

Descriptions of new species of North American FORMICIDÆ.

BY S. B. BUCKLEY.

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37. *Odontomachus texana*, n. sp.

Worker. Length 0.39 inch. Head, thorax and legs reddish-brown; abdomen black or bronze; head oblong, and widest anteriorly; eyes small, black, subelliptical; antennæ filiform and inserted in front; two prominent ridges commence near the base of the antennæ and diverge forwards on each side of the epistoma, a channel extends back from the mandibles, on each side between the eyes, to a little beyond the middle of the head, where they form one channel which extends back, dividing the occiput into two rounded lobes; under surface of the head depressed and flattened between its outer margins; mandibles long and projected straight in front, being curved near their ends, and having two sharp teeth on each inner margin, at apex, the inner margins are also crenate or serrated with short blunt teeth; thorax long, large, and but little narrower than the head; prothorax short and rounded above; mesothorax largest and raised highest, with a small circular elevation on its posterior margin; metathorax also larger than the prothorax; the whole compressed, lateral, and with the divisions well marked; pedicel short; scale large, erect, wedge-shaped and pointed; abdomen oblong-ovate, acute; legs long, slender, and of a lighter color than the thorax and head.

Has cells beneath rocks, in Northern Texas.

38. *Myrmica rubra*, n. sp.

Worker. Length 0.19 inch.—Reddish brown, legs and under surface of a lighter shade; head subquadrate, with its sides a little rounded, oval above; occiput emarginate, its posterior angles not rounded; antennæ inserted at the base of the clypeus, approximate, short, clavate; a short ridge midway between bases of the antennæ; eyes minute, and like ocelli, placed on the upper sides a little back of the middle of the head, circular; under surface of the head rounded, smooth, with a deep concavity beneath the occiput; mandibles of medium size, curved inwards and downwards, toothed at their apices, enlarged anteriorly; prothorax $\frac{1}{3}$ — $\frac{1}{2}$ less in width than the head, oblong, sub-compressed at the sides, rounded above; mesothorax depressed with a slight strangulation between it and the metathorax; metathorax descends gradually to the pedicel; nodes large, rounded and narrowed anteriorly, posterior one the largest; abdomen small, ovate; legs

long; coxæ and trochanters large; upper surface of head, thorax and abdomen thinly sprinkled with hairs.

Dwells in the ground near the surface, in McCulloch County, in Western Texas.

39. *Myrmica subrubra*, n. sp.

Worker. Length 0.18 inch.—Reddish brown, abdomen paler, smooth and shining; head ovate, rounded above, at sides and behind; antennæ inserted near the base of the clypeus, hairy, long, filiform, and but little enlarged towards their apical joints; eyes small, circular, lateral and midway; mandibles small, curved inwards and downwards, acute; prothorax narrower than the head, rounded above, at the sides, widest posteriorly; mesothorax depressed, inclined back, with a well marked division between it and the metathorax; metathorax has two large divergent spines, somewhat inclined posteriorly; pedicel long; scales nearly equal, anterior one smallest and somewhat wedge-shaped; abdomen ovate, subacute; legs long, slender.

Female. Length 0.18 inch.—Black; legs hyaline; head small; eyes large, prominent, lateral, and placed in front of the middle; club of the antennæ very short; flagellum slightly enlarged about its middle, then somewhat attenuated; mandibles hyaline; prothorax wider than the head; mesothorax not depressed, the whole thorax from the middle of the prothorax somewhat compressed, narrowed posteriorly; on the lower part of the metathorax are two short spines; scales nodose, about equal; wings extend beyond abdomen 0.10 inch; otherwise like the worker.

Winged females obtained in August, under the bark of a decayed tree, near Washington, D. C., and also at Aquia, in Virginia.

Quick in its movements.

40. *Myrmica californica*, n. sp.

Worker. Length 0.25 inch.—Reddish-brown or yellowish-red; head subquadrangular, rounded above; occiput slightly emarginate; eyes small, circular, lateral, placed about midway of the head; antennæ short, clavate, inserted at the base of the clypeus; mandibles large, widened in front, curved inwards and downwards, 7-toothed on the inner margin; head not channeled below; upper surface finely longitudinally striated; prothorax narrower than the head, rounded above, at the sides, and widest about the middle, divisions of the thorax not strongly marked; mesothorax subcompressed at the sides, as high as the prothorax, but not as wide; metathorax rounded above, sloping gradually to the pedicel; whole thorax transversely striated; pedicel

long, nodes rounded, anterior one smallest; abdomen round-ovate, sub-obtuse, smaller than the head; legs long, slender; whole ant rather thickly sprinkled with short, white hairs.

