closely punctured..... 40
 Mesothorax sparsely or delicately punctured..... 41
40. Head broad; disk of propodeum long, reticulated; flagellum dark (New Mexico).....*clematissellus* Cockerell.
 Head normal; disk of propodeum short, granular; flagellum testaceous (Colorado).....*hudsoniellus* Cockerell.
41. Thorax and abdomen hoary with white hair; disk of propodeum short, with coarsely anastomosing rugae (New Mexico).....*mesillensis* Cockerell.
 Thorax and abdomen not thus hoary; disk of propodeum long..... 42
42. Larger, about 6 mm. long; flagellum dark, dusky ferruginous at the apex; legs largely dark (Colorado).....*scrophulariae* Cockerell.
 Smaller, 4.5 mm. long; flagellum yellow-testaceous beneath; legs largely testaceous (North Dakota).....*testaceus* Robertson.
43. Small species, anterior wing about 3 mm. long; often with very clear wings.. 44
 Larger species..... 55
44. Tegulae dark; wings faintly dusky..... 45
 Tegulae light; or if tegulae reddened, wings clear..... 49
45. Head and thorax blue..... 46
 Head and thorax green..... 47
46. Mesothorax very dark blue, finely and closely punctured; disk of propodeum semicircular, finely granular (New Mexico).
ruidosensis Cockerell, variety.
 Mesothorax more brilliant blue, more coarsely punctured; disk of propodeum truncate posteriorly, granular with fine radiating plicae (St. Vincent, W. I.).....*plumbeus* Ashmead.
47. Disk of propodeum granular; mesothorax opaque (Jamaica).....*jamaicae* Ellis.
 Disk of propodeum not granular, plicate on basal portion; mesothorax somewhat polished..... 48
48. Mesothorax brassy green; disk of propodeum short (Jamaica).
liguanensis, new species.
 Mesothorax not brassy; disk of propodeum longer (Guatemala)....*deceptor* Ellis.
49. Wings milky white, or very clear white..... 50
 Wings yellowish..... 53
50. Mesothorax opaque, granular; disk of propodeum granular (Virginia).
coreopsis Robertson.
 Mesothorax shining blue, delicately punctured; disk of propodeum not or hardly granular..... 51
51. Head, thorax, and abdomen hoary with white hair; disk of propodeum plicate on base only (New Mexico).....*pallidellus* Ellis.
 Not thus hoary..... 52

52. Head narrow; flagellum clear ferruginous; disk of propodeum polished.
semibrunneus Cockerell.
 Head normal; flagellum dark; disk of propodeum faintly granular with fine radiating plicae (Eastern States).....*sparsus* Robertson.
 Disk of propodeum not granular; mesothorax more coarsely punctured (Western States).....*sparsus*, variety Ellis MSS.
53. Mesothorax polished, delicately punctured; disk of propodeum weakly plicately on base only*exiguus* Smith.
 Mesothorax opaque; sculpturing of disk of propodeum, not confined to base.. 54
54. Mesothorax with sparse shallow punctures; disk of propodeum plicate (Massachusetts).....*admirandus*, new species.
 Mesothorax more closely punctured; disk of propodeum rugose (Nevada).
nevadensis Crawford.
55. Tegulae dark; wings dusky; stigma dark..... 56
 Tegulae light; or if somewhat dark, wings not dusky..... 63
56. Head and thorax brassy or bronze green; abdomen with bronze reflections; disk of propodeum plicate on base only (Guatemala).....*umbripennis* Ellis.
 Head and thorax not so..... 57
57. Mesothorax polished, sparsely punctured; disk of propodeum with weak plicae largely confined to base (Colorado).....*tenax*, new species.
 Mesothorax opaque, more closely punctured..... 58
58. Mesothorax very closely punctured, giving a granular appearance; disk of propodeum granular, apex polished (Colorado and New Mexico).
ruidosensis Cockerell.
 Mesothorax not so closely punctured; disk of propodeum not granular..... 59
59. Larger; mesothorax very coarsely punctured; disk of propodeum very sharply truncated, with coarse plicae (New Jersey).....*oceanicus* Cockerell.
 Smaller; not so sculptured..... 60
60. Abdomen and legs brown; mandibles red; disk of propodeum with radiating rugulae (Grenada, W. I.).....*sanctivincenti* Ashmead.
 Abdomen and legs black; mandibles dark..... 61
61. Flagellum dusky ferruginous; disk of propodeum short, the plicae not reaching the apex, which is polished (Maine).....*versans* Lovell.
 Flagellum black; plicae reaching the apex of disk of propodeum, which is longer (Colorado)..... 62
62. Mesothorax with shallow, scattered punctures; apical margins of abdominal segments testaceous; abdomen narrower at base.....*pacatus*, new species.
 Mesothorax quite closely punctured; apical margins of abdominal segments black; abdomen broad at the base.....*viridatulus* Cockerell.
63. Wings clear white; pubescence pure white, abundant..... 64
 Wings more or less yellowish; pubescence more sparse, dull or yellowish white.. 67
64. Mesothorax very coarsely punctured; disk of propodeum with somewhat discontinuous plicae; abdomen black.....*albipennis* Robertson.
 Mesothorax not so coarsely punctured; abdomen brown..... 65
65. Smaller; mesothorax blue, delicately punctured; disk of propodeum reticulated (New Mexico).....*alius*, new species.
 Larger; mesothorax golden green, closely punctured; disk of propodeum not reticulated..... 66
66. Disk of propodeum brilliant blue, granular (New Mexico).. *perdifficilis* Cockerell.
 Disk of propodeum color of mesothorax, plicate, polished at the apex (Lethbridge Alta.).....*laeivissimus* Smith.
67. Face subquadrate; inner orbits arched above; clypeus and supraclypeal area polished 68
 Not so; head narrow or subcircular..... 69

68. Mesothorax delicately punctured (Eastern States)..... *hortensis* Lovell.
 Mesothorax coarsely punctured (Western States)..... *crassiceps* Ellis.
69. Head and thorax rugoso-punctate (See 6) (Iowa and Nebraska)..... *bruneri* Crawford.
 Head and thorax with more or less distinct punctures..... 70
70. Head very narrow; flagellum clear ferruginous; mesothorax granular, with
 shallow punctures; disk of propodeum granular (North Carolina).
longiceps Robertson.
 Not so..... 71
71. Small and slender species; abdomen somewhat bluish; disk of propodeum
 obscurely sculptured (Colorado)..... *tenuis* Ellis.
 Not so..... 72
72. Mesothorax golden or brassy green..... 73
 Mesothorax not so colored..... 80
73. Mesothorax coarsely punctured..... 74
 Mesothorax with fine or delicate punctures..... 77
74. Mesothorax with contiguous punctures; disk of propodeum with irregularly
 anastomosing rugae (Colorado)..... *perpunctatus* Ellis.
 (Mesothorax not or hardly golden, but with similar punctation to that above;
 disk of propodeum with rugae not anastomosing (California) (Ellis MSS).
perpunctatus, var. *californiae* Ellis, new variety.²
 Not so punctured..... 75
75. Tegulae pale; wings clear; disk of propodeum microscopically tessellate
 between rugae; apex of abdomen somewhat greenish (Texas).
disparilis Crawford.
 Tegulae and wings reddened, abdomen entirely black (New Jersey)..... 76
76. Mesothorax polished; disk of propodeum strongly rugose... *ressonii* Robertson.
 Mesothorax opaque; disk of propodeum plicate..... *cattellae* Ellis.
77. Small; mesothorax very closely punctured, bronzen; disk of propodeum
 granular with radiating plicae (Jamaica)..... *gemmatus* Smith.
 Larger; not so..... 78
78. Disk of propodeum obscurely sculptured; legs and abdomen brown, with
 yellowish pubescence (Illinois)..... *zephyrus* Smith.
 Legs and abdomen black; disk of propodeum not so sculptured..... 79
79. Legs entirely black; tegulae reddened; disk of propodeum plicatulate (New
 Mexico)..... *caducus*, new species.
 Legs not so, with knees red; tegulae pale; disk of propodeum with anasto-
 mosing rugae (California)..... *impavidus*, new species.
80. Mesothorax opaque, closely or coarsely punctured..... 81
 Mesothorax shining, delicately or sparsely punctured..... 85
81. Tegulae reddish; mesothorax with coarse punctures; disk of propodeum
 plicate (Maine)..... *viridatus* Lovell.
 (Mesothorax somewhat brassy, more slender; plicae somewhat wrinkled.
viridatus, variety *a*, new variety).³
 Tegulae pale; mesothorax finely punctured..... 82
82. Disk of propodeum granular (Florida)..... 83
 Disk of propodeum not granular..... 84

² Mrs. Ellis had the following notes on this variety: "California specimens of *perpunctatus* differ in the mesothorax being smoother, the punctures being smaller; basal area of the metathorax with the rim a little sharper in the variety. Two specimens, Pasadena."

³ Mrs. Ellis had pointed out this variety, but a name now preoccupied was given. The writer has preferred to designate the variety by a letter only. Mrs. Ellis's notes were as follows: "Variety *a* is more slender and has the abdomen more metallic and the margins of the abdominal segments less testaceous."

83. Larger; pubescence yellowish; legs brown; abdomen brownish, apical margins of segments broadly testaceous.....*floridanus* Robertson.
Smaller; pubescence dull white; legs and abdomen black.....*ashmeadii* Robertson.
84. Disk of propodeum shining, microscopically tessellate between discontinuous plicae.....*versatus* Robertson.
Disk of propodeum dull, with irregular, wrinkled rugae (New Mexico).
comis, new species.
85. Tegulae somewhat reddened (Mountain States)..... 86
Tegulae pale testaceous..... 89
86. Smaller, slender species; plicae confined to base of disk of propodeum..... 87
Larger, robust species; head broad; plicae reaching the apex of the disk of propodeum..... 88
87. Disk of propodeum blue, shining, with few plicae.....*meritus*, new species.
Disk of propodeum green; plicate at sides of disk; somewhat anastomosing rugae on median part of disk.....*arcanus*, new species.
88. Disk of propodeum crescentic.....*latus*, new species.
Disk of propodeum longer; plicae weak on median part of disk.
phaceliarum Cockerell.
89. Mesothorax and scutellum polished, dark, very sparsely punctured; disk of propodeum plicate on base only; flagellum ferruginous; mandibles clear red (Guatemala).....*tropicior* Ellis.
Not so; mesothorax blue-green, or lighter green..... 90
90. Head broad; robust species; disk of propodeum plicate (Iowa).
unicus, new species.
Head normal or narrow; more slender species..... 91
91. Abdomen brownish, slender, with quite abundant white hair; disk of propodeum finely granular with few weak plicae (New Mexico).....*oblongus* Lovell.
Abdomen black, broader, first two segments without pubescence..... 92
92. Legs entirely black; disk of propodeum microscopically tessellate between rugae..... 93
Knees and tarsi reddened..... 94
93. Abdomen sparsely pubescent (Maine).....*oblongus planatus* Lovell.
Abdomen with subappressed hair (Nebraska).....*politissimus* Cockerell.
94. Disk of propodeum plicate (Colorado).....*absimilis*, new species.
Disk of propodeum weakly rugulose on base only (Iowa).
vintonensis, new species.

KEY TO MALES OF HALICTUS (CHLORALICTUS).⁴

- Legs entirely red; under side of abdomen red.....*aquilae* Cockerell.
Legs not entirely red; under side of abdomen not red; or if reddish, then upper side also reddish..... 1
1. Thorax and abdomen testaceous.....*bruesi* Cockerell.
Thorax not testaceous..... 2
2. Small species with punctured tegulae..... 3
Tegulae not punctured..... 6
3. Mesothorax steel blue; flagellum pale beneath..... 4
Mesothorax dark blue or greenish blue; flagellum little paler beneath..... 5
4. Disk of propodeum brilliant blue, crescentic, plicate; flagellum yellow-testaceous beneath (California).....*gaudialis*, new species.
Disk of propodeum color of mesothorax, longer, rugose; flagellum chrome-orange beneath (New Mexico).....*tegulariformis* Crawford.

⁴ See second paragraph of introduction for statement of species included in this key.

