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NEW SPECIES AND A NEW GENUS OF NEW WORLD ELMIDAE WITH SUPPLEMENTAL KEYS

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In my revision of the North American species of *Stenelmis* (1938) I included *S. geayi* Grouvelle (1908) from Guiana, and *S. nevermanni* Hinton (1936) from Costa Rica to complete the treatment of the known New World species. Representatives of both these species from the type series were examined and they appeared to be associated with the North American components of the genus by the absence of a patch of tomentum on the anterior tibia. In spite of this similarity these species did not appear closely related to each other or to the North American species. Hinton later (1939) proposed the new genus *Stegoelmis* for *geayi* and added a second species. A restudy of *S. nevermanni* has disclosed a patch of tomentum on the anterior tibia. This was not clearly noted until the leg was treated in sodium hydroxide. On the basis of the presence of tibial tomentum in addition to other characteristics, a new genus is proposed for *nevermanni*. With *geayi* and *nevermanni* removed to other genera, *Stenelmis* in the New World is known to occur only in the United States and Canada.

Stegoelmis Hinton

In addition to the two known species a third is described here. In general appearance, two of the three species, *geayi* and *hintoni* n. sp., resemble small weevils such as *Listroderes* and *Listronotus*. The third species of the genus, *verrucata* Hinton, is

smaller than the others, measuring but 3.7 mm. in length, and it is described as feebly shining and rufopiceous in color. However, they all agree in the external generic characters set forth by Hinton except that each anterior tibia of *geayi* and *hintoni* has a small but distinct patch of tomentum at the apex on the inner side. The patch is not as extensive as in many other genera of Elmidae but is discernible even in dry specimens.

Key to species of *Stegoelmis*

1. Elytra broadly rounded at apex; elytral tubercle near lateral margin in apical fourth acute; head with strong median impression; median lobe of male genitalia (Hinton, 1939, p. 32, fig. 27) as long as lateral lobes and evenly narrowed from base to apex. Brasil, French Guiana

verrucata Hinton

Elytral apexes divergent, acute, and slightly reflexed; elytral tubercle right angled or broadly rounded; head at most with faint median impression; median lobe of male genitalia shorter than lateral lobes and constricted before apex 2

2. Pronotum with a strong swelling on each side of meson in basal third; apex of constructed portion of median lobe of male genitalia (id. fig. 30) acute; lateral lobe (id. fig. 31) in lateral view nearly evenly curved to apex. Guiana

geayi Grouvelle

Pronotum evenly convex on each side of meson in basal third; apex of median lobe of male genitalia (fig. 2) evenly rounded; lateral lobe, (fig. 2a) hooked at apex. Ecuador

hintoni n. sp.

Stegoelmis hintoni n. sp.

Male. Length 5 mm.; width 2 mm. Body above dull, mottled with gray and grayish brown patches. Head rather flattened on front and very faintly longitudinally impressed between antennae. Labrum with a transverse patch of long and dense yellow hair. Underside of head with a dense patch of long yellow hair on each side of gula. Antennae and palps reddish brown, the antennae longer than greatest width of elytra. Pronotum with length and width subequal, widest a little behind middle, mar-

gins slightly convergent to base, more strongly convergent to apical angles; median longitudinal impression running full length of pronotum; lateral submarginal oblique swelling poorly defined; punctures on disc shallow, very fine and close. Elytra nearly $2\frac{1}{4}$ times longer than pronotum; humerus faintly prominent; submarginal tubercle conspicuous and right angled; elytral apices separated, each bluntly acute and slightly reflexed; striae shallow, the punctures near suture small and deep, separated longitudinally by 3 to 5 times their diameters; striae intervals slightly convex and without punctures. Prosternum narrow, as in Hinton's fig. 21 (1939, p. 31), but rounded at apex, and with margins beveled and longitudinally striate; surface rugose and concave at apex. Metasternum and first abdominal sternite between coxae together broadly depressed. Anterior tibia with a small but dense patch of tomentum at apex; inner margins of each tibia at apical fourth with a fringe of about 15 flattened acute spines; first four tarsal segments with a dense patch of tomentum on lower surface. Genitalia having each lateral lobe curved, and distinctly hooked at apex (fig. 2a); median lobe nearly parallel in basal three-fourths then narrowed and constricted to form a short bluntly rounded apical piece.

Female. Similar to male but a little longer, measuring 5.7 mm.

Holotype male and allotype female, Oriente e. Rio Napo watershed, Jatun Yacu, Ecuador. 700 mtrs. Mar. 28, 1937, Clark MacIntyre. Types in the Snow Collection, University of Kansas.

Portelmis n. gen.

