

Descriptions of New Species of NORTH AMERICAN POLYDESMIDÆ.

BY DR. H. C. WOOD, JR.

Genus POLYDESMUS.

Subgenus FONTARIA.

P. TRIMACULATUS.

P. saturate rubro-brunneus; scutis postice fulvo trimaculatis, corrugatis; antennis ultimis pilosis; pedibus dilute fulvis; appendicibus genitalibus masculis maximis, crassibus, ultimis obtuse rotundatis, spina terminali gracillima, enormiter convoluta.

The color of this species is a dark reddish brown. Each scutum has on the posterior portion of its lateral lamina a bright yellow or orange spot, and a blotch of the same tint on the median portion of its posterior border. Occasionally this is so prolonged as almost to give the idea of a continuous transverse band. The first scutum has two central markings, situated the one on its anterior, and the other on its posterior border. These are so shaped and joined together as to suggest the idea of an hour-glass. The anal scutum is triangular and somewhat elongate. It is yellow, but has a dark spot on each side, and its truncate apex is tipped with brown. The head is chestnut brown. Its vertex is deeply canaliculate, and its inferior lip distinctly emarginate, and fringed with hairs. The antennæ are light brown, slender, and not at all clavate. The feet are light yellow, with their distal portion somewhat pilose and occasionally tipped with brown. The male genital appendages are very large and robust. Their terminal spine is simple, long, slender, and irregularly bent upon itself. They are also furnished with a small nearly straight spinule, placed proximally as to the terminal. The female genitals are very short, thick and bulbous. On one side of each there is an opening, with two projecting plates separated from one another by a linear orifice. I have seen a male and female, which were collected by Mr. E. D. Cope in Susquehanna Co., Pennsylvania. They are about two inches long.

P. CORRUGATUS.

P. atro-castaneus, scutis fulvo postice marginatis; laminis lateralibus fulvis, latissimis, angulis anticis rotundatis, posticis modice acutis; scuto anale triangulare, elongato, postico fulvo, apice truncato; appendicibus genitalibus masculis maximis, spinulo laterale robusto subbreve vix curvato armatis; spina terminale maxima, robusta, compressa, tortuosa, spinulo basale armata.

The color of the perfect animal is a chestnut black, rarely reddish chestnut, with a moderately broad margin of fulvous [in alcoholic specimens] on each scutum. This band may be red during life. The scutæ beautifully polished to the naked eye, the microscope shows to be obsoletely wrinkled. Very many of these wrinkles are longitudinal. The head is of the same color as the body; medianly it is distinctly sulcate; inferiorly it is broadly and rather deeply emarginate. The scutal side plates are fulvous above and below. Their anterior angles are rounded, their posterior more or less acute, and in the hinder ones prolonged. The under surface of the body is of a light yellow. The male genital appendages are very large and robust. They have a short, slightly crooked spinule attached and lying close to their side. The terminal spine is irregularly spiral, and has near its base a curved spinule. At the point of its origin is a tuft of bristly hairs. Each female genital appendage is chiefly composed of a short, almost globular, process, in one side of which there exists a large opening. This process is scarcely at all pilose. Through the side opening projects a pair of large, thick plates, fitting together somewhat in the manner of bivalve shells. These nearly equal in height the main process. The spine on the second joint of the feet is robust, but acute. The whole animal is about one and a half inches in length.

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Hab.—Michigan; Prof. Miles. Trenton Falls, New York; Mus. Comp. Zoology, D. Mack.

P. BIFIDUS.

P. rubro castaneus, segmentis et antice et postice late fulvo-marginatis, laminis lateralibus dilute fulvis; scuto anale triangulare, apice truncato et decurvato; appendicibus genitalibus masculis elongatis, pilosis; spina terminale gracillima, proxima cylindracea, ultima bifida et nonnihil abrupte curvata, spinulo basale gracillimo parvo armata.