California (Xantus). From the Collection of the Acad. Nat. Sciences, Philadelphia.

41. *Myrmica nova eboracensis*, n. sp.

Female. Length 0.29 inch.—Head, thorax and abdomen piceous, with dark shades of reddish-brown on the pedicel, scales and legs; head broad-ovate, rounded above, at the sides and posterior angles; eyes small, circular, lateral, placed about midway of the head; antennæ inserted on the sides of the clypeus, short, clavate; ocelli 3, placed on vertex of occiput; mandibles small, reddish-brown, subtriangular, toothed on their inner margins, which are tinged with black; head a little wider than the prothorax; prothorax rounded in front, above, and slightly so at the sides; mesothorax larger, rounded, and above the pro- or metathorax; metathorax small, truncate, with two small spines near its posterior base; pedicel short; scales small, nodose, nearly equal; abdomen broad-ovate, subtruncate in front; legs short, slender; whole ant of a compact, robust form, and thickly sprinkled with short hairs. Wings extend about a line beyond the abdomen.

Hab.—New York. (Norton).

42. *Myrmica (Monomarium) diversa*, n. sp.

Female. Length 0.27 inch.—Color, honey-yellow, or yellowish-brown; wings project beyond the abdomen; head triangular, rounded above; ocelli present in a triangle on the top of the head, a little back of the vertex; mandibles triangular, short, large, curved inwards and downwards, posterior angles of occiput slightly rounded, and occiput not emarginate, but nearly straight; antennæ short, and somewhat enlarged towards the apical joint; eyes small, circular, lateral, and placed in front of the middle part of the head; the central part of the under surface of the head nearly flat, concave before and behind; prothorax about equal in width to the head, large, rounded, raised above the mesothorax; mesothorax small, not depressed; metathorax short and steep posteriorly, with two small spines; pedicel of medium length; scales rounded, posterior one the largest; abdomen oblong-ovate.

Worker major. Length 0.22 inch.—Head, legs and thorax reddish brown; abdomen piceous; head large, oblong, with its sides nearly parallel, and varying much in size; a longitudinal channel extends from the clypeus over the top of the head to the base of occiput; occiput deeply emarginate, posterior lobes of the head rounded; eyes

small, circular, lateral and placed about midway of the head; antennæ long and enlarged anteriorly; mandibles large, triangular, curved inward, and with two sharp teeth at the apex; head not grooved, and but slightly depressed below near the middle, and concave beneath the occiput; prothorax small, much narrower than the head, compressed and irregular in outline; divisions of the thorax strongly marked or strangled; mesothorax rounded and raised to a point in the middle; the metathorax has two short spines; scales of the pedicel sub-equal and jagged; abdomen smaller than the head, ovate.

Worker minor. Length 0.13 inch.—Head and abdomen piceous; thorax and legs yellowish-brown; head small, sub-triangular, rounded above and flattened below; eyes large, lateral, and placed a little in front of the middle part of the head; prothorax narrower than the head, rounded and smooth above; legs long, slender; otherwise like the larger worker.

Hab.—Central Texas. Common. It has dwellings in the ground, twelve to eighteen inches beneath the surface, sometimes beneath stones and sometimes in open spaces, throwing the excavated dirt, without order, over the surface. The larger workers seem to do little, being seldom seen in the open air, nor do they assist in conveying the larvæ to a place of safety when their abodes are uncovered. They are much less active than the smaller workers.

43. *Myrmica (Monomarium) minima*, n. sp.

Female. Length 0.22 inch.—Color jet-black, the whole body smooth and shining; legs and margins of the segments of the abdomen brownish-black, or subhyaline; head triangular, rounded above; occiput not emarginate, the posterior angles rounded and of about the same width as the thorax; mandibles small, curved, acute and triangular; eyes small, circular, lateral, and placed about midway of the head; antennæ long, filiform, and enlarged anteriorly; thorax with its sides compressed, the divisions but slightly marked; mesothorax the highest; scales large, the front one slightly compressed, inclined forwards, and subacute, the other rounded; abdomen large, ovate, oblong, upper surface of the body and head sprinkled with a few gray hairs; slender in outline.

Worker. Length 0.06 inch.—Black; head wider than the thorax; pedicel long; abdomen but little larger than the head, ovate and acute; otherwise like the female.

Lives under stones and beneath the bark of decaying trees. It also excavates into the ground, but two or three inches below the surface.

Common in Central Texas, where it is often seen going in ranks on the ground or trees. It is rather slow in its movements.

44. *Myrmica (Monomarium) coeca*, n. sp.

