

## DESCRIPTIONS OF PARASITIC HYMENOPTERA FROM CAPE COLONY.

BY CHARLES T. BRUES.

The species described in the present paper have recently been acquired by the Milwaukee Public Museum through the kindness of Dr. Hans Brauns of Willomore, Cape Colony. As the smaller parasitic Hymenoptera of this region are still practically unknown, it is not surprising that nearly all the species proved to be undescribed.

The types are deposited in the Milwaukee Public Museum.

## FAMILY BETHYLIDÆ.

## MYSTROCNEMIS CAPENSIS sp. nov.

Length 7 mm. Black; thorax, antennæ, tibiæ and tarsi rufous. Head seen from above, a little longer than wide, suddenly narrowed just before the eyes, and rounded-truncate on the anterior margin, overhanging the insertion of the antennæ. Antennæ 27-jointed, setaceous; scape stout, two times as long as broad, following joints all of about equal length, gradually narrowing, the last a trifle longer. First few flagellar joints nearly twice as wide as long. Eyes hairy. Pronotum about two and one-half times as long as wide, arcuately incised posteriorly; with a median impressed line. Mesonotum very small, subtriangular, the scutellum about twice as large, rounded and convex; metanotum nearly as long as the pronotum, and considerably wider, obtusely pointed behind. Abdomen composed of five segments of nearly equal length, the sides subparallel; tip pointed. Legs stout. Anterior femora a little more than two times as long as wide, ovate in shape; the anterior tibiæ shaped like the femora, but only two-fifths as long. Anterior tarsi stout, the tarsal claws stout and strong, bidentate at tip. Claws of four posterior tarsi very slender, with a rather obtuse tooth beneath near the tip. Entire body sub-shining, covered with a short whitish pubescence.

Described from one female from Sunday River, Capland (O'Neil). This is the third species of this recently discovered genus to be described.

The type species was described by Kieffer in 1905 from

Burma,\* and a second one by the same writer previously from Portuguese Guinea.\*\* The present one is very similar to the other two, differing principally by its 27-jointed antennæ.

GONATOPUS PILOSIPES sp. nov. (PL. 1, FIG. 1.)

Female. Length 7 mm. Black, part of face and extreme tip of abdomen reddish or yellowish; everywhere clothed with long, thin, whitish hairs absent only on the antennæ. Head strongly concave about the antennæ and behind; shagreened, with a few indications of longitudinal striations near the ocelli, and with a few large punctures on the sides of the occiput. Face above the base of the antennæ smooth and highly polished, with a raised line extending from the base of the antennæ to the anterior ocellus. Lower half of the face on the sides with a stripe of dense white pubescence under which the ground color is pale. Clypeus yellow, the center blackened, the margin rounded-truncate with a fringe of yellowish hairs. Mandibles 3-dentate, pale basally. Palpi pale. Antennæ 10-jointed; scape and pedicel brown, the former pale beneath. Scape three times as long as thick, twice as long as the pedicel and half as long as the first flagellar joint, the following growing shorter so that the fourth flagellar is as long as the scape. Antennæ slender and of nearly equal width throughout, slightly longer than the thorax. Eyes bare. Thorax elongate, the stalk at the base of the posterior lobe longer than usual; pronotum with the transverse depression distinct but not very deep; shining throughout, except for oblique aciculations laterally behind; the lower front angles and a spot in the middle posteriorly, rufous. Posterior lobe transversely aciculated behind and on the sides; longitudinally so in front above. At the base of the stalk with a small sharp tooth on each side. No meso-metanotal suture evident. Abdomen shining black, the extreme tip rufous. Legs shining black, the anterior knees and chelar claw reddish; anterior trochanters very narrow at the base, their femora stout, obclavate, very shining; tibiæ thickened except at base. Fourth tarsal joint a little shorter than the first, second and third together one-half as long as the first, the third nearly two times as long as the second; chelar claw but little curved, simple, not dentate; the fixed claw reaching to the base of the third joint with a small circular pad of lamellar hairs at tip. Posterior legs rather long

\* Ann. Soc. Sci. Bruxelles, Vol. 29, pt. 2, p. 110.

