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STUDIES IN THE WEEVILS OF THE
WESTERN UNITED STATES,

No. VIII: Description of New Species⁽¹⁾

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In 1951 while critically studying the genera *Bagous* and *Pandeleteius*, the following species did not agree with species then known. Subsequent studies of these genera, as represented in the Entomological Collections of the California Academy of Sciences at San Francisco, have prompted the preparation of this paper in which four species are proposed as new to science and not previously described. While this paper was being made ready for the printer, Mr. John N. Belkin of the University of California at Los Angeles sent several specimens of what has proved to be a new species of *Onychylis*. A description of this species is included in this study.

BAGOUS ANGUSTUS Tanner, n. sp.

Black with a grayish coating over the body; prothorax narrow, tapering from the base to the apex, in width two thirds that of the base of the elytra. Elytra straight from humeral prominence to the declivity; rostrum black, longer than the length of the prothorax; scape origin near the apical third of the beak, extending back in a well developed groove to and in contact with the middle of the eye, which is large and well protected by an expanded prothoracic shield; funicle and club as long as the scape; second funicular joint longer than five succeeding ones; club larger, as long as, the seven joints of funicle; antennae and legs reddish brown; third joint of the tarsi not much expanded and not emarginate; fourth segment short with small divergent claws; prothorax finely punctate with a slight medium depression, tapering from base to apex; small fovea partially concealed by the grayish scales of the head; elytral intervals flat, with pale spots beyond the middle on the second and third interspaces; one posterior tubercle on the fifth interspace.

Length 3.1 mm., width at base of elytra 1.4 mm.

Type - a perfect unique specimen, in the author's collection.

Type Locality - Newman Lake, Washington; collector M. C.

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Lane, July 9, 1927. Truck crop No. 1409.

I have hesitated to describe this species from a single specimen, but since it is so distinct from other known species, and because I have not been successful in getting other specimens from this area, it is thought advisable to name it at this time.

Angustus has the third joint of the tarsi only slightly enlarged and not emarginate; prothorax finely punctate with a medium fine channel; prothorax, at base, two-thirds the width of the elytra, tapering from base to apex which is a distinctive characteristic. Elytral intervals flat, striae shallow. *Nebulosa* is closely related to *angustus*, but differs in the shape of the prothorax; third tarsal segment; deeper elytral striae and more arched intervals; declivity not so abrupt.

BAGOUS **DIETZI** Tanner, n. sp.

Elongate, slender. Black, densely covered with brownish-white scales; mottling or mixture of brown and white scales on the prothorax and elytra, but not in any definite pattern; small black tubercles show through the crust of scales on the prothorax and elytra. Striae shallow, intervals slightly convex; a white-topped callus on the fourth interspace at the declivity; beak as long as head; scape not quite reaching the eye; funicle seven jointed, first joint conical, second as long as the third and fourth; club elongate and as long as the third to seventh joints of funicle; prothorax longer than wide. Constricted in front, widest near the front, sides almost straight, one half the width of the elytra at the humeral angle; elytra with only one callus, declivity gradual. Legs red; tibia curved with prominent spine; third joint of tarsi narrow; fourth joint as long as the first, second, and third joints; terminal claws separate.

Length 3 mm.; width 1.2 mm.

Type Locality: Cyprus Mill, Texas. The type specimen, collected by Mr. Schuapp, is from the Dietz collection; a paratype from the Frederick Blanchard collection is also from Texas. Both specimens are in my collection at the Brigham Young University.

The specimen from the Dietz collection has been in my collection for many years as a unique. When the Blanchard specimen was received and agreed so perfectly with the Dietz one I decided to propose a name for it and place it in with the described species of this genus. *Dietzi* runs in my key to *californicus*, but is distinct in that it is a little longer and narrower in body, with prominent callus

on the fourth interspace half way down on the declivity which is tipped with white; uniform in color without a white spot; with small black tubercles on the prothorax and elytra which show through the brownish white scale covering. Short beak and long slender fourth tarsal segment. It is more slender with straighter prothorax and elytra than in *californicus* and *restrictus*.

ADDITIONAL DISTRIBUTIONAL RECORDS FOR SEVERAL SPECIES OF BAGOUS

Since the publication of my paper on the Hydronomi, 1943, the following species have been received and are in my collection. I take this opportunity to report on the distribution of the following species:

B. lunatus Blatch.

3 specimens, Iowa (Otto Lugger collector); 1 specimen, Indiana (H. Soltau collector).

B. blatchleyi Tanner

1 specimen, Tampa, Florida (Otto Lugger collector). The type of *blatchleyi* was deposited in the U. S. Natural Museum. This is the only other specimen of this species known to the writer.

B. obliquus Lec.

1 specimen, Riley Co., Kansas (Popenoe); 2 specimens, Iowa City, Iowa, June 10, 1917, (L. L. Buchanan) 1 specimen St. Augustine, Florida, (George M. Greene).

B. blanchardi Blatch.

1 specimen, Michigan.

B. cavifrons Lec.

2 specimens, Iowa (Otto Lugger collector).

B. carinatus Blatch.

9 specimens Palo Alto, Santa Clara Co., California (H. P. Chandler, February 9, 1946). This is a widespread species as previously pointed out by me, p. 23. This is the first time, so far as I know, that it has been reported from California.

B. chandleri Tanner

1 specimen, Elko, Nevada (Wickham).

B. restrictus Lec.

1 specimen, Franklin Co., Iowa (N. J. and E. L. Sleeper collection). 1 specimen, Narrows, Oregon.

PANDELETEIUS **BRYANTI** Tanner, n. sp.