5. Wings faintly reddish; face color of mesothorax (Colorado).
paululus, new species.
 Wings clear; stigma and nervures testaceous; face olive green (Guatemala).
pseudotegularis Cockerell.
6. Abdomen blue or green..... 7
 Abdomen not blue or green..... 11
7. Larger; golden green; pubescence ochraceous; wings yellowish (Massachusetts).
pilosus Smith.
 Smaller; blue; pubescence pure white; wings very clear..... 8
8. Head broader than long; disk of propodeum with a semicircular inclosing rim.
 (New Mexico)..... *exalbidus*, new species.
 Head not so; disk of propodeum not so inclosed 9
9. Hoary with very dense white pubescence; disk of propodeum brilliant blue,
 plicate *pruiniformis* Crawford.
 Not so 10
10. Disk of propodeum with irregularly wrinkled rugae; first recurrent nerve
 joining second transverso-cubital (New Mexico) *albohirtus* Crawford
 Disk of propodeum polished, obscurely sculptured; second submarginal cell
 receiving first recurrent nerve a little distance from the apex (Colorado).
actuarius, new species.
11. Abdomen red, suffused with blackish; head and thorax green; disk of pro-
 podeum plicate (Illinois) *zephyrus* Smith.
 Abdomen black or dark brown 12
12. Clypeus entirely yellow, or at least the lower half yellow..... 13
 Clypeus not yellow, or the anterior margin obscurely yellowish..... 18
13. Head and thorax olive green; flagellum dark (Colorado) *sagax*, new species.
 Head and thorax blue-green or blue; flagellum pale beneath 14
14. Tegulae very pale; legs largely yellow..... 15
 Tegulae dark; legs largely dark..... 16
15. Mesothorax somewhat brassy; abdomen punctured (New Mexico).
hyalinus Crawford.
 Mesothorax blue-green; abdomen not punctured (New Mexico).
perexiguus, new species.
16. Mesothorax delicately punctured; mandibles yellow (Colorado).
occultus, new species.
 Mesothorax closely punctured; mandibles dark (Colorado) 17
17. Head and thorax blue-green; disk of propodeum subcrescentic.
evestigatus, new species.
 Head and thorax blue; disk of propodeum longer, brilliant blue.
pikei, new species.
18. Tegulae and stigma dark; wings dusky; usually larger species, except
insulus and *obnubilus* 19
 Tegulae and wings pale; or if tegulae reddened, then wings paler; usually
 small species, except *nymphaearum*, *connexus*, and *albipennis* 29
19. Small species, less than 5 mm. long..... 20
 Larger species 21
20. Mesothorax blue-green; disk of propodeum plicate (Colorado).
obnubilus, new species.
 Mesothorax blue; disk of propodeum plicate on base only (New Mexico).
insulsus, new species.
21. Head and thorax brassy olive green; disk of propodeum rugose.
oblongus Lovell.
 Head and thorax blue or green, not brassy..... 22
22. Sculpturing confined to disk of propodeum 23
 Sculpturing not confined to disk of propodeum..... 24

23. Disk of propodeum plicatulate; apex polished; mesothorax closely punctured (Colorado).....*ruidosensis* Cockerell.
 Disk of propodeum with somewhat wrinkled plicae reaching the apex; mesothorax more sparsely punctured (Colorado).....*consonus*, new species.
24. Mesothorax shining, sparsely or delicately punctured..... 25
 Mesothorax opaque, coarsely punctured..... 26
25. Front above the antennae very closely punctured; disk of propodeum rugose (Colorado).....*praepes*, new species.
 Front above the antennae without true punctures; apex of disk of propodeum elevated, tessellate, base weakly plicate (New Mexico).
astutus, new species.
26. Tegulae and wings reddened; flagellum ferruginous beneath; mesothorax dark blue; pubescence on mesothorax and vertex yellowish (New Mexico).
abundus, new species.
 Tegulae and wings not reddened; flagellum testaceous beneath..... 27
27. Disk of scutellum dull; disk of propodeum dull with irregular rugae (New Mexico).....*tranquillus*, new species.
 Disk of propodeum shining; disk of scutellum with two polished spots.... 28
28. Mesothorax blue; disk of propodeum plicate (Colorado)....*pubidicus*, new species.
 Mesothorax green; disk of propodeum coarsely rugose.....*viridatus* Lovell.
29. Large, 7 mm. long; disk of propodeum rugose..... 30
 Smaller..... 32
30. Tegulae pale testaceous; mesothorax closely punctured (Texas).
connexus Crawford.
 Tegulae reddened; mesothorax very coarsely punctured..... 31
31. Wings milky white; stigma honey color; flagellum yellow-testaceous beneath.
albipennis Robertson.
 Wings not so; flagellum testaceous beneath.....*nymphaearum* Robertson.
32. Wings milky white; stigma and nervures honey color; mesothorax very coarsely punctured; disk of propodeum plicate (Colorado).
lactineus, new species.
 Not so 33
33. Mesothorax opaque, microscopically tessellate, very closely punctured.... 34
 Mesothorax shining, sparsely or delicately punctured..... 37
34. Head and thorax golden green; disk of propodeum plicate (Virginia).
callidus, new species.
 Head and thorax blue or blue-green, not golden..... 35
35. Flagellum clear ferruginous; mandibles yellow; propodeum with discontinuous plicae (Virginia).....*apertus*, new species.
 Flagellum testaceous, yellow-testaceous beneath; mandibles dark..... 36
36. Tegulae reddish; disk of propodeum plicate; pubescence of abdomen yellowish (Virginia).....*genuinus*, new species.
 Tegulae pale testaceous; disk of propodeum rugose; pubescence of abdomen not yellowish*versatus*, Robertson.
37. Mesothorax coarsely punctured..... 38
 Mesothorax delicately punctured 40
38. Head and thorax brassy green; tip of clypeus and mandibles yellowish (Texas)*disparilis* Crawford.
 Head and thorax blue 39
39. Disk of propodeum strongly rugose, the rugae not confined to the disk (Connecticut)*basilius*, new species.
 Disk of propodeum brilliant blue, plicae confined to the disk.
nevadensis Crawford.

40. Very small, anterior wing about 3 mm. long 41
Larger 43
41. Head and thorax brassy green; flagellum black; disk of propodeum with plicae on base only, apex polished (Vera Cruz, Mexico) *exiguus* Smith.
Head and thorax blue; flagellum testaceous beneath 42
42. Disk of propodeum deep blue, short, plicate; knees and tarsi yellow (Virginia) *hortensis* Lovell.
Disk of propodeum brilliant blue, longer, with fine, somewhat wrinkled plicae; legs entirely dark (New Mexico) *microlepoides* Ellis.
43. Tegulae somewhat reddened; legs black; mandibles dark 44
Tegulae very pale; knees and tarsi red; mandibles red 45
44. Flagellum testaceous beneath; face, mesothorax, scutellum and mesopleurae brassy (Colorado) *mactus*, new species.
Flagellum hardly paler beneath; not thus brassy (Colorado).
pensitus, new species.
45. (The following are very similar in size, color, punctation, etc.):
Third joint of antennae somewhat longer than second 46
Third joint of antennae hardly or no longer than second 47
46. Disk of propodeum plicate (Colorado) *accentus*, new species.
Disk of propodeum rugose (New Mexico) *incompletus* Crawford.
47. Abdomen entirely black, punctured (Colorado) *mollis*, new species.
Abdomen with piliferous punctures only, apical margins of segments testaceous 48
48. Mesothorax sparsely and delicately punctured; disk of propodeum plicate (New Mexico) *merosus*, new species.
Mesothorax more closely punctured; disk of propodeum rugose 49
49. Disk of propodeum crescentic, with irregularly anastomosing rugae reaching the apex; legs and abdomen brown (Virginia) *malinus*, new species.
Disk of propodeum long, rugae reaching the apex which is polished; abdomen and legs black (Iowa) *insolitus*, new species.

DESCRIPTIONS OF NEW SPECIES.

HALICTUS (CHLORALICTUS) OLIVARIUS, new species.

Female.—About 8.5 mm. long; dark olive green; pubescence pale; facial quadrangle longer than broad; front closely punctured, the punctures becoming more scattered on the sides of the face; antennae brown, becoming bright ferruginous at the apex of the flagellum; orbits converging slightly below; clypeus black, coarsely punctured; supraclypeal area brassy, sparsely punctured. Mesothorax golden green, very closely punctured; parapsidal grooves quite indistinct; scutellum closely punctured; disk of propodeum appears rugose, but is covered with finely wrinkled anastomosing rugae making an irregular reticulate surface; truncation well defined laterally; tegulae pale testaceous, impunctate. Abdomen ovate, without distinct hair bands, but with pale pubescence covering the segments; apical margins of segments testaceous. Wings yellowish, faintly dusky; anterior wing about 6 mm. long; stigma and nervures pale testaceous; basal nervure very strongly bent; third submarginal cell strongly contracted above, more than twice as long as second on marginal; second submarginal higher than broad, receiving first recurrent nervure very

near apex. Legs dark with dull whitish hairs; knees red; tarsi somewhat reddened; hind spur pectinate with five medium long obtuse spines.

Habitat.—Jumbo Reservoir, 9 miles east of Crook, Colorado, August 12, 1921 (Sandhouse). One specimen.

Type.—Cat. No. 26399, U.S.N.M.

This species seems to be quite distinct and different from any other *Chloralictus* known to the writer.

HALICTUS (CHLORALICTUS) ELLISIAE, new species.⁵

Female.—About 5 mm. long; head and thorax dark olive green, abdomen black; pubescence dull white, rather sparse. Facial quad-angle longer than broad; orbits converging slightly below; antennae dark brown; front very closely punctured; sides of face with coarser, deeper, more scattered punctures; supraclypeal area shining, sparsely punctured; lower two-thirds of clypeus black, with a few coarse punctures; mandibles black. Mesothorax microscopically lineolate and closely punctured; scutellum very closely punctured, two smooth spots on the disk; disk of propodeum without a distinct inclosing rim, microscopically reticulate between rugae; mesopleurae coarsely punctured; tegulae dark, punctured; truncation distinct, but not sharply defined laterally. Abdomen broadly ovate, the only punctures piliferous; segments sparsely clothed with yellowish-white pubescence; apical margins of segments brownish, transversely lineolate. Anterior wing 3.5 mm. long; wings clear hyaline; stigma and nervures dark testaceous; second submarginal cell as broad as high at the base, but contracted above, receiving the first recurrent nervure near apex; third submarginal almost twice as long as second on marginal. Legs dark with yellowish-white pubescence; inner spur pectinate with four moderately long teeth.

Habitat.—Forest Hills, Massachusetts, August 5, 1911. Received from Dr. W. M. Wheeler. One specimen.

Type.—Cat. No. 26400, U.S.N.M.

Distinct from *regulariformis* Crawford, from which it differs by the darker tegulae and stigma; broader head; darker flagellum; more closely punctured mesothorax; more robust species; distinct sculpturing of disk of propodeum.

From *regularis* Robertson by the shining head and thorax; darker wings; tegulae darker, not reddish; darker flagellum; disk of propodeum not granular, but with fine plicae.

From *pseudotegularis* Cockerell, which is a very small and slender species, with golden green mesothorax and scutellum, and with disk of propodeum granular.

⁵ Mrs. Ellis referred this specimen to *hortensis* Lovell, but the punctured tegulae seem to be distinct. The species was named for Mrs. Ellis.

From *perparvus* Ellis, which is very small and dark, with delicately punctured tegulae; and has a golden green mesothorax and the disk of the propodeum granular.

HALICTUS (CHLORALICTUS) SEDI, new species.

Female.—About 6 mm. long; dark greenish blue; pubescence dull white, rather sparse. Facial quadrangle longer than broad; sides of face, supraclypeal area, and upper portion of clypeus brassy green; front very closely punctured, the punctures becoming more scattered below; supraclypeal area and upper portion of clypeus with few deep punctures; lower part of clypeus black, without punctures; flagellum black, dark testaceous beneath. Mesothorax microscopically tessellate, with delicate punctures; scutellum closely punctured, two polished spots on the disk; disk of propodeum shining, with fine plicae on the lateral, and anastomosing rugae on the median portions, polished at the apex; mesopleurae indistinctly punctured; tegulae testaceous, impunctate; truncation well defined laterally. Abdomen obovate, polished, very delicately punctured, without distinct hair bands, but segments sparsely covered with hairs; apical margins of segments testaceous. Anterior wing about 4.5 mm. long; wings quite clear; stigma and nervures pale testaceous; second submarginal cell as broad as high, receiving the first recurrent nervure near the apex; almost equidistant with the third submarginal on marginal; subcostal nervure very dark. Legs dark with dull white pubescence; hind spur pectinate with four moderately long teeth.

Habitat.—Boulder, Colorado: 1 specimen June 21, on *Sedum stenopetalum* (Cockerell); 1 specimen May 20 (M. Pope).