\*\* (Ann. Mus. Civ. Genoa, Ser. 3, Vol. 1, p. 363 (1904)).

and slender, the femora swollen only very close to their base, sparsely clothed with long hairs, those on the tibiæ about twice as long as the thickness of the tibiæ.

One female, Bothaville, Orange Free State, October 12, 1898 (Dr. Hans. Brauns).

This species is noticeable on account of its pilose body, resembling in this respect *G. cilipes* Kieffer from Paraguay.

GONATOPUS CAPENSIS sp. nov.

Female, Length 6 mm. Black, base of antennæ and clypeus pale; legs varied with rufous. Head strongly concave above the eyes and behind; finely shagreened, with indications on the front of microscopic longitudinal striations. Subopaque, with a raised median line extending from the base of the antennæ to the front ocellus. Eyes bare. Clypeus pale, with darker center; white pilose, with a yellow fringe anteriorly; front margin evenly arcuate. Mandibles pale, with three black teeth. Palpi pale. Anterior orbits below and cheeks pale, the former slightly whitish hairy near the lower corner of the eyes. Antennæ black, slender, reaching to the middle of the propodeum. First two joints brown, the scape pale yellow beneath, and clothed with long white pubescence. Scape one and one-half times as long as the pedicel and less than one-half as long as the first flagellar joint, following joints smaller, fifth flagellar as long as the scape. Thorax slender, the posterior lobe with a long stalk at its base, laterally toothed just behind the stalk. Anteriorly lobe microscopically punctate, sub-shining with an areous cast. Transverse impression well marked, but not very deep, with a few transverse aciculations just behind it. Propleuræ punctured. Posterior lobe with an indication of a meso-metanotal suture, transversely aciculated behind and more finely so below, longitudinally aciculated medially in front. Abdomen shining black, not pilose. Legs moderately long, clothed with a few microscopic white hairs; anterior trochanters remarkably long and very slender, especially at the base. Front femora swollen as usual, their tibiæ very stout, except at base. Fourth tarsal joint as long as the three basal ones together, the second and third equal, together two-thirds as long as the first. Claw long and slender, curved at the tip, reaching to the tip of the first tarsal joint. Posterior legs slender, their femora swollen only at the very base.

Described from one female from Willomore, Cape Colony, Dr. Brauns.

This species resembles the preceding in size and habitus, but differs by its non-pilose body as well as by its differently formed legs and antennæ.

GONATOPUS VARIPES sp. nov.

Female. Length 3 mm. Shining black; the legs, except swollen parts of anterior femora and first two or three joints of antennæ yellowish or brownish. Head flatter than usual, broadly concave above the antennæ and deeply excavated on the vertex. Front highly polished, smooth except for a faint shagreened sculpture on the vertex and occiput. Front with a median line below the front ocellus to the base of the antennæ. Face just above the antennæ whitish pilose and microscopically transversely rugulose. Clypeus pale yellow, rounded in front. Mandibles whitish, with four dark teeth. Palpi pale. Antennæ rather stout and short, barely as long as the thorax; black, the scape and pedicel yellow and the first flagellar joint dark yellow with brown tip. Scape short, but strongly arcuate, pedicel three-fourths the length of the scape and a little more than half the length of the first flagellar joint; second flagellar joint two-thirds the length of the first, others slowly decreasing; last a little longer than the penultimate. Eyes bare. Thorax highly shining, microscopically shagreened, especially on the sides. Metathorax behind more coarsely shagreened or microscopically rugulose, but not aciculated. Pronotum without the transverse impression except a slight one very close to the anterior border. Anterior neck of posterior lobe irregularly longitudinally sculptured, the metathorax with no lateral tooth-like projections at the base. Abdomen very short and broad, clothed with a few long, thin, white hairs; black, the surface shining. Legs beset with a few long pale hairs; pale brownish-yellow, coxæ included; the basal two-thirds of the anterior femora black, and the four posterior tibiæ tipped with darker brown. The femora are all rather short and thickened on almost the entire basal half. First and fourth joints of anterior tarsi about equal, the second two-thirds the length of the third, the two together equal to the fourth. Chelar claw slender, curved toward the tip; chela reaching nearly to the base of second joint. Anterior trochanters with a short basal stalk.