All of my specimens have been preserved for a length of time in alcohol, so that the description of color is not as accurate as it should be. The anterior aspect of the head is much lighter than the vertex, which is medianly strongly canaliculate. The antennæ are dilute fulvous, are rather longer than in *P. virginensis*, and are distally, sparsely and shortly pilose. The spinules on the distal ends of the first and second joints of the long and slender feet are robust, but are often obsolete anteriorly. The terminal scutum has several punctæ closely resembling pores. The preanal scale is triangular; it has two little elevations surmounted by a punctum. The male genital appendages are elongate. Their terminal spine is very slender and cylindrical in its proximal portion; distally it is bifid and strongly curved. It is ornated with a very slender curved basal spinule.

Hab.—Georgia; Museum of Comp. Zoology, Dr. LeConte. Texas; Collection of Smithsonian, G. Wurdeman.

P. CRASSICUTIS.

P. maximus, robustus; scutis enormiter subrude punctatis; appendicibus genitalibus masculis, singula spinis quatuor armata; duobus magnis, parvis duobus.

The color of all the specimens is light testaceous; with, in many, a dark dorsal line. It is very possible that the alcohol, in which they have been long preserved, may have destroyed the original color. The animal is very large and robust, and has its outer armor and side plates very heavy. The head on its upper surface has a distinct median furrow, and on its lower a broadly lineal, oblique depression on each side. The inferior margin is rather broadly and deeply emarginate. The lateral lamina are rather short. The female genital appendages are a pair of small, pyramidal, pilose bodies, whose apices are split into three or four very minute mameloid processes. The male organs are large, and distally very hairy. They are each armed with two large and two small spines. The longer and more slender of the former at its proximal portion is bent rather abruptly at right angles to itself, but is nearly straight afterwards. The more robust is pretty straight, save at its distal extremity, where it is abruptly bent at right angles to itself. It is armed with several very slender spinules, and has one edge distantly and obsoletely denticulate. Of the smaller spines, one is short and blunt; the other much longer, sharp, slender and falciform. The last scutum is triangular, and has its apex truncate and very slightly decurvate. The preanal scale is semi-orbicular.

Length, 2 to 3 inches.

Hab.—Mississippi. Museum of Smithsonian.

Subgenus POLYDESMUS.

P. HISPIDIPE.

P. saturate olivaceo-brunneus, immaculatus; dorso nonnihil convexo; scuto anale triangulare longe pilose, apice truncato et decurvato; pedibus hispidis; appendicibus masculis genitalibus brevibus, robustis, spina terminale modica, ultima abrupte curvata, dense pilosa.

The color is darker than in *P. erythropygus*. The side plates are rather

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short, with their edges much thickened. The head has its vertex strongly canaliculate. Its anterior face is marked with two small punctiform impressions. The lower border is not very strongly emarginate, and is set with a fringe of short thick hairs. The antennæ are mostly dark colored, scarcely at all clavate and coarsely pubescent. The feet are rough, with closely set, stiff hairs. The anal scutum is prolonged posteriorly, so as to come almost to a blunt point. The genital appendages in the male are short and thick. Their terminal spine is slightly curved at its base, thence is nearly straight, save at its distal extremity, where it is abruptly curved, becoming nearly horizontal. It is beset with very numerous long hairs. We have examined them in eighteen specimens, and found them to agree perfectly. The female genital appendages consist of a pair of short, conoidal, very pilose processes, which have an opening along their inner edge.

Length one inch and an eighth.

Hab.—Illinois. Smithsonian Coll. R. Kennicott.

Var. ? *P. laete castaneus*, fulvo vel rubro maculatus, linea nigra dorsali ornatus; laminis lateralibus marginibus rubris vel fulvis.

This is possibly a distinct species, but as I have seen but a very few individuals, and the male genital appendages do not differ from those of *P. hispidipes*, I prefer not risking a synonym. Whether the spots are yellowish or red in the living animal, the length of time our individuals have been preserved in alcohol precludes me from deciding.

The spots are sometimes arranged regularly—two large ones on each side of the mesial line, and a row of small ones on the posterior border.

Hab.—Illinois. Smithsonian Coll. R. Kennicott.

Subgenus STENONIA.