Length 0.12 inch.—Reddish-brown; head subtriangular, smooth and oval above, a little rounded below, beneath the vertex, concave beneath the occiput; mandibles small, curved inwards and downwards, acute and brownish-black; eyes none; antennæ 12-jointed, rather short, and inserted on the front of the head near the clypeus, slightly enlarged towards the apex; prothorax nearly equal in width with the head, smooth and oval above and forwards, and narrowed posteriorly; mesothorax somewhat depressed; metathorax raised posteriorly, thence descending abruptly to the pedicel; nodes of the pedicel large, of about equal size and somewhat rounded; abdomen small, oval, and but little larger than the head; legs long and slender.

Has cells beneath rocks, in San Saba County, Texas.

45. *Myrmica (Monomarium) marylandica*, n. sp.

Worker. Length 0.12 inch.—Abdomen black or piceous, the rest yellowish-red; head round-ovate, rounded above; antennæ inserted at base of the clypeus; club and flagellum of about equal length, the latter largely clavate; eyes small, circular, lateral, and but a little back of the middle; mandibles small, curved in and toothed; prothorax $\frac{1}{3}$ narrower than the head, rounded somewhat at the sides, flattened above, widest in front; mesothorax small, depressed above and compressed at the sides; metathorax subquadrate, with two large divergent spines inclined back; pedicel incrassate, and inserted in the upper anterior part of the abdomen; scales small, nodose, and subemarginate above, nearly equal; abdomen subtriangular, acute; legs long, slender; the whole ant rather thickly sprinkled with hairs. It often carries its abdomen turned up erect.

Beneath stones, and also on the trees, near Washington, D. C., and also in Maryland, in the Druid Hill Park, Baltimore.

46. *Myrmica (Monomarium) montana*, n. sp.

Worker. Length 0.14 inch.—Head, thorax and abdomen dark reddish-brown, under surface spotted with pale yellow; legs pale yellow; antennæ yellowish-red; head ovate, rounded above, occiput not emarginate; antennæ clavate, inserted near the base of the clypeus; eyes very small, circular, lateral, placed about midway of the head; mandibles small, widened anteriorly, curved in and toothed on their inner margins; upper surface of the head longitudinally striated, striæ numerous; under surface not channeled; prothorax $\frac{1}{3}$ narrower than

the head, somewhat compressed, widest in front, a little flattened above; mesothorax not depressed, narrower than the pro- or metathorax; metathorax has two short spines on its upper posterior surface, from which it is steep to the pedicle, subpunctate near its base; scales large, anterior one somewhat wedge-shaped and obtuse, posterior one nodose; abdomen smooth, shining, ovate, subtruncate in front, obtuse behind; legs long, slender; upper surface of head, thorax and abdomen thinly sprinkled with white hairs.

On hills, beneath rocks, near Austin, Texas.

47. *Myrmica (Monomarium) lineolata*, n. sp.

Worker. Length 0.17 inch.—Head, thorax and abdomen piceous, varied with dark reddish-brown spots; legs, antennæ and mandibles reddish-brown; head subquadrate, with its sides nearly parallel, round above, posterior angles rounded; antennæ inserted on the sides of the clypeus, short, clavate; mandibles curved in and downwards, toothed on their inner margins; eyes small, circular, lateral, placed about midway of the head; prothorax narrower than the head, round above, at sides and in front, widest in the middle; mesothorax not depressed, its sides compressed, a little narrower than the pro- or metathorax; metathorax with its sides a little rounded, and with two spines on its upper posterior part, diverging and inclined back a little, subtruncate; scales large, nodose, front one a little the smallest; abdomen round-ovate, subobtuse; upper surface of head and thorax finely and longitudinally striated; striæ rough and finely granulated; abdomen smooth; legs long, slender; head, thorax and abdomen thickly sprinkled with short hairs.

Female. Length 0.24 inch.—Head ovate, round above, at the sides and posteriorly; eyes large, prominent; mesothorax about the same width as the prothorax; abdomen broad, round-ovate; otherwise like the worker.

48. *Myrmica (Monomarium) columbiana*, n. sp.

Female. Length 0.39 inch.—Black; pedicle, antennæ, nodes and legs piceous; margins of the segments of the abdomen hyaline; head subovate, rounded above, posterior angles rounded, not emarginate; ocelli placed near and back of the vertex; eyes large, subelliptical, lateral, placed about midway; antennæ inserted at the base of the clypeus, short, clavate; mandibles reddish-brown, short, triangular and finely toothed on their inner margins; prothorax about equal in width to the head, rounded above, in front and at the sides, widest in the middle; mesothorax small, narrowed back and not depressed; me-

tathorax below the mesothorax, truncate, two short spines project back from its upper surface; scales nodose, subequal; abdomen oblong-ovate, subacute; legs short, slender; wings extend beyond the abdomen 0.13 inch; whole ant rather thickly sprinkled with short, minute, gray hairs.