Type.—Cat. No. 26401, U.S.N.M.

Distinguished by the highly polished abdomen.

HALICTUS (CHLORALICTUS) ACADEMICUS, new species.

Female.—About 6 mm. long; dark blue-green; pubescence yellowish white. Facial quadrangle longer than broad; orbits converging slightly below; the only punctures on the face piliferous; antennae dark, flagellum ferruginous beneath; clypeus and supraclypeal area smooth and highly polished, without punctures, flat; lower half of clypeus black. Mesothorax shining, the only punctures piliferous; disk of propodeum rather long, microscopically tessellate, weakly plicate on the base only; truncation distinct laterally; tegulae very pale testaceous, impunctate. Abdomen obovate, without distinct hair bands, but the segments clothed with rather sparse pubescence; apical margins of segments testaceous. Wings faintly yellowish; anterior wing 4.2 mm. long; stigma and nervures pale testaceous; third submarginal cell subquadrate, a little longer than the second

on the marginal; second submarginal higher than broad, receiving the first recurrent nervure quite near the apex. Legs dark, quite densely pubescent; knees and tarsi red.

Habitat.—Boulder, Colorado, May 14 (Irene Bleasdale).

Type.—Cat. No. 26402, U.S.N.M.

Differs from *lazulis* Ellis by the darker color; more weakly punctured mesothorax; smooth clypeus and supraclypeal area; sculpturing of disk of propodeum distinct.

Distinguished by the very delicately punctured mesothorax, and the clypeus and supraclypeal area very flat and polished.

HALICTUS (CHLORALICTUS) ACTINOSUS, new species.

Female.—About 5.5–6 mm. long; golden or brassy green; pubescence yellowish white. Facial quadrangle about as long as broad; front and vertex very closely punctured, the punctures becoming more scattered on the sides of the face; supraclypeal area and upper half of clypeus shining golden green with a few coarse punctures; lower half of clypeus black; inner orbits converging below; antennae dark, the flagellum rufo-testaceous beneath. Mesothorax microscopically lineolate, very closely punctured; scutellum with deep punctures, two small polished spots on the disk; disk of propodeum coarsely granular with rather faint irregular rugae making a reticulate surface, without an inclosing rim, but polished apically; mesopleura irregularly punctured; truncation well defined laterally; tegulae very pale testaceous, impunctate. Abdomen obovate, impunctate; the segments clothed with dense pubescence; apical margins of segments pale testaceous. Wings faintly yellowish; anterior wing 4.5 mm. long; stigma and nervures pale testaceous; second submarginal cell almost as broad as long, and almost as long as the third on the marginal; third submarginal gently contracted above, first recurrent nervure joining the second transverso-cubital; subcosta very dark. Legs dark with yellowish pubescence.

Habitat.—California, labeled No. 846; collector and exact locality unknown.

Type.—Cat. No. 26403, U.S.N.M.

Differs: From *vegans* Cockerell in having a broader head; paler tegulae and wings; head and thorax green; sculpturing of disk of propodeum distinct.

From *floridanus* Robertson by the broader head; clypeus and supraclypeal area distinctly brassy; paler hairs; head and thorax golden green; disk of propodeum not granular.

From *succinipennis* Ellis by the broader head; more closely punctured head and thorax; shorter disk of propodeum with distinct sculpturing.

HALICTUS (CHLORALICTUS) LIGUANENSIS, new species.

Female.—About 5 mm. long; head and thorax olive green; abdomen black; pubescence rather short and dull white. Facial quadrangle longer than broad; orbits converging slightly below; antennae entirely dark, the flagellum hardly paler beneath; face very delicately punctured, the punctures more scattered below and on the sides of the face; lower half of clypeus shining black with a few punctures; upper half of clypeus and supraclypeal area lineolate and sparsely punctured; mandibles reddish. Mesothorax microscopically lineolate, delicately punctured, the punctures more scattered on the disk; median and parapsidal grooves distinct, but not deeply impressed; sculpturing of scutellum similar to that of the mesothorax, two polished spots on the disk; disk of propodeum without an inclosing rim, faintly tessellate with a few plicae at the base of the area; truncation distinct laterally; tegulae reddish, impunctate. Abdomen obovate, shining, impunctate; segments clothed with rather scant pubescence. Wings faintly dusky; anterior wing about 3.5 mm. long; stigma and nervures dark testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal a little longer than second on marginal. Legs dark with yellowish hairs; knees and tarsi somewhat reddened.

Habitat.—Liguanea Plains, Jamaica, November-December 1911 (C. T. Brues).

Type.—Cat. No. 26404, U.S.N.M.

Mrs. Ellis referred this specimen with doubt to *jamaicae*, but it seems to be distinct.

Differs: From *jamaicae* Ellis by the darker tegulae; disk of propodeum not lineolate, and plicate at base only; scutellum with two polished spots on disk; face more sparsely punctured.

From *deceptor* Ellis by the broader face; vertex with closer punctures; legs not entirely dark; mesothorax more sparsely punctured.

HALICTUS (CHLORALICTUS) ADMIRANDUS, new species.

Female.—About 5–5.5 mm. long; head and thorax blue-green; abdomen black; pubescence white, rather dense. Facial quadrangle longer than broad; orbits converging below; antennae brown-ferruginous, becoming ferruginous at the apex of the flagellum; face covered with moderately close hairs; front closely punctured, the punctures more sparse on the sides of the face; supraclypeal area and upper part of the clypeus blue-green, microscopically lineolate and delicately punctured; lower half of clypeus shining black, with few coarse punctures; mandibles faintly reddish. Thorax quite densely pubescent; mesothorax dull, microscopically tessellate, with quite close but shallow punctures; punctation of scutellum similar to that of the mesothorax, two punctureless spots on the disk; disk

of propodeum without a distinct inclosing rim, shining, plicae extending across the disk and reaching the apex; truncation clearly defined laterally; tegulae very pale, impunctate. Abdomen obovate, shining; segments 1-2 rather sparsely pubescent; segments 3-5 clothed with dense, appressed hairs; apical margins of segments testaceous. Wings clear; anterior wing about 3.5 mm. long; stigma and nervures honey color, except the costal nervure which is dark testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure very near the apex; third submarginal little longer than second on marginal. Legs dark, covered with white hairs; knees and tarsi clear red; hind spur not visible.

Habitat.—Woods Hole, Massachusetts (Eleth Cattell).

Type.—Cat. No. 26405, U.S.N.M.

HALICTUS (CHLORALICTUS) TENAX, new species.

Female.—About 5.5-6 mm. long; head and thorax dark blue-green; abdomen black; pubescence yellowish white, sparse. Facial quad-angle longer than broad; orbits converging slightly below; antennae entirely dark; face shining dark blue; vertex closely punctured; front with a brassy tint, sparsely punctured; supraclypeal area and upper half of clypeus somewhat brassy, rather closely punctured; clypeus shining black below, with few coarse downward-opening punctures; apex of mandibles red. Mesothorax shining, microscopically lineolate; quite closely punctured, the punctures a little more scattered on the disk; scutellum closely punctured, two smooth spots on the disk, each of these spots has two very large punctures; disk of propodeum without an inclosing rim, smooth, shining, dark blue, with a few plicae at the base of the disk only; truncation well defined laterally; tegulae dark testaceous, impunctate. Abdomen obovate, piceous, impunctate; segments 1-2 almost without hairs; segments 3-5 with sparse white hairs; apical margins of segments narrowly testaceous. Wings faintly dusky; anterior wing 4 mm. long; stigma and nervures testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal about one and one-half times as long as second on marginal. Legs dark with yellowish white pubescence; hind spur pectinate with three moderately long teeth; tips of hind basitarsi and apical tarsi reddened.

Habitat.—Longs Peak Inn, Colorado, June 25, and August 13 (Cockerell). Three specimens.

Type.—Cat. No. 26406, U.S.N.M.

Differs from *viridatulus* Cockerell by the shining mesothorax with weak punctures, not lineolate; head, mesothorax, and propodeum more brilliant blue; disk of propodeum without such strong plicae.

HALICTUS (CHLORALICTUS) PACATUS, new species.

Female.—About 6 mm. long; head and thorax dark green; abdomen black; pubescence white. Facial quadrangle longer than broad; orbits converging below; antennae dark, the flagellum scarcely paler beneath; front closely punctured; sides of face with shallow open punctures; supraclypeal area and upper portion of clypeus microscopically lineolate and coarsely punctured; lower half of clypeus shining black, with few coarse punctures. Mesothorax broad, microscopically tessellate, with moderately close, but coarse punctures evenly distributed over the surface; scutellum finely punctured, two polished spots on the disk; disk of propodeum without a distinct inclosing rim, microscopically tessellate, with few slightly wrinkled plicae reaching the apex; truncation well defined laterally; tegulae dark testaceous, impunctate. Abdomen obovate, impunctate; the first segment almost without hairs, the other segments sparsely clothed with short hairs. Wings somewhat dusky; anterior wing about 4.5 mm. long; stigma and nervures testaceous; second submarginal cell slightly higher than broad receiving the first recurrent nervure near the apex; third submarginal little longer than second on marginal. Legs dark with yellowish white hairs; hind spur pectinate with four moderately long teeth.

Habitat.—Peaceful Valley, Colorado, 1919 (Cockerell). Two specimens.

Type.—Cat. No. 26407, U.S.N.M.

HALICTUS (CHLORALICTUS) ALIUS, new species.

Female.—About 5–5.5 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle somewhat longer than broad; flagellum rufo-testaceous, paler beneath; front with rather close shallow punctures, the punctures deeper and more scattered on the sides of the face; supraclypeal area and upper half of clypeus delicately punctured; lower half of clypeus shining black, coarsely punctured; fringed with yellowish hairs; mandibles red. Thorax clothed with rather abundant pubescence; mesothorax shining, with faint microscopic lineolations and rather close, shallow punctures; punctation of scutellum similar to that of the mesothorax, two polished spots on the disk; disk of propodeum long, inclosed by a low rim, shining, microscopically tessellate, with faint, very irregularly anastomosing rugae; truncation distinct laterally; tegulae very pale testaceous, impunctate. Abdomen ovate, impunctate; segments 1–2 shining, sparsely pubescent; segments 3–5 clothed with dense subappressed hairs. Wings very clear; anterior wing 4.25 mm. long; stigma and nervures very pale testaceous; second submarginal cell considerably higher than broad, receiving first

recurrent nervure near the apex; third submarginal subquadrate, little longer than the second on marginal. Legs dark with dull white hairs; knees, tips of tibiae, and tarsi pale rufo-testaceous; hind spur pectinate with four moderately long teeth.

Habitat.—La Cueva, Organ Mountains, New Mexico, September 2, at flowers of *Nuttallia multiflora* (Townsend).

Type.—Cat. No. 26408, U.S.N.M.

HALICTUS (CHLORALICTUS) CADUCUS, new species,

Female.—About 6.5 mm. long; head and thorax dark olive green; abdomen black; pubescence dull white. Facial quadrangle longer than broad; orbits converging slightly below; face with a bronze reflection, clothed with rather sparse pubescence; antennae dark, the flagellum becoming dark ferruginous at the apex; vertex very closely punctured; front with more scattered deep punctures; part of clypeus and supraclypeal area bronze green, sparsely punctured; lower half of clypeus shining black, with a few downward-opening punctures, fringed below with yellowish hairs; mandibles dark, reddish at the tips. Mesothorax brassy green, shining, with faint microscopic tessellations and scattered punctures; scutellum brassy green, delicately punctured on the anterior part, the punctures coarser posteriorly, two polished spots on the disk; disk of propodeum without a distinct inclosing rim, slightly elevated posteriorly, median portion of disk finely granular with a few anastomosing rugae, the lateral portions plicatulate, the plicae extending on to the sides of the propodeum; truncation distinct laterally; tegulae reddish testaceous, impunctate. Abdomen piceous, obovate; apical margins of segments testaceous; segments 1-2 shining, sparsely pubescent; segments 3-5, with appressed, dull white hairs. Wings clear yellowish; anterior wing 4.5 mm. long; stigma and nervures very pale testaceous; second submarginal cell almost as broad as long; first recurrent nervure joining second transverso-cubital; third submarginal sharply contracted above, about equidistant with the second on the marginal. Legs dark with dull white pubescence; hind spur pectinate with three teeth.

Habitat.—Santa Fe, New Mexico, October 3, at garden marigold No. 5620 (Cockerell).