One specimen received from Dr. Brauns, labelled Salisbury, Mashonaland, G. A. K. Marshall.

This is a pretty shining species, with conspicuously bicolored legs.

GONATOPUS SIMILIS sp. nov.

Female. Length 3 mm. Brownish-yellow, the head darkened on the front; the abdomen piceous and the antennæ black, except base and tip. Head deeply excavated behind, and above the antennæ; brownish-yellow, blackened above the ocelli. Front with a median raised line from the anterior ocellus to the base of the antennæ; smooth and shining, shagreened toward the vertex, on the occiput, and on the sides of the face below. Lower orbits not hairy or pubescent. Clypeus strongly and evenly rounded anteriorly. Mandibles 4-dentate. Eyes bare; antennæ short, but not thickened, the scape slender, arcuate, one and one-half times the length of the pedicel; first flagellar joint about the length of the scape; second equal to the pedicel; following joints about two times as long as thick, gradually shortening except the last which is nearly twice the length of the penultimate. Scape and pedicel yellow, flagellar joints one to six black, seven piceous and eight yellow. Thorax bilobed, yellowish-brown. The prothorax with a transverse impression just before the middle and a narrow raised anterior margin. Pronotum finely microscopically punctured in front and shagreened behind the impression. Stalk of posterior lobe short; metathorax shining centrally, microscopically rugulose anteriorly and irregularly transversely aciculated posteriorly; not toothed at the sides anteriorly. Abdomen short, sub-triangular; piceous black, shining, clothed with short sparse pale hairs. Legs rather short, pale yellow, the swollen portions of the anterior femora and tibiæ brownish. Anterior trochanters long, with a rather long stalk-like basal portion. Femora swollen on almost the entire basal half. First joint of anterior tarsus a trifle longer than the fourth. Second and third about equal, together two-thirds the length of the fourth. Chelar claw slender, curved only at the tip; tip of chela reaching to the base of the third joint.

One specimen from Algoa Bay, Capland, May 25, 1898. Dr. Brauns.

This species resembles the preceding rather closely except in color. The flagellum of the antennæ is not so slender basally, however, the apical joint is longer, and the thoracic sculpture somewhat different. The body and legs also lack the whitish hairs which are conspicuous in *G. varipes*.

Both forms are exceedingly ant-like, and strongly recall species of the cosmopolitan myrmicine genus *Pheidole*.

## GYNOCHELYS gen. nov.

Similar in general appearance to *Gonatopus*, but with the head subquadrate and front convex as in *Dryinus* and its allies or in *Chelogyne*. Antennæ with the first, second and third flagellar joints extremely elongated. Thorax distinctly bilobed as in *Gonatopus*, but with the mesonotum and scutellum differentiated although small. Wings present as vestiges in the form of small membranous pads. Meso and metapleuræ distinctly separated by a suture. Abdomen and legs as in *Gonatopus*.

The present form seems to differ quite radically from anything that has so far been described, and I think it worthy of generic rank in spite of our present very meagre knowledge of the Dryininae. It does not seem to be similar to any of the numerous and very closely allied genera recently proposed by Perkins\*\* to include the forms placed by other writers in *Gonatopus*, *Dryinus*, *Chelogyne*, etc. In Perkins' table (*l. c.*) it would fall into his genus *Eukabeleia*\* on account of its vestigial wings. The latter has, however, the ordinary thoracic structure of the winged forms, while in *Gynochelys*, the thorax is profoundly modified and approaches the anomalous condition seen in *Gonatopus*.