Worker. Length 0.12 inch.—Eyes small, circular; occiput slightly emarginate; head wider than the prothorax; mesothorax slightly depressed, and a small strangulation between it and the metathorax, on the posterior surface of which are two large spines projecting back; pedicle short; scales nodose, posterior one largest; abdomen triangular, acute; otherwise like the female.

In the ground beneath stones, near Columbia College, Washington, D. C.

49. *Myrmica (Monomarium) aquia*, n. sp.

Worker. Length 0.22 inch.—Abdomen piceous, the rest yellowish-red, or reddish-brown; head ovate, rounded above; eyes small, circular, lateral, placed about midway of the head; antennæ at the sides of the clypeus, long, clavate; mandibles small, subtriangular towards the apex, curved inwards and downwards near their apices, toothed; prothorax narrower than the head, rounded above, in front, at the sides, enlarged posteriorly; mesothorax depressed and strangulated at its junction with the metathorax; metathorax raised a little, elongated, with two small spines on its posterior upper surface, which are a little inclined posteriorly; pedicle long; scales nodose, the anterior one somewhat wedge-shaped, and smallest; abdomen round-ovate, scarcely larger than the head; legs long, slender; upper surface of the head, thorax and abdomen thickly sprinkled with hairs; of slender form throughout.

Female. Length 0.26 inch.—Reddish brown, abdomen piceous; eyes large; ocelli 3, placed a little back of the vertex; wings extend 0.12 inch beyond the abdomen; prothorax $\frac{1}{3}$ wider than the head, somewhat compressed at the sides and flattened at the top; mesothorax not depressed, of nearly equal width to the prothorax; metathorax inclined gradually to the pedicle, with two short spines near its centre; posterior scale nearly twice the size of the anterior; abdomen oblong-ovate; otherwise like the worker.

In the ground, at Aquia, Va., and also in Western New York.

50. *Myrmica (Monomarium) saxicola*, n. sp.

Length 0.12 inch.—Yellowish-brown, legs and whole surface beneath honey-yellow; head quadrate, rounded above, and posterior

angles rounded, sides nearly parallel; eyes lateral, black, small, circular, placed about midway of the head; antennæ short, clavate, head slightly channeled below, a small depression beneath the occiput; mandibles small, subtriangular, curved inwards, sharp-pointed, inner margins toothed; prothorax small, narrower than the head, rounded above; mesothorax depressed and sub-strangulated at its junction with the metathorax; metathorax large, sloping gradually to the pedicle, smooth and oval above; scales large, nearly equal, rounded; abdomen ovate, subacute; legs long, slender; whole ant smooth.

Beneath rocks, in Buchanan County, Texas.

51. *Myrmica* (*Monomarium*) *atra*, n. sp.

Worker. Length 0.15 inch.—Jet black, smooth and shining; tibiæ and tarsi subhyaline; head ovate, round above, at the sides and posterior angles; eyes small, circular, prominent, lateral, in front of the middle; antennæ clavate, at base of the clypeus; mandibles small, curved inwards and downwards, acute, head not channeled below; prothorax a little wider than the head, rounded above, and slightly at the sides; the divisions of the thorax slightly marked, being widest at the mesothorax, and gradually narrowed back; metathorax slightly depressed, subtruncate; pedicle long; scales subnodose, anterior one small and sub-wedge-shaped; abdomen large, ovate, oblong, subobtuse; legs short, slender; the whole ant smooth and without hairs.

On trees, near Georgetown, D. C. Rare.

52. *Myrmica* (*Tetmamorium*) *exigua*, n. sp.

Female. Length 0.16 inch.—Black or piceous, legs dark-brown or hyaline; head very small, broad-ovate, somewhat rounded above and behind; antennæ clavate, long, filiform, at base of the clypeus; eyes very large, prominent, subelliptical, lateral, and placed in front of the middle; mandibles small, curved inwards, acute; ocelli at the top of the occiput; prothorax large, wider than the head, rounded above and below, and slightly at the sides, larger than both meso- and metathorax; mesothorax not depressed, somewhat rounded above; metathorax depressed, subtruncate; pedicle long; scales small, nodose, posterior one the largest; abdomen ovate, narrowed before and back, widest in the middle; legs short, slender; smooth throughout.

Worker. Length 0.06 inch.—Pale-yellow, upper surface of the head yellowish-brown; head oblong-ovate, rounded above and slightly so at the sides, widest in the middle, divisions of the thorax well marked; mesothorax rounded above, and also the metathorax, which descends gradually to the pedicle; scales nodose, anterior one largest; abdomen small; otherwise like the female.