Type.—Cat. No. 26409, U.S.N.M.

Differs: From *versatus* Robertson by the reddened tegulae; mesothorax shining, with more scattered punctures; more slender species; face shining; more sparse pubescence; polished scutellum.

From *nevadensis* Crawford by the larger size; more golden green face and mesothorax; more sparsely punctured mesothorax; disk of propodeum plicatulate.

HALICTUS (CHLORALICTUS) IMPAUDUS, new species.

Female.—About 5.5–6 mm. long; head and thorax olive green; abdomen black; pubescence white. Facial quadrangle longer than broad; orbits converging below; face covered with rather abundant white hairs; front with close but shallow punctures, the punctures more scattered on the sides of the face; supraclypeal area and upper half of clypeus with a few deep punctures; lower half of clypeus black, with very few coarse punctures, fringed with yellowish hairs; antennae dark brown, the flagellum dark ferruginous beneath. Mesothorax brassy green, shining, quite closely punctured; scutellum shining, the disk entirely covered with delicate punctures; disk of propodeum without an inclosing rim, the median portion with irregularly anastomosing rugae, the sides of the disk plicate; mesopleurae with coarse shallow punctures; truncation well defined laterally; tegulae very pale testaceous, impunctate. Abdomen obovate, impunctate; apical margins of segments testaceous; segments 1-2 sparsely pubescent; segments 3-5, with more abundant white hairs. Wings clear; anterior wing 4.25 mm. long; stigma and nervures pale testaceous; second submarginal cell broader at the base than it is high, but contracted above, receiving the first recurrent nervure very near the apex; third submarginal gently contracted above, about one and one-half times as long as second on the marginal. Legs dark with yellowish-white pubescence; knees and tarsi reddened; hind spur pectinate with three moderately long teeth.

Habitat.—California, labeled No. 903. Collector and exact locality unknown.

Type.—Cat. No. 26410, U.S.N.M.

HALICTUS (CHLORALICTUS) COMIS, new species.

Female.—About 5–5.5 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle somewhat longer than broad; orbits converging slightly below; antennae dark reddish brown, becoming scarcely paler at the apex of the flagellum; face clothed with moderately dense short white hairs; front very closely punctured; supraclypeal area and upper one-third of clypeus microscopically tessellate and sparsely punctured; clypeus largely black, shining, with a few coarse punctures, fringed with yellowish hairs; mandibles dark red. Thorax closely covered with rather short white hairs; mesothorax opaque, microscopically tessellate with rather close, deep punctures; punctation of scutellum similar to that of the mesothorax; disk of propodeum crescentic, without an inclosing rim, microscopically tessellate between irregular rugae; truncation well defined laterally; tegulae pale testaceous, impunctate. Abdomen obovate, impunctate, sparsely pubescent; apical margins of segments

brownish testaceous. Wings clear yellowish; anterior wing about 4 mm. long; stigma and nervures very pale testaceous; second submarginal cell higher than broad, gently contracted above; receiving first recurrent nervure very near the apex; third submarginal quite sharply contracted above, little longer than second on marginal. Legs dark brown, with dull white hairs; hind spur pectinate with three moderately long teeth; apical tarsi somewhat reddened.

Habitat.—Las Cruces (College Farm), New Mexico, on *Melilotus*, No. 2914 (Cockerell).

Type.—Cat. No. 26411, U.S.N.M.

HALICTUS (CHLORALICTUS) MERITUS, new species.

Female.—About 5.5 mm. long; head and thorax dark green; abdomen black; pubescence white, rather sparse. Facial quadrangle somewhat longer than broad; orbits converging slightly below; antennae dark, the flagellum hardly paler beneath; face with quite close, shallow punctures; above, the punctures become more dense; supra-clypeal area and upper half of clypeus microscopically lineolate, sparsely punctured; lower half of clypeus black, very coarsely punctured, fringed with yellowish hairs. Mesothorax shining, microscopically lineolate, punctured, the punctures about twice the diameter of a puncture apart; scutellum similarly punctured, with two pointed spots on the disk; disk of propodeum shining dark blue, crescentic, without an inclosing rim, with coarse plicae not reaching the apex which is polished; truncation not sharply defined, but distinct laterally; tegulae red-testaceous, impunctate. Abdomen obovate, shining, impunctate; bases of segments with narrow bands of white appressed hair; apical margins of segments dark testaceous. Wings hyaline, faintly iridescent; anterior wing 4.25 mm. long; stigma and nervures rather pale testaceous; second submarginal higher than broad, receiving the first recurrent nervure quite near the apex; third submarginal very broad at the base, contracted above, about one and one-third times as long as second on the marginal. Legs black with yellowish hairs.

Habitat.—Halfway House, Pikes Peak, Colorado, May 30, at flowers. *Fragaria* (Cockerell).

Type.—Cat. No. 26412, U.S.N.M.

HALICTUS (CHLORALICTUS) ARCANUS, new species.

Female.—About 6 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle longer than broad; orbits converging quite sharply below; face covered with rather sparse pubescence; antennae very dark brown, almost black, hardly paler beneath; front closely punctured; sides of face with scattered, outward opening punctures; supra-clypeal area and upper half of clypeus with

a brassy tinge, sparsely punctured; lower half of clypeus black, coarsely punctured, fringed with yellowish hairs; mandibles red. Thorax clothed with moderately dense white hairs, more abundant on the sides; mesothorax shining, microscopically lineolate, the punctures about the diameter of a puncture apart; scutellum microscopically tessellate, opaque, with deep punctures; disk of propodeum crescentic, polished posteriorly, rugae almost parallel on the lateral portions of disk, anastomosing medially; truncation not sharply defined but distinct laterally; tegulae red-testaceous, impunctate. Abdomen obovate, impunctate, without distinct hair bands, but segments covered with white subappressed hairs; first abdominal segment punctured on the median portion, the second segment punctured on the base; segments 1-2 sparsely pubescent. Wings clear; anterior wing 4.5 mm. long; stigma and nervures pale testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal rather gently contracted above, about one and one-half times as long as second on marginal. Legs black with dull white hairs; hind spur pectinate with four moderately long teeth.

Habitat.—White Mountains, New Mexico, July 20, on flowers, *Verbascum thapsus* (C. H. T. Townsend).

Type.—Cat. No. 26413, U.S.N.M.

HALICTUS (CHLORALICTUS) LATUS, new species.

Female.—About 6.5-7 mm. long; head and thorax dark olive green; abdomen black; pubescence yellowish white. Facial quadrangle about as broad as long; orbits converging slightly below; face clothed with moderately dense pubescence; front closely punctured, the punctures more scattered and indistinct below the antennae; supraclypeal area microscopically lineolate, with few deep punctures; clypeus produced little below the lower margins of the eyes, lower half shining black, with few coarse punctures, fringed with yellowish hairs. Thorax clothed with moderately abundant yellowish white hairs; mesothorax broad, shining, microscopically tessellate, with scattered shallow punctures; median and parapsidal grooves deeply impressed; scutellum closely and coarsely punctured, two polished spots on the disk; disk of propodeum crescentic, without an enclosing rim, shining, with coarse plicae extending to the posterior margin, median portion of disk slightly elevated posteriorly, and tessellate; truncation distinct laterally; tegulae rufo-testaceous, impunctate. Abdomen obovate, impunctate; segments 1-2 almost without pubescence, shining; segments 3-5 covered with subappressed yellowish hairs. Anterior wing about 5 mm. long; wings hyaline; stigma and nervures pale testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure very near the apex; third

submarginal sharply contracted above and little longer than second on the marginal. Legs black, with quite abundant yellowish hairs; hind spur pectinate with three moderately long teeth.

Habitat.—Colorado Springs, Colorado, April 20, at flowers of willow (W. P. Cockerell).

Type.—Cat. No. 26414, U.S.N.M.

Distinguished from other *Chloralictus* by the broad head; and from *unicus* by the reddish tegulae, olive-green mesothorax, hind spur with three teeth, darker stigma and nervures.

HALICTUS (CHLORALICTUS) UNICUS, new species.

Female.—About 6.5 mm. long; head and thorax dark blue-green; abdomen black; pubescence largely dull white. Facial quadrangle about as broad as long; orbits converging below; face covered with moderately dense pubescence; front with close shallow punctures; sides of face and supraclypeal area microscopically lineolate, with deep scattered punctures; clypeus largely shining black, with few very coarse punctures, fringed with yellowish hairs; antennae dark, flagellum reddened beneath, especially apically. Thorax clothed with abundant white pubescence; mesothorax broad, microscopically lineolate, with coarse scattered punctures; scutellum sculptured similarly to the mesothorax, two large polished spots on the disk; disk of propodeum crescentic, without an inclosing rim, with few coarse plicae, plicae somewhat wrinkled, especially on the median portion; truncation distinct laterally; tegulae pale testaceous, impunctate. Abdomen broadly obovate, impunctate; first abdominal segment as broad as second; segments 1–2 shining, almost without pubescence; segments 3–5 clothed with dense subappressed yellowish white hairs. Anterior wing 5 mm. long; wings clear; stigma and nervures honey color; second submarginal cell higher than broad, scarcely contracted above, receiving the first recurrent nervure very near the apex; third submarginal very gently contracted above, about twice as long as second on marginal. Legs black, with dense dull white hairs; hind spur pectinate with four moderately long teeth.

Habitat.—Seven miles east of Vinton, Iowa, June 29, 1922 (Sandhouse).

Type.—Cat. No. 26415, U.S.N.M.

Easily distinguished from other *Chloralictus* by the broad head, and from *latus* by the paler tegulae and nervures; blue-green mesothorax; hind spur with four teeth.

HALICTUS (CHLORALICTUS) ABSIMILIS, new species.

Female.—About 6 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle longer than broad; inner orbits converging below; front above the antennae with close

shallow punctures; sides of face, part of the clypeus and supraclypeal area microscopically lineolate, more sparsely punctured; lower part of clypeus black, shining, with a few coarse punctures; flagellum dark testaceous, paler beneath and at the apex. Thorax quite densely pubescent; mesothorax shining, microscopically lineolate, with moderately close, shallow punctures, the punctures closer at the extreme posterior and lateral margins; punctation of scutellum similar to that of the mesothorax, two large polished spots on the disk; disk of propodeum rather long, without a distinct inclosing rim, microscopically tessellate, with more or less discontinuous plicae; truncation distinct laterally; tegulae very pale testaceous, impunctate. Abdomen obovate, shining, impunctate; segments 1-2 with sparse dull white pubescence; segments 3-5 densely clothed with subappressed dull white hairs; apical margins of segments 3-4 testaceous. Anterior wing 4.5 mm. long; wings hyaline; stigma and nervures pale testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal subquadrate, gently contracted above, little longer than the second on marginal. Legs dark, with dull white hairs; knees and tarsi dark red; hind spur pectinate with four moderately long teeth.

Habitat.—Sterling, Colorado, July 10, 1920, on dandelion (*Taraxacum*) (Sandhouse)

Type.—Cat. No. 26416, U.S.N.M.

HALICTUS (CHLORALICTUS) VINTONENSIS, new species.

Female.—About 5 mm. long; head and thorax olive green; abdomen black; pubescence dull or yellowish white. Facial quadrangle distinctly longer than broad; inner orbits converging gently below; face shining, clothed with quite abundant pubescence, rather closely and delicately punctured; supraclypeal area sparsely punctured; clypeus largely green, sparsely punctured, black below, fringed with yellowish hairs; antennae largely dark, flagellum dark testaceous beneath; mandibles red. Thorax shining with quite abundant pubescence; mesothorax smooth, with very delicate punctures; scutellum with disk largely polished, dull and delicately punctured at posterior margin; disk of propodeum long, without a distinct inclosing rim, microscopically tessellate, with irregular rugae on basal portion only; truncation distinct laterally; tegulae very pale testaceous, impunctate. Abdomen ovate, shining, quite sparsely pubescent, impunctate; apical half of segments 1-2 with bronzen reflections; anterior wing 4.2 mm. long; wings hyaline; stigma and nervures pale testaceous; subcostal nervure very dark; second submarginal cell higher than broad, receiving the first recurrent nervure very near the apex; third submarginal hardly contracted above, almost twice as long as second

on the marginal. Legs black, covered with dense yellowish pubescence; knees and tarsi clear red; hind spur pectinate with four moderately long teeth.

Habitat.—Vinton, Iowa, June 23, 1922 (Sandhouse). Two specimens.

Type.—Cat. No. 26417, U.S.N.M.

HALICTUS (CHLORALICTUS) GAUDIALIS, new species.