## GYNOCHELYS BRAUNSI sp. nov. (PL. 1, FIG. 2.)

Female. Length 5 mm. General color piceous, head black, legs and antennæ varied with paler brown; clypeus and mouth parts rufous; mesonotum and scutellum pale rufous. Head two and one-half times as wide as long, the temples obliquely truncated, vertex between the eyes rounded, gently convex; front also convex, or when seen from above, straight. Antennæ inserted at the base of the clypeus, very slender, as long as the head and thorax together. Scape short and stout, strongly curved; pedicel slender, half the length of the scape; first flagellar joint slender, almost twice as long as the scape and pedicel together, and three-fourths as long as the greatest width of the head; second and third joints decreasing, the third two-thirds the length of the first; the apical four joints shorter and equal. Mandibles slender, the outer tooth very acute. Palpi short. Front microscopically rugulose, with a raised median line. Ocelli small, placed in a small triangle, the vertex slightly margined just behind them.

\*\* (Bull. No. 1, Sugar Planters' Experiment Station, Hawaii (1905)).

\* *Eukabeleia* is preoccupied by Ashmead's *Eukabeleia*. Proc. Wash. Ent. Soc., VI, p. 126 (1904), a genus of Chalcidoidea; but never having seen Perkins' species I would hesitate to propose another name.

Eyes large, bare. Cheeks large, nearly smooth. Thorax binodose, the posterior node the longer. Pronotum with a very deep transverse impression just in front of the middle; shagreened. Mesonotum distinct, but very small, scarcely one-fourth the width of the pronotum, and about as long as wide, narrowed behind. Tegulae present, rufous. Wings as long as the mesonotum, whitish and without apparent venation. Scutellum convex, about one-half as long and narrower than the mesonotum. Posterior thoracic lobe consisting of the mesopleuræ and the metathorax, distinctly separated by a suture which extends obliquely along the side of the entire node. The metathorax is very coarsely transversely strigose, opaque, the metapleuræ and under side of the lobe more irregularly strigose. Abdomen ovate, pointed, consisting of seven distinct dorsal segments: the first segment rather strongly petioliform; surface shining, not hairy. Legs long, rufous or brownish, the anterior trochanters three-fourths as long as their femora, with a long narrow basal stalk which is longer than the swollen apical portion. First and fourth tarsal joints nearly equal, the second and third together one-half as long, equal. Chelar claw straight, strongly bent at the tip. The chela with the usual squamules rather sparsely placed. Middle femora thick, more strongly so on basal one-half. Posterior pair slender, swollen on basal half. Tibiæ and tarsi slender.

One female from Algoa Bay, Capland, Dr. Brauns.

I take great pleasure in dedicating this remarkable species to my friend and colleague, Dr. Hans Brauns of Willomore, through whose zeal and kindness I have been enabled to study the present interesting collection.

## FAMILY SCELIONIDÆ.

## SCELIO PULCHRIPENNIS sp. nov.

Female. Length 3.5-4 mm. Black, rugose, whitish, hairy; tarsi brownish; wings fuscous, spotted with white. Head flattened, seen from above a little over two times as wide as thick; the surface reticulate rugose, tending to form irregular oblique striæ about the base of the antennæ. Antennæ 11-jointed, the flagellum one and one-half times the length of the scape; pedicel as long as the first two flagellar joints; second and third submoniliform, equal, each two-thirds as long as the first; club 7-jointed, the joints of nearly equal length, somewhat over twice as wide as

long. Mandibles rufopiceous. Mesonotum and scutellum longitudinally rugose, sub-shining, no trace of parapsidal furrows. Metathorax finely reticulate. Abdomen as long as the head and thorax together, entire dorsum longitudinally aciculate; segments three and four each one-half longer than the second. Venter more or less rufous. Pleuræ rugose, the mesopleural piece more or less striated. Legs black, the four anterior tibiæ and the tarsi, rufous. Wings reaching almost to the tip of the abdomen; the submarginal vein visible only at the middle; stigma subobsolete or not developed, no stigmal vein. Basal half of wing hyaline, with a semi-circular hyaline spot on the anterior margin, half way between the stigma and the wing tip, also sometimes a less evident spot posteriorly nearer the wing tip. Hind wings hyaline.