Beneath stones, in the vicinity of Washington, D. C. Winged females caught in July.

53. *Myrmica (Diplorhoptrum) scabrata*, n. sp.

Worker. Length 0.29 inch.—Legs, antennæ, pedicle, scale, mouth, and under surface of the two last segments of the abdomen yellowish-red, the rest black; head ovate, rounded above, at sides and occiput; eyes none; antennæ short, much enlarged towards their apical joints; mandibles widened anteriorly, toothed on their inner margins, small; prothorax about $\frac{1}{2}$ narrower than the head, rounded at sides and somewhat flattened at the top, widest in front; mesothorax not depressed, narrower than the prothorax; metathorax narrowed back, with two spines on its posterior upper surface, truncate; scales small, subnodose, back one largest; abdomen large, oblong-ovate; upper surface of the head and thorax rugose and striated; abdomen smooth; legs long, slender; head, thorax and abdomen thickly sprinkled with short hairs.

Hab.—Connecticut, (Norton).

54. *Myrmica (Atta) sabeana*, n. sp.

Worker. Length 0.20 inch.—Reddish-brown or brownish black, the upper surface of the head, thorax and abdomen piceous or blackish brown; head subquadrate, and emarginate at the occiput, channeled slightly below; mandibles small, curved inwards, with two or three small, sharp teeth near the apex, inner margins of the mandibles piceous; antennæ clavate, inserted in front; joint very short, excepting the apical, which is long; eyes small, circular, black, lateral and a little in front of the middle part of the head; prothorax narrower than the head, and not compressed; mesothorax somewhat depressed; metathorax small, rounded and smooth, pedicle long; scales nodose and of nearly equal size; abdomen ovate, legs long and slender; whole ant sparingly sprinkled with gray hairs. Workers variable in size, but not in shape; the length of the largest is given.

In the ground, about the roots of tufts of grass, throwing its excavated dirt above without order. Near the ford of the San Saba river, in Mason County, Western Texas.

55. *Myrmica (Atta) sublanuginosa* n. sp.

Worker. Length 0.16 inch.—Color reddish-brown; head subquadrate, rounded above, occiput emarginate; eyes circular, black, small, lateral, and about midway of the head; antennæ inserted in front, 12-jointed, joints short and enlarged anteriorly; mandibles small, triangular, curved inwards, toothed and acute; prothorax about half the width

of the head; mesothorax depressed, with a strangulation between it and the metathorax; metathorax has two small spines; pedicle long, scales large, nodose, the posterior one largest; abdomen ovate; legs long, slender; whole body moderately clothed with soft short hairs.

Beneath rocks in San Saba County, Texas.

56. *Atta Lincecumii*, n. sp.

Length 0.24 inch.—Smooth throughout and sparingly sprinkled with hairs, reddish brown; head subcordate, rounded above, occiput emarginate; 3 ocelli on top of the occiput; eyes black, large, circular, lateral, and in front of the middle; antennæ at base of the clypeus, short, clavate, head sinuate beneath; mandibles small, curved inwards and of nearly uniform size throughout, toothed at their extremities; prothorax nearly as wide as the head, rounded above, at its sides, widest in the middle; divisions of the thorax well marked; mesothorax not depressed, rounded up in the middle, a brownish-black raised border on its sides and between it and the metathorax; metathorax narrowed back, spineless; pedicle long; nodes nearly equal, wedge-shaped; abdomen ovate-oblong; legs rather short, slender, wings not seen.

Worker major. Length 0.13 inch.—Reddish-yellow; abdomen brownish-black; eyes small, circular, lateral and in front of the middle; thorax about $\frac{1}{2}$ the width of the head, smooth, somewhat rounded above and narrowed back; mesothorax depressed posteriorly, strangulated at its junction with the metathorax; nodes slightly wedge-shaped; abdomen small, round-ovate, and rather thickly sprinkled with hairs; legs long, slender. The rest like the female.

Worker minor. Length 0.10 inch.—Occiput rounded posteriorly, a deep strangulation at the mesothorax; metathorax small, nodose, whole ant slender. Otherwise like the worker major.

Has cells in the ground 2—3 feet deep, throwing the excavated dirt without order at the surface. Is active and warlike.

Hub.—Central Texas, near streams.

57. *Atta picea*, n. sp.