P. CERASINUS.

P. dilute cerasinus; dorso complanato; antennis modicis pubescentibus, nonnihil clavatis, nonnihil brevibus; scutis squamis obsoletis ornatis, marginibus lateralibus serratis; appendici genitali masculæ spina terminale lata, oblique truncata, utrinque processu longo setaceo curvato instructa.

The head has the median furrow on its vertex illy pronounced. The anterior face is sparsely pilose, and has its lower margin broadly but shallowly emarginate. The scuta have a double row of scales, obsolete but otherwise similar to those of the following species. Sometimes these are entirely lost. The lateral margins of the side plates are rounded slightly and minutely serrulate. They seldom have more than three serratures on each side. The terminal scutum is triangular, with its obtuse apex bent downwards. It is sparsely pilose. The legs are quite hairy, and light colored. Their second joint is tumid. The genital appendages in the male are peculiar. The terminal spines are broad and short, and superiorly very obliquely truncated, with two small hamular processes. On each side a long, seta-like process springs from the base. The outer, much the longer of the two, throws an arch entirely over the short spines. The inner is straighter. They both have one or two thorn-like excrescences.

Hab.—Oregon. Museum of Smithsonian Institution.

Subgenus STRONGYLOSOMA.

P. ERUCA.

P. brunneus? robustus; antennis brevibus, pilosis, haud clavatis; scutis subrude punctatis; pedibus parvis, gracilibus, modice hirsutis.

Judging from our badly preserved alcoholic specimens, the color of this species is reddish brown, with the side plates a lighter color. The body is very robust. The head has a median furrow on its vertex, and its lower border emarginate. The side plates have but the posterior angles, which are acute.

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The scuta appear to have a narrow edging of black posteriorly. The terminal scutum is subtriangular, very prolonged and very thick posteriorly. We have never had an opportunity of examining the male genital organs. Those of the female are very pilose, and are formed of two portions. They are contracted at their bases, and expanded above, somewhat as a reversed flattened cone. The basal piece is thicker, and less hairy than the other. The distal piece is set into it, and has along the free extremity an opening.

Hab.—Oregon. Museum of the Smithsonian.

Subgenus LEPTODESMUS.

P. PLACIDUS.

P. olivaceo-brunneus, scutis plerumque nigro vittatis; laminis lateralibus parvis, dilute brunneis; pedibus saturate olivaceis; sternis dilute brunneis; appendicibus genitalibus masculis, valde elongatis; spina terminale magna, in spiram ducta et spinulo basali longissimo falciforme et altero laterale breve robusto instructa, margine partim acute serrato, partim integro.

The head is dark colored. Besides its median furrow, it is also ornamented with a pair of sometimes illy pronounced punctæ on each side of the vertex. Its inferior border is rather broadly emarginate. The antennæ are elongate, dark brown, and tipped with black. The anal scutum agrees with the others in color. It is triangular, with its apex truncate, obscurely emarginate and decurved. The male genital appendages are strikingly elongate. The terminal spine is nearly black. It is bent spirally on itself, but after performing a little more than an entire turn is nearly horizontal for some length. It is flattened, with its superior surface somewhat umbonate. It ends in a thick, blunt, spine-like process. The proximal portion of the anterior margin is acutely serrate. From the edge projects a short thorn-like spinule, and from the base a long, slender falciform spine.

Length, one and a quarter inches.

Hab.—Michigan. Prof. Miles.

P. FLORIDUS, var. ?

P. atro-castaneus; scutis postice rubro-aurantiaco marginatis; laminis lateralibus parvis, laete rubro-aurantiacis; appendicibus genitalibus, masculis *P. placidi* illis similibus.