Five female specimens, Algoa Bay, Capland, January 22, November 29 and December 11, 1896 (Dr. Brauns).

This species is a typical *Scelio*, rather remarkable on account of its pictured wings, in which character it resembles the following species.

*SCELIO NITENS* sp. nov.

Female. Length 3.75-4.25 mm. Shining, bluish black, everywhere sparsely pale hairy. Anterior legs pale rufous. Wings marked with fuscous. Head scarcely twice as wide as thick; surface polished on the vertex, with a few scattered punctures; central part of face and cheeks rugulose, more or less striate at the base of the antennæ. Mandibles rufous. Antennæ black, the tip of the pedicel yellowish. Flagellum one and one-half times as long as the scape. Pedicel as long as the first and second joints of the flagellum together, the second two-thirds as long as the first. Third and following enlarging to the club which is indistinctly 7-jointed, equal; the club joints two and one-half times as wide as long, the last triangular. Collar, mesonotum, and scutellum polished blue-black, with a few scattered punctures; the scutellum with a submarginal groove and a raised margin. Parapsidal furrows wanting. Metanotum longitudinally rugose, gradually sloping to the petiole. Abdomen shining, the dorsal surface longitudinally aciculate, more weakly so toward tip; third and fourth segments subequal, fifth and second subequal, each two-thirds the length of the third. Anterior legs, including coxæ, yellowish brown, the femora darker above; middle legs, including coxæ fuscous; posterior coxæ and femora piceous, tibiæ and tarsi rufous. Pleuræ finely rugose, the mesopleural piece smooth and polished, except for several striæ below. Wings reaching to the

tip of the fourth abdominal segment. Wings fuscous; the basal half hyaline with a fuscous band; and the apical half with two more or less distinct hyaline spots, one anterior and one posterior. Submarginal vein distinct on the basal half. Stigma well-developed, piceous, drawn out into a point where the stigmal vein should be, the latter absent. Hind wings hyaline.

This species resembles the preceding on account of its similarly marked wings. The vertex, mesonotum and scutellum are smooth and polished, however. The legs are also lighter in color, and the wings have a well developed stigma.

Described from 6 female specimens, five from Algoa Bay, November 29 and February 6, 1896, and one from Uitenhage, Capland, October 16, 1896. All were collected by Dr. Brauns.

FAMILY ENCYRTIDÆ.

*METAPELMA MIRABILIS* sp. nov.

Female. Length 9 mm, including ovipositor which is almost as long as the abdomen. Head and thorax greenish greenous, the abdomen black, with greenish and purplish reflections. Legs piceous or black, the base of the posterior tibiæ white. Body covered everywhere with a dense, short, whitish pubescence. Head with coarse scattered punctures, the surface strongly shagreened; blackish on the front and very green below and behind. Mandibles fuscous with black tips; palpi black. Antennæ black, the scape strongly widened toward the tip; pedicel two times as long as the first flagellar joint; second nearly as long as the scape; following distinctly shorter, except the last, nearly quadrate but not moniliform; last pointed, being obliquely and sharply truncated. Eyes strongly hairy. Pronotum and mesonotum shining green, with purplish reflections; very faintly shagreened, almost smooth. Axillæ and scutellums purplish black, the former with their points meeting medially. Metathorax short, depressed, abdomen gradually narrowed from the tip of the first segment to the ovipositor which is almost as long as the abdomen. First segment very long, second, third and fourth equal, each two-thirds the length of the first; all entire on the apical margin. Fifth, sixth and seventh segments narrower and very short. Ovipositor apical, very slender and knife-like, black with greenish reflections. Venter black, with faint reflections. Coxæ and anterior femora greenish, anterior tibiæ and tarsi brownish; middle legs piceous, the tibiæ lighter at tip, their spur three-fourths of the length of