Male.—About 4.5 mm. long; head and thorax brilliant blue; abdomen black; pubescence pure white. Face clothed with dense pubescence; facial quadrangle longer than broad; inner orbits converging sharply below; antennae dark brown, flagellum yellow-testaceous beneath, second and third antennal joints of equal length; front closely punctured, the punctures becoming hardly more scattered below antennae and on supraclypeal area; clypeus largely black, produced about two-thirds its length below the eyes, coarsely punctured. Thorax slender, with moderately dense pubescence; mesothorax shining, coarsely and closely punctured; scutellum and metathorax closely punctured; disk of propodeum crescentic, shining, with a low inclosing rim posteriorly, plicae radiating slightly, reaching the apex; mesopleurae coarsely punctured; sides of propodeum punctured; truncation distinct, but not sharply defined laterally; tegulae dark, opaque, with close and deep punctures. Abdomen ovate, black, bases of segments clothed with fine white hairs, delicately punctured; apical margins of segments polished. Wings clear; anterior wing 3.5 mm. long; stigma and nervures testaceous; second submarginal cell twice as high as broad, receiving the first recurrent nervure very near the apex; third submarginal broad at the base, contracted about one-half above, almost twice as long as second on the marginal. Legs black, or very dark brown; tarsi paler brown; pubescence moderately dense.

Habitat.—La Jolla, California, August (Cockerell). Two specimens.

Type.—Cat. No. 26418, U.S.N.M.

HALICTUS (CHLORALICTUS) PAULULUS, new species.

Male.—About 4 mm. long; head and thorax greenish blue; abdomen black; pubescence white. Facial quadrangle distinctly longer than broad; orbits converging sharply below; face clothed with dense white hairs; flagellum brown, rufo-testaceous beneath, second and third antennal joints of equal length; front very closely punctured above the antennae, the punctures more scattered below; clypeus largely black, coarsely punctured. Thorax clothed with moderately abundant pubescence, the hairs longer on the sides; mesothorax shining, with close, coarse punctures, the punctures about the diameter

of a puncture apart; median and parapsidal grooves indistinct; punctation of scutellum similar to that of the mesothorax; disk of propodeum crescentic, dull, finely roughened, rugose at the base only; mesopleurae punctate; truncation distinct laterally; tegulae dark, opaque, coarsely punctured. Abdomen ovate; without distinct hair bands, but segments clothed with quite sparse dull white hairs; apical margins of segments polished, dark testaceous. Wings yellowish; anterior wing 2.75 mm. long; stigma and nervures pale testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal about one and one-half times as long as the second on the marginal. Legs black, with rather sparse pubescence; tarsi reddish.

Habitat.—Crook, Colorado, August 29, 1920 (Sandhouse).

Type.—Cat. No. 26419, U.S.N.M.

HALICTUS (CHLORALICTUS) EXALBIDUS, new species.

Male.—About 5 mm. long; brilliant blue; pubescence pruinose, abundant. Facial quadrangle about as broad as long; face with long plumose hairs; orbits converging below; second and third antennal joints of equal length, flagellum rufo-testaceous, paler beneath; front with close, deep punctures above the antennae, more sparse below; supraclypeal area and clypeus largely blue, more delicately punctured; the line between the clypeus and supraclypeal area very faint. Mesothorax shining, coarsely punctured; median and parapsidal grooves distinct, but not deeply impressed; punctation of scutellum similar to that of the mesothorax; metathorax shining, punctate; disk of propodeum small, semicircular, with a polished inclosing rim, shining, with irregularly wrinkled rugae; mesopleurae coarsely punctured; sides of propodeum punctured, the punctures extending up to the edge of the disk; truncation distinct laterally, but not sharply defined; tegulae very clear, honey color, impunctate. Abdomen narrowly ovate, segments punctured to the extreme apical margins, which are testaceous. Wings clear; anterior wing 3.5 mm. long; stigma and nervures honey color, except the subcosta and the costa beyond the stigma, which are testaceous; second submarginal cell higher than broad; first recurrent nervure joining second transverso-cubital; third submarginal somewhat broader than high, gently contracted above, about three times as long as second on the marginal. Legs dark, with knees reddened; tarsi testaceous.

Habitat.—Sante Fe, New Mexico, August, No. 4228 (Cockerell).

Type.—Cat. No. 26420, U.S.N.M.

Differs from *albohirtus* Crawford[†] by the more closely punctured mesothorax; sculpturing of the disk² of propodeum; broader head.

From *pruinosisiformis*, Crawford², by the reddened flagellum; more sparse pubescence; broader head.

HALICTUS (CHLORALICTUS) ACTUARIUS, new species.

Male.—About 4.5 mm. long; brilliant blue; pubescence white, sparse. Facial quadrangle distinctly longer than broad; orbits converging slightly below; flagellum testaceous, yellow testaceous beneath; second and third joints of antennae of equal length; front shining, with close, rather delicate punctures above antennae; punctures below and on the supraclypeal area and clypeus delicate, but more scattered; clypeus largely blue; mandibles dark reddish. Mesothorax shining, coarsely punctured, the punctures about twice the diameter of a puncture apart; punctation of the scutellum similar to that of the mesothorax; metathorax punctured; disk of propodeum long, shining, without an inclosing rim, plicate laterally, medially with irregularly anastomosing rugae; pleurae and sides of propodeum coarsely punctured; truncation distinct laterally; tegulae honey color, impunctate. Abdomen narrowly ovate, punctured, very sparsely pubescent; apical margins of segments testaceous; margins of segments 1-2 punctured, of segments 3-5 punctureless. Wings very clear; anterior wing about 3.25 mm. long; stigma and nervures honey color, except the subcostal nervure which is testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal practically quadrate, little contracted above, more than twice as long as second on the marginal. Legs largely black; knees red; tarsi yellow-testaceous.

Habitat.—Boulder, Colorado, July 31, 1908 (S. A. Rohwer).

Type.—Cat. No. 26421, U.S.N.M.

Differs: From *albohirtus* Crawford by the narrower thorax; less abundant pubescence; sculpturing on the disk of propodeum.

From *pruiniformis* Crawford by the sparse pubescence; more slender abdomen; sculpturing and color of the disk of propodeum.

HALICTUS (CHLORALICTUS) SAGAX, new species.

Male.—About 5.5-6 mm. long; head and thorax olive green; abdomen black; pubescence white. Facial quadrangle longer than broad; inner orbits converging sharply below; face brassy, clothed with dense hairs; flagellum brown, paler beneath; third antennal joint longer than second; front above the antennae sparsely pubescent, very closely punctured, below the antennae so closely covered with plumose hairs that no punctures are apparent; lower half of clypeus and tips of mandibles reddish yellow. Thorax with sparse pubescence; mesothorax and scutellum shining brassy green, smooth, coarsely punctured, the punctures much closer in the region of the median and parapsidal grooves; disk of propodeum shining dark green, with very coarse rugae extending to the posterior margin, thence over the lateral [sides and covering the entire posterior surface; truncation

very sharply defined; tegulae pale testaceous, impunctate. Abdomen ovate, shining, sparsely pubescent, with delicate piliferous punctures on the bases of segments; apical margins of segments narrowly testaceous. Wings hyaline, faintly dusky; anterior wing 4 mm. long; stigma and nervures testaceous; subcostal nervure dark; second submarginal cell higher than broad, contracted above; first recurrent nervure joining the second transverso-cubital; third submarginal narrow—that is, higher than broad—about twice as long as the second on the marginal. Legs black with knees, tips of tibiae and tarsi rufo-testaceous; pubescence pure white.

Habitat.—Boulder, Colorado, July 28, and September 12, 1908 (S. A. Rohwer). Two specimens.

Type.—Cat. No. 26422, U.S.N.M.

Quite similar to *disparilis* Crawford, from which it differs by the more sharply converging orbits; yellow clypeus; shape and sculpturing of the disk of the propodeum.

HALICTUS (CHLORALICTUS) PEREXIGUUS, new species.

Male.—About 5 mm. long; head and thorax greenish blue; abdomen brown; pubescence white. Facial quadrangle longer than broad; orbits converging sharply below; eyes bulging, giving the face a circular appearance; antennae rufo-testaceous; second and third joints of antennae of equal length; flagellum yellow-testaceous beneath; front covered with appressed white hairs, above the antennae very closely punctured, below the punctures become more sparse; lower half of clypeus and mandibles yellow; clypeus produced little below the lower margin of the eyes. Thorax with moderately dense pubescence; mesothorax shining, with delicate, moderately close punctures; median and parapsidal grooves distinct, but not deeply impressed; scutellum and metathorax shining, delicately punctured; disk of propodeum long, shining, with irregular rugae not reaching the apex, which is polished; mesopleurae shining, delicately punctured; truncation not sharply defined, but distinct laterally; tegulae very pale, impunctate. Abdomen slender, the only punctures piliferous; bases of segments clothed with rather sparse hairs; apical margins very pale testaceous. Wings clear; anterior wing 4 mm. long; stigma and nervures testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal little broader than high, contracted above, about equidistant with the second on the marginal. Legs yellow-testaceous; the femora and tibiae somewhat darker; pubescence dull white.

Habitat.—Las Cruces, New Mexico, October 12 (Cockerell).

Type.—Cat. No. 26423, U.S.N.M.

HALICTUS (CHLORALICTUS) OCCULTUS, new species.

Male.—About 6.5 mm. long; head olive green; thorax largely blue-green; abdomen black; pubescence white. Facial quadrangle distinctly longer than broad; orbits converging sharply below; front above the antennae without hairs, very closely punctured, below the antennae the punctures are more scattered and the pubescence is dense; supraclypeal area opaque, microscopically lineolate, sparsely punctured; lower half of clypeus and mandibles very pale yellow; antennae dark testaceous, flagellum testaceous beneath; second and third antennal joints of equal length. Thorax with moderately dense pubescence; mesothorax shining, with delicate punctures, the disk blue, the lateral and posterior margins blue-green; punctation of scutellum similar to that of the mesothorax; disk of propodeum shining blue, laterally with a few coarse plicae which extend over on the sides; the median portion is irregularly rugose; truncation distinct laterally; tegulae dark, impunctate. Abdomen slender, impunctate, sparsely pubescent; the apical margins of the segments testaceous, with microscopic transverse lineolations. Wings clear hyaline; anterior wing 5 mm. long; stigma and nervures testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal little broader than high, about one and one-half times as long as the second on the marginal. Legs black; knees, apices of tibiae and tarsi yellow; the front legs with tibiae entirely yellow; pubescence on legs short, pure white.

Habitat.—Florissant, Colorado, July 23, at flowers *Potentilla* (Cockerell).

Type.—Cat. No. 26424, U.S.N.M.

Differs: From *hortensis* Lovell by the larger size; brassy face and mesothorax; clear wings; legs black; narrower face.

From *nevadensis* Crawford by the narrower, brassy face; paler flagellum; brassy mesothorax and scutellum; clear wings; sculpturing on disk of propodeum.

HALICTUS (CHLORALICTUS) EVESTIGATUS, new species.

Male.—About 6–6.5 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle somewhat longer than broad; orbits converging slightly below; antennae dark brown, third joint longer than the second; flagellum yellow-testaceous beneath; front above antennae with close, shallow punctures, below sparsely punctured and clothed with dense pubescence; the lower half of the clypeus pale yellow; mandibles dark, red at the apex. Thorax with moderately dense short hairs; mesothorax and scutellum shining, with coarse punctures, the punctures hardly the diameter of a puncture apart; disk of propodeum long, shining, without an inclosing rim,

emarginate posteriorly, with irregularly anastomosing rugae; truncation distinct laterally; tegulae dark, impunctate. Abdomen ovate, shining piceous, sparsely pubescent; the bases of the segments punctate; the apical margins testaceous with microscopic, transverse lineations. Wings hyaline; anterior wing 4.5 mm. long; stigma and nervures dark testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure one-third of the distance from the apex; third submarginal broad, sharply contracted above, about one and one-half times as long as the second on marginal. Legs black; sparsely pubescent; tarsi yellow.

Habitat.—Ward, Colorado, August 10 (Cockerell).

Type.—Cat. No. 26425, U.S.N.M.

HALICTUS (CHLORALICTUS) PIKEI, new species.