Worker major. Length 0.12 inch.—Black or piceous; head quadrangular, rounded above; occiput emarginate, posterior angles rounded; antennæ at the base of the clypeus, short clavate; eyes small, circular, in front near the bases of the antennæ, sublateral; mandibles small, slender, curved inwards, acute; prothorax narrower than the head, rounded above, in front where it is widest; mesothorax slightly depressed and rounded above; metathorax has two prominent spines,

erect and diverging, pedicle long, anterior one wedge-shaped, posterior one nodose; abdomen ovate, obtuse; legs long, slender; abdomen and the whole upper surface of the body thickly sprinkled with long hairs.

Worker minor. Length 0.08 inch.—Head ovate, rounded above, at the sides and posterior angles; not emarginate, antennæ long filliform, clavate; tarsi hyaline; very slender throughout, and less hairy than worker major; otherwise like the worker major.

Beneath stones near Austin, Texas.

58. *Atta brazoensis*, n. sp.

Worker major. Length 0.21 inch.—Head, thorax and legs reddish-brown; abdomen piceous; head broad-ovate, round above, sides and posterior angles rounded, occiput slightly emarginate; eyes small, lateral, circular, about midway of the head; antennæ short clavate, at the base of the clypeus; mandibles small, curved inwards and downwards, slightly enlarged in front, toothed; prothorax $\frac{1}{2}$ less width than the head, rounded in front, at the sides, and but little above, widest in the middle; mesothorax a continuation of the prothorax, narrowed back to the metathorax, which is depressed and slightly rounded above, and at the sides, subtruncate; pedicle long; front scale smallest and sub-wedge-shaped; posterior one nodose; abdomen large, oblong-ovate; legs slender; upper surface of head, thorax and abdomen thickly sprinkled with hairs.

Worker minor. Length 0.12 inch.—Head sub-ovate, its sides nearly parallel, not emarginate, slightly channeled below, $\frac{1}{4}$ wider than the prothorax; abdomen small, ovate; legs long, slender; otherwise like the worker major.

Dwells in the ground in Northern Texas near the Brazos river.

59. *Atta pennsylvanica*, n. sp.

Worker major. Length 0.23 inch.—Abdomen piceous, the rest reddish-yellow or pale yellow; head ovate, its posterior angles and upper surface rounded, slightly emarginate; antennæ short, the two apical joints much enlarged; eyes small, circular, lateral, and a little in front of the middle, two small ridges are on each side of the epistoma extending nearly back to the vertex; mandibles small, curved inwards, acute; prothorax about $\frac{1}{2}$ the width of the head, rounded laterally, widest in front of the middle; mesothorax depressed, sub-strangulated; metathorax rounded above, at its sides, and gradually sloping to the pedicle; pedicle long; nodes subequal, front one smallest and sub-wedge-shaped; abdomen oblong-ovate; legs long, slender; whole ant smooth and not hairy.

Worker minor. Length 0.13 inch.—Differs little from worker major, except in size; the small workers are the most numerous.

Beneath stones in the vicinity of Philadelphia.

60. *Atta coloradensis*, n. sp.

Worker major. Length 0.23 inch.—Reddish-brown; abdomen piceous and sometimes part of the upper surface of the head and thorax; head large, subquadrate, posterior angles rounded, a channel extends from the base of the clypeus over the top of the head to the base of the occiput, which is emarginate; eyes small, circular, lateral, about mid-way of the head; antennæ near the base of the clypeus; short, clavate; mandibles brownish-black, short, small, curved inwards, acute; under surface of the head not channeled; prothorax $\frac{1}{2}$ narrower than the head, rounded at sides and above; mesothorax depressed a little, a slight strangulation between it and the metathorax; metathorax rounded above and at the sides, and slopes gradually to the pedicle which is long; front scale sub-wedge-shaped and smallest, posterior one nodose; abdomen ovate; legs long, slender, whole surface sprinkled with gray hairs and rather smooth and shining.

Worker minor. Length 0.13 inch.—Whole upper surface piceous or black, tibiæ, tarsi and under surface of thorax pale yellow, under surface of head and abdomen piceous tinged with pale yellow or reddish-brown; head ovate, smooth, and rounded above, not emarginate; smooth and shining throughout, with few or no hairs; otherwise like the worker major.

Dwells in the ground near the Colorado river in Northern Texas.

61. *Ecodoma virginiana*, n. sp.

Worker. Length 0.11 inch.—Yellowish-red; head triangular, somewhat flattened above, its posterior angles not rounded and sides nearly straight; eyes rather large, black, prominent, lateral, and about mid-way of the head; mandibles sub-triangular, acute; antennæ short, apical joint long and enlarged; lateral margins of the head slightly raised and not rounded, under surface of head not channeled; occiput slightly emarginate; prothorax but little narrower than the head, with a short, rounded, spinose protuberance on each side; truncate in front and somewhat flattened above; mesothorax slightly narrowed and a depression between it and the metathorax; metathorax truncate and two-spined, the whole thorax robose and sub-spinose above; first much smallest, sub-conical, with a rudimentary spine; abdomen round-ovate; legs not slender.