the first tarsal joint. Hind legs black, the extreme base of the tibiae black. Hind tibiae very broad, and strongly flattened, cleaver-shaped, fully one-third as wide as long, the leaf-like part two times as wide as the thickened part; at the tip with two small apical spurs. Hind tarsi flattened, but scarcely over one-fourth as wide as the tibiae. Metatarsus as long as the three following joints which gradually become narrower. Wings hyaline, tinged with brown behind the stigma; marginal and postmarginal veins equal, each two and one-half times as long as the knobbed stigmal vein.

Male. Length 5 mm. Much more slender, the legs very long. Apical joint of antennae wider than the penultimate, ovate pointed, but scarcely obliquely truncate. Middle tibiae much longer, their spur one and one-fourth times the length of the first tarsal joint. Hind tibiae flattened, but not broader than the femora. Tarsi only slightly flattened. Wings without the stigmal spot. Otherwise similar to the female.

Described from two specimens, the female from Algoa Bay, Capland, Dec. 29, 1895, and the male from the same locality Nov. 11, 1905. Both were collected by Dr. Brauns.

This remarkable species is very similar to the North American *Metapneuste specabilis* of Westwood,\* but differs by its much more strongly compressed hind tibiae, smoother thoracic dorsum and differently colored legs. I have had opportunity to compare the two through the kindness of Dr. Wm. H. Ashmead, who loaned me a specimen of Westwood's species.

\*[Proc. Zool. Soc. London, Vol. 3, p. 69 (1835)].

## BULLETIN

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### NOTES OF THE HERRING GULL AND THE CASPIAN TERN.

(*Larus argentatus* and *Sterna caspia*).

BY HENRY L. WARD.

The Herring Gull is a permanent resident of Wisconsin, but not of the Milwaukee region. It comes to us from its northern breeding ground about the first of October and stays until the latter part of May.

To the urbanite it is particularly in evidence during the depths of severe winters, when the inhospitable ice fields of the lake force it to seek the rivers and basins that are kept open by passing vessels. From the down town bridges we acquire an intimate acquaintance with so much of its economy as has to do with its search for food under these artificial surroundings and in such unusual proximity to man. Normally this gull is a wary bird, seeming to appreciate the dangers of a close approach to that most destructive creature, man, and to have a fair idea of the range of a gun; but when the frozen lake forces it to seek food and shelter elsewhere its actions indicate that it is well aware that when between the factory lined docks of the river no gun will be raised against it. It is a cause for admiration to notice how quickly not only the gulls but hundreds of wild ducks, principally Old Squaws, Lesser Scaups and King Eiders, accustom themselves under the stress of hunger to this extraordinary proximity to man. When within twenty-five yards of a bridge constantly thronged with foot passengers and carrying a continuous procession of wagons, automobiles and clanging electric cars, these birds are much more at ease than they would be in open water with a man on the shore two hundred yards distant.

vein ending midway between the humeral cross-vein and tip of third vein. Furcation of third vein not very acute, the cell formed of moderate size. Fourth vein strongly curved basally and straight apically, ending closer to the wing tip than the fifth. Fifth and sixth sinuate. Seventh distinct. Halteres pale yellow.

Described from four specimens representing both sexes, two collected in Wyandotte Cave, Indiana, received from Prof. J. M. Aldrich, and two others recently sent me by Prof. C. F. Adams, who writes me that they were collected by Mr. A. M. Banta in Mayfields Cave, near Bloomington, Ind. Types in the collection of the Milwaukee Public Museum.