Male.—About 7 mm. long; head and thorax brilliant dark blue; abdomen black; pubescence white. Facial quadrangle considerably longer than broad; orbits converging slightly below; antennae dark testaceous, the third joint longer than the second; flagellum yellow-testaceous beneath; face shining, sparsely pubescent; front above the antennae closely punctured, the punctures becoming more sparse below; lower half of clypeus pale yellow; mandibles dark, reddish at the apex. Thorax with short hairs; mesothorax shining, the disk rather coarsely punctured, the punctures about the diameter of a puncture apart; outside the disk, the punctures are more delicate; scutellum greenish blue, shining, delicately punctured; disk of propodeum long, without a distinct inclosing rim, with very irregular rugae extending to the apex; mesopleurae shining, with shallow punctures; truncation distinct laterally; tegulae dark, impunctate. Abdomen ovate, shining, sparsely pubescent; the only punctures piliferous; the bases of the segments 4-5 with a bluish reflection; apical margins of segments brownish. Wings clear hyaline; anterior wing 4.75 mm. long; stigma and nervures dark testaceous; basal nervure strongly bent; second submarginal cell higher than broad, receiving the first recurrent nervure very near the apex; third submarginal about twice as long as the second on the marginal. Legs black, with dull white hairs; knees red; tarsi yellow.

Habitat.—Printing Office, Pikes Peak, Colorado, September 17 (Cockerell).

Type.—Cat. No. 26426, U.S.N.M.

HALICTUS (CHLORALICTUS) OBNUBILUS, new species.

Male.—About 4 mm. long; head and thorax dark blue-green; abdomen black; pubescence white, sparse. Facial quadrangle longer than broad; orbits converging sharply below; antennae dark, second and third joints of equal length; flagellum dark brown, hardly paler

beneath; front above the antennae closely punctured; below the antennae, the supraclypeal area and clypeus with sparse deep punctures; lower half of clypeus black. Mesothorax shining, greenish, with faint microscopic lineolations; outside the disk, the punctures are about the diameter of a puncture apart, on the disk, twice as far apart; scutellum and metathorax shining, punctured; disk of propodeum crescentic, with a low, polished, inclosing rim, shining, with plicae extending to the posterior margin; mesopleurae shining, coarsely punctured; sides of propodeum delicately punctured; truncation distinct laterally; tegulae dark; impunctate. Abdomen slender, shining, the segments delicately punctured, except the apical margins of the segments which are polished; sparsely pubescent. Wings faintly dusky; anterior wing 2.5 mm. long; stigma and nervures dark; second submarginal cell higher than broad; contracted above; first recurrent nervure joining the second transverso-cubital; third submarginal very broad, contracted about one-half above, little longer than second on the marginal. Legs black.

Habitat.—Boulder, Colorado, July 18, 1908 (S. A. Rohwer).

Type.—Cat. No. 26427, U.S.N.M.

Differs: From *ruidosennsis* Cockerell by the smaller size: plicae on the disk of propodeum reaching the posterior margin; mesothorax brassy; paler color.

HALICTUS (CHLORALICTUS) INSULSUS, new species.

Male.—About 5 mm. long; head and thorax dark blue; abdomen black; pubescence white, sparse. Facial quadrangle about as broad as long; orbits converging below; antennae dark brown, the second and third joints of equal length; flagellum little paler beneath; front above the antennae very closely punctured; the lower portion of the front, supraclypeal area and clypeus more sparsely punctured; clypeus black, produced more than half its length below the lower margins of the eyes. Mesothorax and scutellum with moderately coarse, shallow punctures, about the diameter of a puncture apart; disk of propodeum without an inclosing rim, plicatulate at the base only, the apex is polished; mesopleurae with shallow punctures; sides of propodeum punctured; truncation not sharply defined, but distinct laterally; tegulae dark, impunctate. Abdomen slender, the only punctures piliferous; the apical margins of segments brownish. Wings faintly dusky; anterior wing 4 mm. long; stigma and nervures dark; the second submarginal cell as broad at the base as it is high, but contracted almost one-half above, receiving the first recurrent nervure very near the apex; third submarginal about twice as long as the second on marginal. Legs black.

Habitat.—Beulah, New Mexico, August 18 (W. Porter).

Type.—Cat. No. 26428, U.S.N.M.

HALICTUS (CHLORALICTUS) CONSONUS, new species.

Male.—About 6.5–7 mm. long; head and thorax very dark blue-green; abdomen black; pubescence white. Facial quadrangle somewhat longer than broad; inner orbits converging sharply below; antennae black, second and third joints of about equal length; flagellum dark testaceous beneath; front above the antennae very closely punctured, the punctures becoming more open and sparse below; supraclypeal area and clypeus microscopically lineolate, sparsely punctured; clypeus black; mandibles black, slightly reddened apically. Thorax with short, rather dense pubescence; mesothorax microscopically tessellate, quite closely punctured, the punctures more sparse on the disk; scutellum punctured; disk of propodeum long, shining, with plicae on the sides, the median portion with irregularly anastomosing rugae, apex polished; truncation distinct laterally; tegulae dark, impunctate. Abdomen shining, sparsely pubescent, narrowly ovate; segments with transverse lineolations; the only punctures piliferous; apical margins of segments polished. Wings faintly dusky; anterior wing 5 mm. long; stigma and nervures dark; second submarginal cell as broad as high, contracted slightly above, receiving the first recurrent nervure near the apex; third submarginal higher than broad, hardly contracted above, about one and one-half times as long as the second on marginal. Legs black, with dull white pubescence, except on the tarsi where it is yellowish.

Habitat.—Colebrook, Connecticut, September 1–7 (W. M. Wheeler).

Type.—Cat. No. 26429, U.S.N.M.

Differs: From *ruidosensis* Cockerell by the shape and sculpturing of the disk of propodeum; impunctate abdomen; flagellum paler beneath.

From *viridatus* Lovell by the darker thorax; more closely punctured mesothorax; sculpturing of disk of propodeum.

HALICTUS (CHLORALICTUS) PRAEPES, new species.

Male.—About 6.5–7 mm. long; head and thorax dark greenish blue; abdomen shining black; pubescence white, rather sparse. Facial quadrangle longer than broad; orbits converging sharply below; antennae dark brown, third joint longer than second; flagellum testaceous beneath; front above the antennae very closely punctured; below, with more scattered, shallow punctures, and covered with dense pubescence; lower portion of clypeus black; clypeus and supraclypeal area without distinct punctures. Mesothorax shining, rather sparsely punctured; scutellum distinctly rounded upward, shining, almost without punctures; disk of propodeum slightly elevated posteriorly, shining, with few rugae extending across the disk and on to the sides of the propodeum, faint reticulations between the rugae; truncation distinctly laterally, but not sharply defined; sides of propodeum rugose; tegulae dark, impunctate. Abdomen slenderly

ovate, shining, impunctate, almost without pubescence; apical margins of segments dark testaceous. Wings quite clear; anterior wing about 4.5 mm. long; stigma and nervures dark testaceous; basal nervure very gently arched; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal not contracted above, about twice as long as the second on marginal. Legs black.

Habitat.—Peaceful Valley, Colorado, 1919 (Cockerell).

Type.—Cat. No. 26430, U.S.N.M.

Differs: From *ruidosensis* Cockerell by the shining, more sparsely punctured mesothorax and scutellum; sculpturing of the disk of propodeum; polished abdomen.

From *viridatus* Lovell by the shining blue head and thorax; more sparsely and delicately punctured mesothorax; impunctate abdomen.

HALICTUS (CHLORALICTUS) ASTUTUS, new species.

Male.—About 7 mm. long; head and thorax largely dark blue-green; abdomen black; pubescence dull white. Facial quadrangle distinctly longer than broad; orbits converging below; face clothed with rather sparse, dull white hairs; front above the antennae without punctures, but rough, giving it a dull appearance; below the antennae, it is sparsely punctured; supraclypeal area and upper half of clypeus microscopically tessellate, sparsely punctured; antennae dark, third joint scarcely longer than the second; flagellum rufo-testaceous beneath. Thorax with moderately dense, long hairs; mesothorax smooth, shining, sparsely and coarsely punctured; scutellum duller, but with similar punctation, two smooth spots on the disk; disk of propodeum crescentic, inclosed by a rim posteriorly, with coarse rugae not quite reaching the apex, which is microscopically tessellate, but the rugae extend over the lateral margins of the disk; upper half of lateral sides and posterior side of propodeum coarsely rugose; truncation clearly defined laterally; tegulae dark, impunctate. Abdomen narrowly ovate, impunctate; apical margins of segments polished and narrowly testaceous; the bases of the segments covered with sparse pubescence. Wings hyaline; anterior wing 5 mm. long; stigma and nervures dark; second submarginal cell higher than broad, contracted above, receiving the first recurrent nervure very near the apex; third submarginal higher than broad, hardly contracted above, twice as long as the second on marginal. Legs black, with yellowish white pubescence; tarsi somewhat reddened.

Habitat.—Beulah, New Mexico, August 18 (W. Porter).

Type.—Cat. No. 26431, U.S.N.M.

Differs: From *ruidosensis* Cockerell by the shining, more sparsely punctured mesothorax; shape and sculpturing of the disk of propodeum; impunctate abdomen.

From *viridatus* Lovell by the shining blue, more sparsely punctured mesothorax; dusky wings; disk of propodeum plicate at the base only; impunctate abdomen.

HALICTUS (CHLORALICTUS) ABUNDUS, new species.

Male.—About 7 mm, long; head and thorax dark blue; abdomen black; pubescence short, dull white. Facial quadrangle distinctly longer than broad; orbits converging sharply below; face with sparse pubescence; front above the antennae closely punctured, below, more sparsely punctured; supraclypeal area and clypeus microscopically lineolate and coarsely punctured; antennae dark reddish brown, second and third joints of equal length; flagellum ferruginous beneath. Thorax with quite dense pubescence, mesothorax microscopically lineolate, coarsely punctured; disk of scutellum with two large polished spots; disk of propodeum nearly crescentic, shining, with coarse irregularly anastomosing rugae reaching the apex, at the sides the rugae extend on to the sides of the propodeum; posterior side of propodeum coarsely rugose; truncation clearly defined; tegulae ferrugino-testaceous, impunctate. Abdomen ovate, polished, very sparsely pubescent; segments with apical margins polished. Wings reddish, hyaline; stigma and nervures red-testaceous; anterior wing 5.5 mm. long; second submarginal cell higher than broad, receiving the first recurrent nervure very near the apex; third submarginal hardly broader than high, about one and one-half times as long as the second on marginal. Legs black, sparsely pubescent; tarsi reddish.

Habitat.—Beulah, New Mexico, end of August (Cockerell and Porter). Seven specimens.

Type.—Cat. No. 26432, U.S.N.M.

Differs: From *ruidosensis* Cockerell by the more sparsely punctured mesothorax; sculpturing of the disk of propodeum; flagellum paler beneath; wings lighter; tarsi reddened; abdomen obovate, not punctured.

From *viridatus* Lovell by the paler flagellum; yellowish pubescence; mesothorax tessellate, more closely punctured; wings and tegulae reddened.

HALICTUS (CHLORALICTUS) TRANQUILLUS, new species.

Male.—About 7 mm. long; head and thorax blue; abdomen black; pubescence white, sparse. Facial quadrangle longer than broad, orbits converging below; face above the antennae very closely punctured; the punctures below and on the sides of the face more sparse; clypeus and supraclypeal area microscopically tessellate, with sparse, deep punctures; antennae dark, second and third joints of equal length;

flagellum testaceous beneath. Mesothorax and scutellum opaque, microscopically tessellate; the disk sparsely punctured; outside the disk the punctures are about the diameter of a puncture apart; disk of propodeum dull, slightly elevated posteriorly, microscopically tessellate between irregular rugae; the rugae extend on to the sides of the propodeum; truncation distinct laterally; tegulae dark, impunctate. Abdomen ovate, shining, impunctate; very sparsely pubescent; apical margins of segments polished, narrowly testaceous. Wings hyaline; anterior wing 5.25 mm. long; stigma and nervures dark; second submarginal cell higher than broad, receiving the first recurrent nervure a little distance from the apex; third submarginal subquadrate, hardly contracted above, about one and one-third times as long as the second on the marginal. Legs black, with yellowish hairs; tarsi reddish.

Habitat.—Santa Fe, New Mexico, July (Cockerell). No. 3467; on *Linum lewisii*.

Type.—Cat. No. 26433, U.S.N.M.

HALICTUS (CHLORALICTUS) PUDICUS, new species.