Dwells in the ground on hills near Aquia in Virginia. Slow in its movements.

The following description of the "cutting ant," of Texas, is now given, because when an attempt was made by the writer to describe it in the proceedings of the Acad. Nat. Sciences of Philadelphia for 1860, p. 233, he was in Texas, without a knowledge of Entomology, and without books on the subject, consequently said description is very imperfect; nor would it have ever been attempted had he not wished to tell of the wonderful doings of this ant.

62. *Ecodoma texana*.

Female. Length 0.62 inch.—Color reddish-brown; head triangular, small, occiput truncate, and upper margin nearly straight, two-spined, 3 ocelli at top of occiput; eyes small, lateral, circular, and about midway of the head, antennæ inserted near the base of the clypeus, long, filiform, and slightly enlarged toward the apical joint; mandibles large, triangular, brownish-black and finely toothed on the inner margins, apical teeth long, curved inwards and acute; prothorax about $\frac{1}{2}$ wider than the occiput, raised and rounded above and in front, and widest in the middle; mesothorax rounded above and subtruncate behind, a black narrow band extending around its margins; metathorax below mesothorax, and truncated and has four short spines, petiole short; front node smallest, truncated in front, has lateral spines, its upper surface scarcely raised above the enlarged petiole which connects it with the posterior node, which is large, broad longitudinally, a narrow depressed band separating it from the first segment of the abdomen; abdomen larger, broad-ovate, obtuse; legs slender and rather short; anterior wings extend about six lines beyond the abdomen, upper surface of head, thorax and abdomen thickly sprinkled with hairs.

Male. Length 0.54 inch.—Head very small; eyes large, circular and prominent, spines of metathorax wanting or rudimentary; abdomen ovate, wings extend about five lines beyond the abdomen; otherwise like the female.

Worker major. Length 0.28 inch.—Color like the female. Head large, cordate, deeply emarginate, posterior lobes rounded, a deep sinus extends to near the vertex, dividing the head posteriorly into 2 lobes; eyes small, circular and prominent; ocelli none; spines of the occiput near its base; prothorax about $\frac{1}{2}$ the width of the head and its upper surface, 4-spined, the two front spines longest, and slightly inclined forward; mesothorax strangulated, upper surface of metathorax two-spined and spines inclined back; nodes sub-quadrangular, rough and warty above; posterior node longest, abdomen about $\frac{1}{2}$ the size of the

head, round-ovate; legs long, slender; whole ant thickly sprinkled with hairs.

Worker minor. Length 0.12 inch.—Occiput 4-spined, ant rounded posteriorly, upper spines minute, pedicle long, scales small, sub-nodose, posterior one largest; abdomen smaller than the head, ovate; otherwise like the worker.

Central Texas. Common and well known as the Cutting Ant.

For the same reason the following ant, noticed in the same volume as the preceding at page 455, is here redescribed:

63. *Myrmica (Monomarium) molifaciens*.

Female. Length 0.48 inch.—Color reddish-brown; head sub-triangular, sides rounded and also rounded above and behind; ocelli 3, a little back of the vertex; antennæ rather short and filiform, not clavate; mandibles black or brownish-black, rounded in front, large, curved inwards and downwards, 7-toothed, apical tooth long and acute; head nearly as wide as long, sinuate beneath; eyes black, prominent, sub-elliptical, lateral, and about midway of head; prothorax about equal in width to the head, rounded above and in front, where is a small sub-circular protuberance, divided into two nearly equal parts by a slight longitudinal channel; mesothorax slightly raised above the prothorax; metathorax depressed and has two short spines, posterior scale largest, and both sub-nodose; pedicle long; abdomen ovate, sub-acute; legs slender; wings extend but little beyond the abdomen; head, thorax and posterior part of abdomen thickly sprinkled with hairs.

Worker. Length 0.28 inch.—Head triangular, slightly emarginate behind and wider than the prothorax; prothorax rounded and smooth above and in front, widest in the middle, the whole thorax compressed and narrowed back, its divisions obscure; metathorax has two prominent spines slightly inclined backwards, less hairy than the female; otherwise like the female.

Central Texas. Common; it is called the mound-building or stinging-ant; its excavated dirt being mound-like.

64. *Cecodoma pilosa*, n. sp.