Similar in general aspects to *rotundicollis* but smaller, covered with a crust of black and gray, subcircular and somewhat overlapping scales; the gray scales well developed on head, sides of pronotum; the two colors confined on the elytral disk; short recumbent setae inconspicuous dorsally, white ones well developed on ventral surface, and the legs; rostrum as long as the head, broadly concave, with a medium line from between the eyes. Scrobes deep, short, curved down 1 mm. in front of the eyes; antennae reddish brown, scape when extended back reaching the eye, funicle six jointed, first joint enlarged apically and twice as long as the second segment, segments 3-5 moniliform, 6th segment enlarged with a greater width than length; club as long as the four distal segments of the funicle; prothorax with equal basal and apical constrictions, sides only moderately rounded, sides with a mixture of white and brown scales, disc with dark brown-blackish scales; deeply and closely punctured; elytral striae deeply punctate, intervals flat, widest at apical two-fifths, where they are less than twice the width of the prothorax; fourth and fifth intervals coalescing and elevated at the declivity; elytra extending well beyond the tip of the abdomen; femur of the prothoracic leg greatly enlarged at the middle reducing sharply on the venter at connection with the tibia; tibia slender, uniform in diameter, and with six to eight inner margin black denticles and a distal apical spur; not suddenly bent at the extreme tip; third tarsal segment greatly expanded, emarginate, and with dense whitish setae on the pads; fourth segment slender, and as long as the other three segments combined, claws large and divaricate; femora of the meso and meta thoracic legs one third the diameter of the prothoracic leg, proximal portion of femora and all the tibiae and tarsi reddish brown in color. Legs and under surface of body with well developed white setae. Black color of the body showing through the scales.

Length of female 4.8 mm.; male 3.5 mm.

Type Locality: Davis Mountains, Texas; collected by Owen Bryant, May 9, 1951. Elevation 6700 feet. Holotype, allotype, and three paratypes in my collection at Brigham Young University. One paratype is minus the head and one front leg while another is minus one front leg. Two paratypes in the entomological collections of the California Academy of Sciences, and two paratypes in the private collection of Mr. Owen Bryant.

Bryanti may be distinguished from *rotundicollis* as follows: It is a smaller species with less concavity of the rostrum; segments 3-5 of funicle moniliform; prothorax not strongly dilated, with deep proximal punctures; prothoracic tibiae straight and with 6 to 8 denticles; fourth segment of tarsus as long as the three preceding ones; claws divaricate; femora greatly inflated. Black color of the body showing through the scales which are fewer and less compact on the dorsal surface. No definite scale pattern as in Fall's species.

The species of *Pandeleteius*, which have six segments in their antennae, may be separated with the following key:

1. Antennal funicle six-jointed
 - A. Head and beak in front of eyes deeply concave; thorax strongly rounded at sides; rostrum triangularly emarginate and rather long; first joint of antennae about as long as the next two; second subequal in length to but not wider than the next. Two outer joints submoniliform and gradually slightly wider; anterior tibiae suddenly a little bent at the extreme tip *rotundicollis* Fall.
 - AA. Head and beak in front of eyes concave, not so deeply as in *rotundicollis*, joints of funicle pale, first enlarged, longer than the next two, next three joints moniliform; anterior tibiae straight, not bent at extreme tip; front tarsi enlarged, claws large and divaricate *bryanti* n. sp. Tanner
 - AAA. Head and beak in front of eyes only slightly concave with median impressed line; apex slightly emarginate; joints of funicle elongate; front tarsi not enlarged, claws small and slightly divergent *defectus* Green

ONYCHYLIS ESSIGI Tanner, n. sp.

Opaque black, with a very thin gray covering which does not obscure the deep black of the body; legs, antennae and apical portion of beak reddish brown; beak as long as the head and thorax; slightly expanded beyond the origin of the antennae, which is two-thirds the distance of the beak from the eyes; scrobes bordered by a gray covering of whitish scales; scape reaches the eye, funicle six segments, as long as scape, first joint conical, second longer than the third and fourth combined; club compact, setaceous and as long as third, fourth, fifth, and sixth segments combined. Prothorax as long as wide, constricted in front, and rounded on the sides; surface uniformly covered with contiguous punctures. Elytra one-third wider than the prothorax; humeri oblique and rounded; slightly depressed back of the humeri; striae fine, intervals only slightly rounded; entire surface with shallow, angular punctures; setae sparse; declivity regular, without callus. Legs long; tibiae curved with a well developed apical spine; tarsi four segmented, third deeply emarginate;

fourth longer than the third and with two long separate claws.

Length 2.4 mm., width 1.3 mm., beak 1 mm.

Type Locality: Saratoga Springs in Death Valley, Inyo County, California. Collected by John N. Belkin in the spring of 1955. I am pleased to deposit the types of this species as follows: type, and three paratypes in the collection of the California Academy of Sciences, San Francisco; three paratypes in the entomological collection of the University of California at Berkeley; four paratypes in the entomological collection, College of Agriculture, University of California at Los Angeles; and five paratypes in the author's collection at Brigham Young University.

A comparison of *essigi* with the described species of this genus - *alternans*, *nigrirostris*, and *longulus* - reveals the following differences: *essigi* is the smallest species and yet the beak is longer in proportion to its size than in any of the other species; the small punctures of the prothorax and elytra are distinctive; a lack of elevation of the striae; a lack of setae, as in *alternans*; the lack of a crust of scales which gives the specimens a mottled color appearance in many cases; and the opaque black color of the fourteen specimens before me are distinguishing characteristics of this species. *Nigrirostris* is most closely related to *essigi*.

It is a pleasure to name this species, since it is known only from California, in honor of Dr. E. O. Essig, a distinguished entomologist who has contributed greatly to the science of entomology in the western United States through his effective teaching and authorship of several indispensable books on western insects.