Male.—About 6.5 mm. long; head and thorax dark blue; abdomen black; pubescence pure white, sparse. Facial quadrangle longer than broad; orbits converging slightly below; front above the antennae with close, shallow punctures; the punctures becoming more sparse below, and at the sides of the face which is greenish; clypeus and supraclypeal area microscopically tessellate, delicately punctured; apices of mandibles red; antennae dark, second and third joints of equal length; flagellum testaceous beneath. Mesothorax opaque, microscopically tessellate, with punctures about the diameter of a puncture apart, and more scattered on the disk; punctation of scutellum similar to that of the mesothorax, two shining spots on the disk; disk of propodeum crescentic, shining, plicate, the plicae somewhat discontinuous and extending over the margin on to the sides; truncation distinct laterally, but not sharply defined; tegulae dark, impunctate. Abdomen narrowly ovate, shining, impunctate, very sparsely pubescent; apical margins of the segments polished, narrowly testaceous. Wings hyaline; anterior wing 5 mm. long; stigma and nervures dark testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure very near the apex; third submarginal as high as broad, contracted sharply above, about equidistant with the second on the marginal. Legs black; knees somewhat reddened; tarsi yellow.

Habitat.—Longs Peak, Colorado, August, at flowers gentian (Cockerell).

Type.—Cat. No. 26434, U.S.N.M.

HALICTUS (CHLORALICTUS) LACTINEUS, new species.

Male.—About 6 mm. long; head and thorax greenish blue; abdomen black; pubescence pure white. Facial quadrangle longer than broad; orbits converging slightly below; the entire face, clypeus and supraclypeal area closely punctured; lower half of clypeus black; mandibles red at the apex; antennae dark, third joint longer than the second; flagellum rufo-testaceous beneath. Thorax densely pubescent; mesothorax somewhat polished, microscopically lineolate, very coarsely punctured, the punctures about the diameter of a puncture apart; the disk with more scattered punctures; scutellum closely punctured, with two large polished spots on the disk; disk of propodeum crescentic, shining, the plicae extending to the posterior margin which is sharply elevated; at the sides the plicae extend on to the lateral sides of the propodeum; mesopleurae with coarse shallow punctures; truncation sharply defined laterally; tegulae honey color, impunctate. Abdomen ovate, apical margins of segments somewhat polished, narrowly testaceous; segments 1-3 delicately punctured, quite sparsely pubescent; segments 4-5 with piliferous punctures only, pubescence more abundant. Wings milky white; anterior wing 4.25 mm. long; stigma and nervures honey color; the second submarginal cell much higher than broad, receiving the first recurrent nervure very near the apex; third submarginal broad at the base, contracted above, at least twice as long as the second on the marginal. Legs black; knees, apices of tibiae and tarsi yellow.

Habitat.—Boulder, Colorado, August 4, 1908 (S. A. Rohwer).

Type.—Cat. No. 26435, U.S.N.M.

Differs: From *albipennis* Robertson by the more sparsely punctured mesothorax; sculpturing of the disk of propodeum; smaller size; paler tegulae; wings more milky white.

From *connexus* Crawford by the more coarsely punctured mesothorax; sculpturing of the disk of propodeum; paler tegulae and wings; color of head and thorax.

HALICTUS (CHLORALICTUS) CALLIDUS, new species.

Male.—About 5.5 mm. long; head and thorax golden green; abdomen black; pubescence pure white. Facial quadrangle longer than broad; orbits converging slightly below; face clothed with very dense pubescence, closely punctured; antennae dark, second and third joints of equal length; flagellum testaceous beneath; mandibles pale reddish. Thorax with dense, short pubescence; mesothorax opaque, microscopically tessellate, closely punctured, punctures laterally contiguous, on the disk the punctures are a little more than the diameter of a puncture apart; punctation of the scutellum similar to that of the mesothorax; disk of propodeum crescentic, shining,

plicate, the plicae reaching the broad, low posterior rim; at the sides the plicae extend over the margin on to the lateral sides of the propodeum; mesopleurae with coarse, shallow punctures; truncation sharply defined laterally; tegulae pale testaceous, impunctate. Abdomen ovate, with rather close, short hairs; apical margins of segments with faint, transverse lineolations, testaceous; segments 1-3 closely punctured; segments 4-5 with piliferous punctures only. Wings clear; anterior wing 4.5 mm. long; stigma and nervures very pale testaceous; subcostal nervure very dark; basal nervure very strongly bent; second submarginal cell higher than broad; the first recurrent nervure joining the second transverso-cubital; third submarginal broad, contracted above, about one and one-half times as long as the second on the marginal. Legs black; knees and tips of tibiae and tarsi yellow.

Habitat.—East Falls Church, Virginia, July 20 (S. A. Rohwer), at flowers *Daucus carota*.

Type.—Cat. No. 26436, U.S.N.M.

Differs: From *hortensis* Lovell by the larger size; paler wings; head and thorax golden green; punctured abdomen; sculpturing of the disk of propodeum.

From *disparilis* Crawford by the narrower face; opaque, more closely punctured mesothorax and scutellum; sculpturing of the disk of propodeum; abdomen closely punctured, with greenish reflections.

HALICTUS (CHLORALICTUS) APERTUS, new species.

Male.—About 5 mm. long; head and thorax dark blue; abdomen black; pubescence white. Facial quadrangle longer than broad; orbits converging sharply below; face clothed with quite dense pubescence; front above the antennae very closely punctured, the punctures more sparse below and on the sides of the face; punctures sparse on the supraclypeal area and clypeus, which are dull and microscopically tessellate; anterior margin of clypeus obscurely yellowish; third joint of antennae longer than second; flagellum dark testaceous, paler beneath. Thorax with close, short hairs; mesothorax and scutellum opaque, microscopically tessellate, appearing almost finely granular, very closely punctured, the punctures more sparse on the disk; disk of propodeum crescentic, shining, with microscopic transverse lineolations between the plicae, which reach the apex; the plicae extend on to the sides of the propodeum; truncation distinct laterally; tegulae very pale testaceous, impunctate. Abdomen obovate, densely pubescent, with delicate piliferous punctures; apical margins of segments microscopically lineolate; testaceous. Wings hyaline; about 3.5 mm. long; stigma and nervures testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure a little distance from

the apex; third submarginal subquadrate, contracted little above, hardly longer than the second on the marginal. Legs black; knees, tips of tibiae, and tarsi reddish yellow.

Habitat.—East Falls Church, Virginia, July 22; and Chain Bridge, Virginia, (type locality), June 14 (S. A. Rohwer). Two specimens.

Type.—Cat. No. 26437, U.S.N.M.

Differs from *hortensis* Lovell by more robust species; mesothorax opaque, closely punctured; orbits converging more sharply below; paler flagellum; sculpturing of the disk of propodeum; paler wings.

HALICTUS (CHLORALICTUS) GENUINUS, new species.

Male.—About 5.5 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle somewhat longer than broad; orbits converging below; face densely pubescent; front above the antennae closely punctured, the punctures becoming more sparse below; antennae dark, the second and third joints of equal length; flagellum testaceous beneath; mandibles red at the apex. Thorax with quite dense, short hairs, mesothorax opaque, microscopically tessellate, very closely punctured, the punctures on the disk about twice as far apart; punctation of the scutellum similar to that of the mesothorax; two smooth spots on the disk; disk of propodeum crescentic, shining, inclosed posteriorly by a low rim, plicae reaching the posterior margin and extending on the sides of the propodeum; truncation distinct laterally; tegulae testaceous, impunctate. Abdomen narrowly ovate; apical margins of segments transversely lineolate; bases of segments with delicate piliferous punctures and dense, short hairs. Wings clear hyaline; anterior wing 4.25 mm. long; stigma and nervures pale testaceous; second submarginal cell higher than broad, contracted above, receiving the first recurrent nervure a little distance from the apex; third submarginal almost as broad as high, contracted above, one and one-half times as long as the second on the marginal. Legs black, with quite abundant hairs; knees, tips of tibiae, and tarsi reddened.

Habitat.—Chain Bridge, Virginia, June 14 (S. A. Rohwer).

Type.—Cat. No. 26438, U.S.N.M.

Differs from *hortensis* Lovell by the larger, more robust size; darker flagellum; more closely punctured mesothorax; darker tegulae; sculpturing of the disk of propodeum.

HALICTUS (CHLORALICTUS) BASILICUS, new species.

Male.—About 5.5–6 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle considerably longer than broad; orbits converging sharply below; entire face closely punctured and clothed with dense pubescence; antennae dark, second and

third joints of equal length; flagellum testaceous beneath; lower half of clypeus black. Thorax with quite dense, short hairs; mesothorax shining, with faint microscopic lineolations, coarsely and deeply punctured, the punctures about twice as far apart on the disk; punctation of the scutellum similar to that of the mesothorax, two large, shining spots on the disk; disk of propodeum subrescens, shining, with coarse, irregular rugae extending over the margin and covering the sides of propodeum; mesopleurae with coarse, shallow punctures; truncation sharply defined laterally; tegulae honey color, impunctate. Abdomen ovate, shining, very sparsely pubescent; segments 1-2 delicately punctured; apical margins of segments polished, dark testaceous. Wings clear; anterior wing 4 mm. long; stigma and nervures very pale testaceous; second submarginal cell considerably higher than broad, receiving the first recurrent nervure near the apex; third submarginal higher than broad, about twice as long as the second on marginal, receiving the second recurrent nervure near the apex. Legs shining, black, with moderately close hairs; knees, tips of tibiae, and tarsi ye low.

Habitat.—Colebrook, Connecticut, September 1-7 (W. M. Wheeler).

Type.—Cat. No. 26439, U.S.N.M.

Differs: From *hortensis* Lovell by the larger size; narrower face; clear wings; more abundant pubescence; sculpturing of the disk of propodeum.

From *nevadensis* Crawford by the narrow face; paler flagellum and tegulae; clear wings; sculpturing of the disk of propodeum; broader, polished abdomen; knees red; tarsi clear yellow.

HALICTUS (CHLORALICTUS) MACTUS, new species.

Male.—About 5 mm. long; head and thorax dark blue-green; face, mesothorax, scutellum, and mesopleurae with a brassy tinge; abdomen black; pubescence white. Facial quadrangle little longer than broad; orbits converging slightly below; face shining, sparsely pubescent; front closely punctured, the punctures more scattered and shallow below; antennae dark, second and third joints of equal length; flagellum testaceous beneath; lower half of clypeus shining black, sparsely punctured. Thorax with short, rather dense pubescence; mesothorax polished, with deep punctures a little more than the diameter of a puncture apart; punctation of scutellum much like that of the mesothorax, two smooth spots on the disk; metathorax shining, punctured; disk of propodeum dark blue, long, inclosed posteriorly by a low rim, with very irregular, discontinuous rugae; mesopleurae shining, coarsely punctured; truncation well defined laterally; tegulae red-testaceous, impunctate. Abdomen narrowly ovate; segments except for a very narrow, polished apical margin, with delicate, piliferous punctures and short hairs. Wings clear; anterior wing

3.75 mm. long; stigma and nervures pale testaceous; second submarginal cell higher than broad, the first recurrent nervure joining the second transverso-cubital; third submarginal broad below, contracted above, little longer than the second on marginal. Legs black; tarsi with yellowish hairs.

Habitat.—Longs Peak Trail, Colorado, July 18 at flowers *Senecio* (W. P. Cockerell).

Type.—Cat. No. 26400, U.S.N.M.

HALICTUS (CHLORALICTUS) PENSITUS, new species.

Male.—About 5 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle longer than broad; orbits converging below; face shining, rather densely pubescent; front closely punctured; the punctures more scattered below; clypeus sparsely punctured, lower half black; antennae brown, second and third joints of equal length; flagellum dark testaceous beneath. Thorax densely pubescent; mesothorax shining, with punctures about the diameter of a puncture apart, a little more scattered on the disk; punctation of scutellum similar to that of the mesothorax; two polished spots on the disk; disk of propodeum long, shining, with more or less irregular plicae not quite reaching the apex, which is polished; mesopleurae coarsely punctured; truncation distinct laterally; tegulae dark, impunctate. Abdomen narrowly ovate; apical margins of segments very narrowly testaceous, polished; bases of segments delicately punctured, clothed with quite abundant pubescence. Wings clear; anterior wing 3.75 mm. long; stigma and nervures pale testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure near the apex; third submarginal contracted about one-half above, hardly longer than the second on the marginal, receiving the second recurrent nervure about one-fourth from the apex. Legs black.

Habitat.—Boulder, Colorado, July 20 to August 1, 1908 (S. A. Rohwer). Four specimens.

Type.—Cat. No. 26441, U.S.N.M.