The head is lighter colored than the body. It is medianly canaliculate, with a pair of punctations on each side of its vertex. Its inferior border is broadly emarginate. The antennæ are rather long and slender, very slightly clavate, light brown, and distally tipped with black. The scuta are smooth, beautifully polished, and not corrugate. The side plates are distant, quite small, and nearly horizontal. Their anterior angles are rounded. The anal scutum is prolonged, and is sometimes wholly, sometimes partially orange. It is triangular, with its apex truncate and slightly emarginate, and its sides curved. It projects posteriorly, and is bent downwards. The feet are cylindrical, yellow, and somewhat pilose. The male genital appendages resemble those of *P. placidus*, except in color. They are yellowish. Those of the female consist of a pair of short, blunt processes. Each of these has a basal portion into which is set a short somewhat flattened body, with an obscure linear opening traversing its distal surface. From the junction of these two parts springs a heavy fringe of long, coarse hair. *P. floridus* is very possibly a distinct species from *P. placidus*. I have seen but a single individual of the latter. The general appearance of the two is so dissimilar, as to incline me to the belief of their distinctness. But they agree well as to their genitalia, and a suite of specimens might show their identity.

Length one and a quarter inches.

Hab.—Michigan. Prof. Miles.

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P. HAYDENIANUS.

P. olivaceo-castaneus; antennis modicis, sparse pilosis, ultimis nigris; lami-
nis lateralibus luteis; appendicibus genitalibus masculis hirsutis et processu
lato breve et spinis duobus armatis; spina terminale modice robusta, valde
curvata.

Judging from an alcoholic specimen, the color of this animal is an olive chest-
nut, with the side plates yellowish, and the posterior portions of the scuta
much lighter than the anterior. The head is bright chestnut, and is orna-
mented with a median furrow on its vertex, and a pair of impressed dots on each
side of its face. Its inferior border is medianly moderately emarginate. The
margins of the side plates are somewhat thickened. The anal scutum is yel-
lowish, small, subtriangular, and distinctly emarginate posteriorly. The feet
are very slender, and are shortly pilose. The femora of the hinder ones are
armed with a small spine on their distal extremity. The male genital append-
ages are small, and are hairy at the base. They are armed with a broad, ob-
tuse, spinous process, and a slender curved spine besides the terminal. The
latter is robust, and is bent with a double curve, that is anteriorly and lateral-
ly. I have dedicated this species to my friend, Dr. Hayden, whose name is
inseparably connected with the far West.

Hab.—Oregon. Museum of the Smithsonian.

Descriptions of New Species of North American IULIDÆ.

BY DR. H. C. WOOD, JR.

Genus IULUS.

I. VENUSTUS.

I. rubro-castaneus, linea dorsale nigra et maculæ nigræ seriebus lateralibus
(interdum obsoletis) ornatus; antennis longis, filiformibus, pilosis, haud cla-
vatis; scutorum lateribus canaliculatis; segmentis 52; mucrone parvo.

The general color of this species is reddish chestnut; frequently the red
predominates so much that the individual is really flesh-colored, but occa-
sionally the chestnut overcomes the other tint. The dorsal stripe is generally
very distinct, especially on the posterior portion of the scuta. The eyes are
triangular, and are connected by a dark band, which is often rather obscure.
The anterior cephalic aspect is long and narrow, with its sides converging in-
feriorly. Its inferior border is fringed with a double row of short, distant
hairs, and is medianly deeply emarginate and 2—4 dentate. The scuta are
ornamented, rarely with a white blotch on each side of the mesial line, but
generally with two lateral black dots. The first scutum in the female has the
anterior margin oblique as to the main axis of the body, and is prolonged
laterally so as to form processes, mostly canaliculate, with a rounded border.
In the male the anterior margin is at right angles to the axis of the body, and
the lateral parallel to it, so that there are no processes. The male genital
appendages consist of two main portions on each side. The outer and more
conspicuous of these is formed of a thin, very irregular plate, from whose
base springs a short, clavate, cylindrical, distally pilose process. The inner
portion is composed of a long, very slender, almost setiform process, and a
shorter straighter one. The former at its base is bent at right angles to itself;
and distally it is somewhat spirally arched over the other.

The female genital appendages consist of two broad, robust, pilose processes,
with a pair of very slender, almost filiform, foot-like bodies, springing from
their conjunction and equalling them in length. The major portion of each
appendage is composed of a single plate. This is folded on itself, so as to
constitute an irregular, flattened cylinder, which is open at its end, and along

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