Until recently I have considered this species to be only an extreme type of the variable *A. nigriceps* Loew, but a more careful examination leads me to believe that they are perfectly distinct. The front is much wider than in *nigriceps*, the legs are longer and more slender, and the palpi of the male are not at all enlarged. The hypopygial lamella is also much smaller.

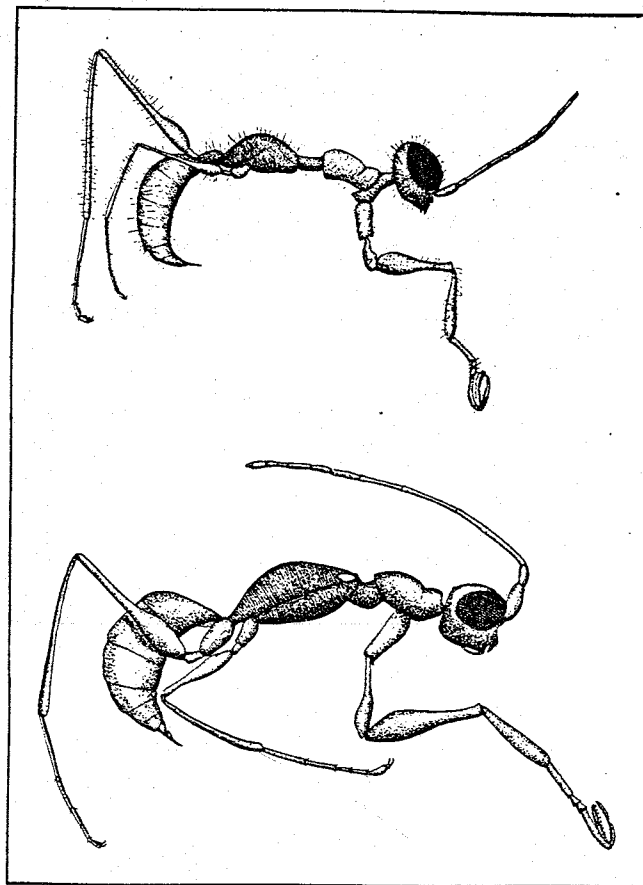
This is the only true cavernicolous form so far to be discovered in North America, and has previously been referred to several times. In the American Entomologist for 1880, Hubbard mentions the occurrence of larva belonging to a species of *Phora* found feeding on offal in Washington Hall, Mammoth Cave, Ky. He describes the larva and pupa, but gives no specific name to the species. Packard in his Cave Fauna (1) quotes Hubbard's observations, but gives nothing further. In 1896 Aldrich (2) recorded as *A. nigriceps* Lw., what were presumably specimens from the lot here described from Wyandotte Cave, with the following note by Blatchley: "Taken from the mouldy remains of bread, chickens, etc., near the 'Augur Hole,' three-fourths of a mile from the mouth."

This is the second cavernicolous Phorid to be described, the European *Phora aptina* being also an inhabitant of caves. This latter species was found in the Adelsberg Grotto in Carniola, (3) and has been recently recorded by Bezzi (4) from the Covolo di Costozza near Venice in Italy. Bezzi considers the European species to be exclusively cavernicolous in occurrence, and the same is probably true of the American one here described.

Public Museum, Milwaukee, June 15, 1906.

- (1) Mem. Nat. Acad. Sci., IV., p. 81 (1886).  
 (2) On a Collection of Diptera from Indiana Caves, Rept. Indiana State Geologist for 1896.  
 (3) [Schiner, Fauna d. Adelsberg Grotte (1853)].  
 (4) [Rivista Italiana di Speleologia, I, fasc. II (1903), p. 13].

## PLATE I.



## EXPLANATION OF PLATE:

- Fig. 1. *Gonatopus pilosipes* sp. nov. Female.  
 Fig. 2. *Gynochelys braunsi* gen. et sp. nov. Female.