Differs: From *hortensis* Lovell by the larger size; more abundant pubescence; clear wings; reddish tegulae; head and thorax blue-green; sculpturing of the disk of propodeum; legs black.

From *nevadensis* Crawford by the clear wings; abundant pubescence; sculpturing of the disk of propodeum.

HALICTUS (CHLORALICTUS) ACCENTUS, new species.

Male.—About 6 mm. long; head and thorax olive green; abdomen black; pubescence white. Facial quadrangle longer than broad; orbits converging below; antennae dark, third joint somewhat longer than second; flagellum rufo-testaceous; front very closely punctured; below the punctures are more scattered; clypeus closely punctured; the anterior margin of clypeus and mandibles chrome-orange.

Thorax with rather dense pubescence; mesothorax polished, closely punctured, the punctures about the diameter of a puncture apart except on the disk where they are about twice as far apart; punctation of the scutellum similar to that of the mesothorax; disk of propodeum dark green, suberescentic, shining, with coarse plicae reaching the apex, inclosed by a low, irregular rim; truncation distinct laterally; tegulae very pale testaceous, impunctate. Abdomen ovate, shining; apical margins of segments polished; bases of segments with delicate piliferous punctures, clothed with short hairs. Wings clear, faintly yellowish; anterior wing 4.5 mm. long; stigma and nervures pale testaceous; second submarginal cell higher than broad; first recurrent nervure joining the second transverso-cubital; third submarginal broader than high, contracted above, one and one-half times as long as second on marginal. Legs black; knees, tips of tibiae, and tarsi yellowish.

Habitat.—Boulder, Colorado, August 1, 1908 (S. A. Rohwer); University Campus (Cockerell) (type).

Type.—Cat. No. 26442, U.S.N.M.

Differs: From *hortensis* Lovell by the larger, more robust size; narrower face; face and mesothorax golden green; flagellum rufo-testaceous beneath; sculpturing of the disk of propodeum; paler wings.

From *nevadensis* Crawford by the narrower face; flagellum pale beneath; mandible yellowish; paler tegulae; sculpturing of the disk of propodeum; mesothorax more delicately punctured; knees and tarsi yellowish.

From *disparilis* Crawford by the more sharply converging orbits; face more closely punctured; more delicately punctured mesothorax; less brassy face and mesothorax; sculpturing of the disk of propodeum.

HALICTUS (CHLORALICTUS) MOLLIS, new species,

Male.—About 5.5 mm. long; head and thorax blue-green; abdomen black; pubescence white. Facial quadrangle longer than broad; orbits converging slightly below; face sparsely pubescent; front closely punctured; the punctures more sparse below; clypeus brassy, the lower one-third black; antennae dark, second and third joints of equal length; flagellum dark, hardly paler beneath; mandibles dark; red at the apex. Thorax with quite dense, long hairs; mesothorax polished; punctures on the mesothorax about the diameter of a puncture apart, more sparse on the disk; scutellum closely punctured. Two polished spots on the disk; disk of propodeum long, with irregularly anastomosing rugae reaching the apex, which is polished; mesopleurae and sides of propodeum coarsely punctured, brassy; truncation not sharply defined laterally; tegulae very pale; impunctate.

Abdomen ovate, polished; segments punctured, sparsely pubescent. Wings clear; anterior wing 4 mm. long; stigma and nervures pale testaceous; second submarginal cell much higher than broad, receiving the first recurrent nervure near the apex; third submarginal broad, more than twice as long as the second on marginal. Legs black; knees somewhat reddened; tarsi brownish, with yellowish hairs.

Habitat.—Florissant, Colorado, July 16 at flowers *Dasiphora fruticosa* (Cockerell).

Type.—Cat. No. 26443, U.S.N.M.

Differs from *nevadensis* Crawford by the pale tegulae; clear wings; shining, more sparsely pubescent abdomen; margins of abdominal segments dark; sculpturing of the disk of propodeum.

HALICTUS (CHORALICTUS) MEROSUS, new species.

Male.—About 5 mm. long; head and thorax dark blue; abdomen dark brown; pubescence white. Facial quadrangle longer than broad; orbits converging sharply below; face quite densely pubescent; front with close, but shallow punctures; the punctures are more sparse below; second and third joints of equal length; flagellum dark testaceous; yellow-testaceous beneath; mandibles reddish. Thorax sparsely pubescent; mesothorax polished, with sparse, delicate punctures; scutellum delicately punctured, with two large, polished spots on the disk; disk of propodeum very dark blue, subcrenate, shining, with a few irregular plicae reaching the apical margin; pleurae very rough; truncation distinct laterally; tegulae pale, impunctate. Abdomen ovate, shining; apical margins polished, testaceous; bases of segments sparsely pubescent. Wings yellowish; anterior wing 3.25 mm. long; stigma and nervures testaceous; second submarginal cell higher than broad, contracted about one-half above, receiving the first recurrent nervure near the apex; third submarginal higher than broad, contracted above, more than twice as long as second on marginal. Legs dark brown, with dull white hairs; knees, tips of tibiae, and tarsi yellow.

Habitat.—Santa Fe, New Mexico, September 21, No. 5608 (Cockerell).

Type.—Cat. No. 26444, U.S.N.M.

Differs from *microlepoides* Ellis by the paler flagellum; delicately punctured mesothorax; sculpturing of the disk of propodeum; brownish legs and abdomen; darker wings.

HALICTUS (CHLORALICTUS) MALINUS, new species.

Male.—About 5.5 mm. long; head and thorax blue-green; abdomen dark brown; pubescence white. Facial quadrangle little longer than broad; orbits converging sharply below; entire face densely pubescent; front closely punctured; the punctures more scattered below; second

and third antennal joints of equal length; flagellum testaceous, yellowish beneath; mandibles somewhat orange-yellow. Thorax with moderately dense pubescence; mesothorax shining, delicately punctured; scutellum with similar punctation; two polished spots on the disk; disk of propodeum dark green, crescentic, shining, with irregularly anastomosing rugae covering the entire area; tegulae honey color, impunctate; truncation not sharply defined, but distinct laterally. Abdomen ovate, impunctate; apical margins of segments transversely lineolate, testaceous; bases of segments clothed with rather abundant pubescence. Wings clear; anterior wing 3.5 mm. long; stigma and nervures very pale testaceous; second submarginal cell higher than broad, receiving the first recurrent nervure a little distance from the apex; third submarginal subquadrate, little contracted above, almost twice as long as the second on marginal. Legs brown; knees, tips of tibiae, and tarsi yellow.

Habitat.—East Falls Church, Virginia, July 16, at flowers *Cicuta maculata* and July 20, at flowers *Daucus carota* (type). Two specimens (S. A. Rohwer.)

Type.—Cat. No. 26445, U.S.N.M.

Differs: From *hortensis* Lovell by the narrower face; paler wings and tegulae; paler flagellum; sculpturing of the disk of propodeum; mesothorax more closely punctured.

From *nevadensis* Crawford by the more delicately punctured mesothorax; flagellum pale beneath; sculpturing of the disk of propodeum; abdomen brown, the only punctures piliferous; legs brown, with knees and tarsi yellowish.

HALICTUS (CHLORALICTUS) INSOLITUS, new species.

Male.—About 4.5–5 mm. long; head and thorax green; abdomen black; pubescence white. Facial quadrangle longer than broad; orbits converging slightly below; front with very close, but shallow punctures; below the punctures are more sparse; clypeus largely black, quite closely punctured; antennae dark, third joint hardly longer than the second; flagellum rufo-testaceous beneath; mandibles reddish yellow. Thorax with moderately close, short hairs; mesothorax microscopically lineolate, closely and delicately punctured; punctation of scutellum similar to that of the mesothorax; disk of propodeum subcrescentic, with irregular rugae reaching the apex, which is slightly elevated; truncation distinct laterally; tegulae very pale testaceous, impunctate. Abdomen slender, shining, impunctate; apical margins of segments polished, testaceous; bases of segments clothed with sparse, short hairs. Wings faintly dusky; anterior wing 3.5 mm. long; stigma and nervures testaceous; second submarginal higher than broad; first recurrent nervure meeting the second transverso-cubital; third submarginal contracted about one-third

above, receiving the second recurrent nervure near the apex; twice as long as the second on marginal. Legs black, shining; knees, tips of tibiae, and tarsi yellow.

Habitat.—Vinton, Iowa, June 23, 1922 (Sandhouse).

Type.—Cat. No. 26446, U.S.N.M.

Differs from *exiguus* Smith by the paler flagellum; more slender species; head and thorax not so brassy; sculpturing of the disk of propodeum.

NEW LOCALITY RECORDS OF DESCRIBED SPECIES.

The following records are new:

HALICTUS EURYCEPS Ellis.

New Mexico: 3 females, Beulah, August 25, 1899 (W. Porter).

HALICTUS SUBCONNEXUS Ellis.

New York: 1 female, Garrison (Eleth Cattell).

HALICTUS PRUINOSIFORMIS Crawford.

Colorado: 1 female, 4 miles north of Boulder, June 18 at flowers *Petalostemon oligophyllus* (T. and W. Cockerell); 1 female, Colorado Springs (Cockerell).

HALICTUS LAZULIS Ellis.

Colorado: 1 female, Longs Peak Inn, June 25 (Cockerell).

HALICTUS PAVONINUS Ellis.

Colorado: 1 female, Longs Peak Inn, June 26 (Cockerell).

HALICTUS SUCCINIPENNIS Ellis.

Colorado: 1 female, Boulder, April 14, 1907, at flowers *Physaria* (S. A. Rohwer); 1 female, Boulder, May 21, 1922 (Elsie M. Foster).

HALICTUS EOPHILUS Ellis.

New Mexico: 1 female, Albuquerque, May 10, No. 1271 (Cockerell).

HALICTUS STULTUS Cresson.

New Mexico: 1 female, Cockerell No. 706; 2 females, Mesilla, May 9-10, on *Actinella richardsoni* and *Erigeron divergens* (Cockerell).

HALICTUS SPARSUS Robertson.

Iowa: 4 females, Vinton, June 23, 1922 (Sandhouse).

Virginia: 2 females, East Falls Church, May 7 and July 16 at flowers *Cicuta maculata* (S. A. Rohwer).

New Mexico: 4 females, Santa Fe, July and August at *Linum lewisii* and *Lepachys* Cockerell Nos. 3469, 3472, 3387, and 3936; 3 females, Las Vegas, July 22 and August 14 at *Grindelia squamosa* and *Cleome* (W. Porter and Cockerell); 2 females, Pecos, June 15, and July 8 (W. Porter) and (Grabham).

Colorado: 1 female Manitou, April 28 on *Salix* (Cockerell).

HALICTUS ALBIPENNIS Robertson.

Colorado: 1 female, Boulder, May 21, 1922 (Elsie M. Foster); 1 female, June 18, at *Petalostemon oligophyllus* (T. and W. Cockerell).

HALICTUS BRUNERI Crawford.

Iowa: 2 females, Vinton, June 29, 1922 (Sandhouse).

HALICTUS PERPUNCTATUS Ellis.

Colorado: 1 female, Boulder, May 20, 1922 (F. D. Becker).

HALICTUS CRESSONII Robertson.

New York: 1 female, Garrison (Eleth Cattell).

HALICTUS VERSATUS Robertson.

Iowa: 1 female, Vinton, June 29, 1922 (Sandhouse).

HALICTUS OBLONGUS Lovell.

Colorado: 2 females, Boulder, May 9, 1907, at flowers *Taraxacum* (S. A. Rohwer); 1 male, Peaceful Valley, August (Cockerell).

New Mexico: 3 females, Santa Fe, July and August, one on *Pentstemon* Cockerell Nos. 3825, 4227, and 4394; 1 female, Pecos, June 24 (W. P. Cockerell); 1 female, Las Vegas, April 20, at flowers of wild plum (Cockerell).

Connecticut: 1 male, Colebrook, September 1 (W. M. Wheeler).

HALICTUS NYMPHAEARUM Robertson.

Massachusetts: 1 male, Woods Hole, (Eleth Cattell).

HALICTUS HORTENSIS Lovell.

Massachusetts: 1 male, Forest Hills, May 14 (collector not known).

New York: 1 female, Garrison, (Eleth Cattell).

Virginia: 3 males, East Falls Church, July 16-20 at flowers of *Daucus carota* and *Cicuta maculata* (S. A. Rohwer).

HALICTUS INCOMPLETUS Crawford.

New Mexico: 1 male, Aztec, September 19, 1898 (C. E. Mead).