Worker. Length 0.15 inch.—Reddish-brown; head sub-quadrate, rounded above, posterior angles of the occiput also rounded, with the intervening space slightly curved inwards as seen from above; eyes small, lateral, black, and about midway of the head; antennæ in front and enlarged towards the apical joint; under surface of the head concave before and behind and plane in the middle; mandibles short, flattened, and of nearly uniform width, being slightly narrowed in the

middle and curved inwards, with five teeth in the truncated inner apical margins; prothorax narrower than the head, compressed and rounded above; divisions of the thorax not strongly marked; metathorax has two short spines near its base; pedicle long; scales nodose, posterior one the largest; abdomen small, round-ovate; legs long and slender, the whole ant thickly sprinkled with short, gray hairs.

Is slow in its movements. Has homes in the ground in Northern Texas at a depth not known.

65. *Oecodoma tardigrada*, n. sp.

Female. Length 0.21 inch.—Widened and curved, narrowed anteriorly; inner margin of mandibles finely toothed; head about equal in width to the prothorax; ocelli near the vertex of the occiput; mesothorax higher than the prothorax; abdomen short, broad ovate; legs slender and short; wings extend nearly a line beyond the abdomen; the whole body finely corrugated, and thickly sprinkled with short hairs, and with fewer spines than the worker; otherwise like the worker.

Male. Length 0.17 inch.—Head small, narrower than the prothorax; eyes large, prominent in front, near the base of the mandibles, a slight depression between the meso- and metathorax: abdomen small, round-ovate; otherwise like the female.

Worker. Length 0.21 inch.—Chestnut-brown or reddish-brown; head subtriangular; occiput subemarginate; two carinæ diverge back from the clypeus to the occiput, the space between them being nearly in the same plane, and depressed backwards; flagellum of antennæ clavate, its joints short; eyes small, black, circular, and placed in the anterior part of the head; under surface of the head has a broad depression beneath the occiput; mandibles slender, curved inwards, sharp and toothless; thorax narrower than the head, corrugated and spinous, having eight or more short spines; mesothorax strangulated; pedicle long; scales nodose, posterior one the largest; abdomen sub-ovate, obtuse; legs long and slender; whole ant rough and corrugated.

Lives in the ground, descending to its cells, two or three feet beneath the surface, by a hole about half an inch in diameter. It has a vegetable paste in some of its chambers which is probably used as food during inclement weather. It is slow and deliberate in its movements, and throws the excavated dirt in the form of crater.

Dwells in Central Texas, and is not uncommon.

66. *Oecodoma (Atta) arborea*, n. sp.

Worker. Length 0.22 inch.—Head, thorax and legs reddish-brown; abdomen black; head sub-quadrate, with its sides slightly rounded;

occiput not emarginate. Head oval above, and concave beneath the occiput and back of the mentum to nearly the middle of the head; mandibles small, dark-brown, smooth, sub-triangular, curved inwards, and sharp-pointed; eyes circular, small, black, lateral, and about midway of the head; antennæ filiform, and inserted in front near the base of the mandibles; thorax slender; prothorax about half the width of the head, rounded above and in front; mesothorax small, depressed, rounded above, with a strangulation between it and the metathorax; on the back part of the metathorax are two straight spines inclined backwards; pedicle elongated; scales small, nodose, and of nearly equal size; abdomen triangular, smooth and shining, sub-acute; legs long; coxæ and trochanters large; has cells in the decayed parts of trees, and when disturbed often turns up its abdomen into a nearly vertical position; often seen going in ranks up and down trees.

Female. Varies in color, in some the whole body is black, excepting the abdomen, which is banded with yellowish-white on the margins of its segments; in others the head is of a pale yellow; head small, and narrower than the prothorax, subtriangular, and rounded above and behind; thorax large; prothorax raised above the head, the whole thorax compressed laterally and narrowed backwards, with its divisions strongly marked; abdomen large, ovate; wings not seen; otherwise like the worker.

Common in Central Texas.

67. *Oecodoma (Atta) bicolor*, n. sp.

Length 0.12 inch.—Head, thorax and legs chestnut-red; abdomen piceous or reddish brown, shaded more or less with black; head sub-triangular, rounded above, and emarginate behind; eyes small, circular, and situated about midway of the head on the upper margins of its sides; flagellum of the antennæ clavate and hairy, with its joints short, excepting the apical; mandibles small, triangular, curved inwards and acute; prothorax narrower than the head, compressed and rounded above; mesothorax small and depressed; two spines, short and inclined backwards on the metathorax; scales of the pedicle small, and irregularly nodose; abdomen ovate; abdomen and thorax sprinkled with a few hairs.

Dwells in the ground but a few inches beneath the surface in Northern Texas.