Head with a transverse ridge close to posterior margins of each eye and joining on the vertex, the area behind ridge smooth and contrasting with the roughly sculptured surface on front; antenna 11-segmented, slender, a little longer than pronotum; maxillary palpus 4-segmented, the galea finger-like; labial palpus 3-segmented; mandible with three apical teeth, and a large flattened prostheca. Pronotum longer than wide, distinctly wider in basal third, with a shallow median longitudinal groove, and without lateral carinae or swellings; prosternum (fig. 3) very long in front of coxae, $2\frac{1}{2}$ times longer than posterior process and broadly transversely depressed at middle; hypomera

apparently without tomentum. Elytron without carinae and with 10 nearly complete rows of punctures; lateral margin of elytron deeply sinuate before apex which is obliquely truncate. Mesosternal lobes overlying anterior margin of metasternum between coxae; mesosternum shallowly grooved for the prosternal lobe; metasternum with a very narrow and deep median longitudinal groove in basal half. Abdomen (fig. 4) with median portion of basal segment acutely triangularly prolonged between posterior coxae; fourth sternite slightly prolonged at posterior angles; last sternite with posterior angles each rounded and slightly prolonged beyond posterior margin of last sternite. Tarsal claw simple, without basal tooth; each tibia with a thin fringe of tomentum in about apical three-fifths; anterior femur with broad tomentose area on anterior surface in basal half, middle femur with similar area on posterior surface in basal half, posterior femur without tomentum.

Type species: *Stenelmis nevermanni* Hinton (1936, p. 424). Costa Rica.

Although faintly superficially resembling some of the North American *Stenelmis*, *Portelmis* does not appear to be closely related to them. It differs especially from *Stenelmis* by having hairy tomentum on the tibiae, by the presence of a deep, lateral, marginal excavation near the elytral apex, accompanied by the prolonged lateral margin of the fifth sternite which fits into this excavation, and by the presence of a transverse ridge on the head. It appears to come nearest to the Cuban *Xenelmoides simplex* Darlington (Hinton, 1936, p. 5) which, like *Portelmis*, is described as having no lateral pronotal carinae. However, *Xenelmoides* has the pronotum wider than long, the surface is finely and evenly punctured and pubescent, and the four inner elytral striae are almost obsolete. *Portelmis* has the pronotum longer than wide, the dorsum is very roughly scabrous in posterior two-thirds, and all the elytral striae are distinct.

Cylloepus Erichson

This genus was included in my key to the genera of Elmidae occurring in the United States (1938) but no species was given. At that time it was believed that *Elmis ferrugineus* Horn was

our only representative, but Hinton (1940) placed it in his new genus *Hexacylloepus*. However, *Elmis abnormis* Horn and an undescribed species, both occurring in Arizona, belong to this genus. Other species occur in Mexico, Central and South America, and the West Indies. The two United States species key to *Cylloepus* (Sanderson, 1938) and agree with the generic diagnosis given by Hinton (1940).

Key to the United States species of *Cylloepus*

Dorsum uniformly dark reddish brown; pronotum slightly longer than wide; fifth elytral innerspace in part carinate; metasternum depressed but without a posterior median carina

. *abnormis* Horn

Dorsum black, each elytron with two large reddish spots; pronotum distinctly wider than long; fifth elytral innerspace not carinate; metasternum with a short carina at middle near posterior margin *parkeri* n. sp.

Cylloepus abnormis Horn

Elmis abnormis Horn (1870-38)

A female, labeled Ariz., has been examined in the collection of the Academy of Natural Sciences in Philadelphia. It bears the additional label, Paratype *Elmis abnormis* G. H. Horn, 3265. The specimen was cleaned and found to differ from Horn's description as follows: elytra shining and not opaque as described, length 3.5 mm., not 4 mm., fifth elytral innerspace carinate for third the length of third, not for half the length of third. The sixth and eighth (seventh of Horn) elytral inner-spaces are carinate for $3/4$ and $5/6$ of the elytral length. In addition to the foregoing characteristics, the body above is uniformly dark reddish brown, first two segments of the antenna are yellowish, distinctly paler than the remaining segments which are brown. Front of head dull, coarsely granulate and uneven, slightly bituberculate on vertex. Clypeus very broadly and shallowly emarginate; labrum truncate. Pronotum very slightly longer than wide, widest at basal two-fifths, a little wider at base than at apex; surface strongly shining with distinct punctures between lateral carinae; median longitudinal groove deep, occupying central half of pronotum, sparsely punc-

tured in bottom of groove; lateral carina extending full length of pronotum, slightly depressed and constricted at basal two-fifths by a curved oblique groove arising at the posterior margin near scutellum; carina a little broader on each side of constriction than third elytral innerspace at base; pronotum at base with a large rounded prominence between oblique groove and lateral carina, the prominence and adjacent area nearly punctureless and shining. Second elytral innerspace slightly raised in basal seventh, third strongly raised, fourth flat, fifth slightly raised in basal eighth, sixth and eighth innerspaces evenly but narrowly raised; surface between punctures finely granulate but shining; lateral margin of elytron finely crenulate; apex of elytron slightly emarginate on side margin, oblique before inner margin. Prosternum bluntly angled on sides at anterior margin, broadly transversely depressed at middle, narrow and parallel between coxae, broadly longitudinally grooved, bluntly rounded behind. Metasternum depressed at middle in posterior three-fourths but slightly raised on each side of narrow median impressed line. First abdominal sternite deeply and broadly excavated at middle, the lateral margins of excavation carinate to posterior margin of sternite; second sternite evenly convex; last sternite evenly rounded at apex. Anterior tibia with a single line of tomentum on inside in apical half; middle tibia with one line of tomentum on inner apical half and another adjacent line occupying apical fourth; posterior tibia with a single line of tomentum in apical two-thirds.

Cylloepus parkeri n. sp.

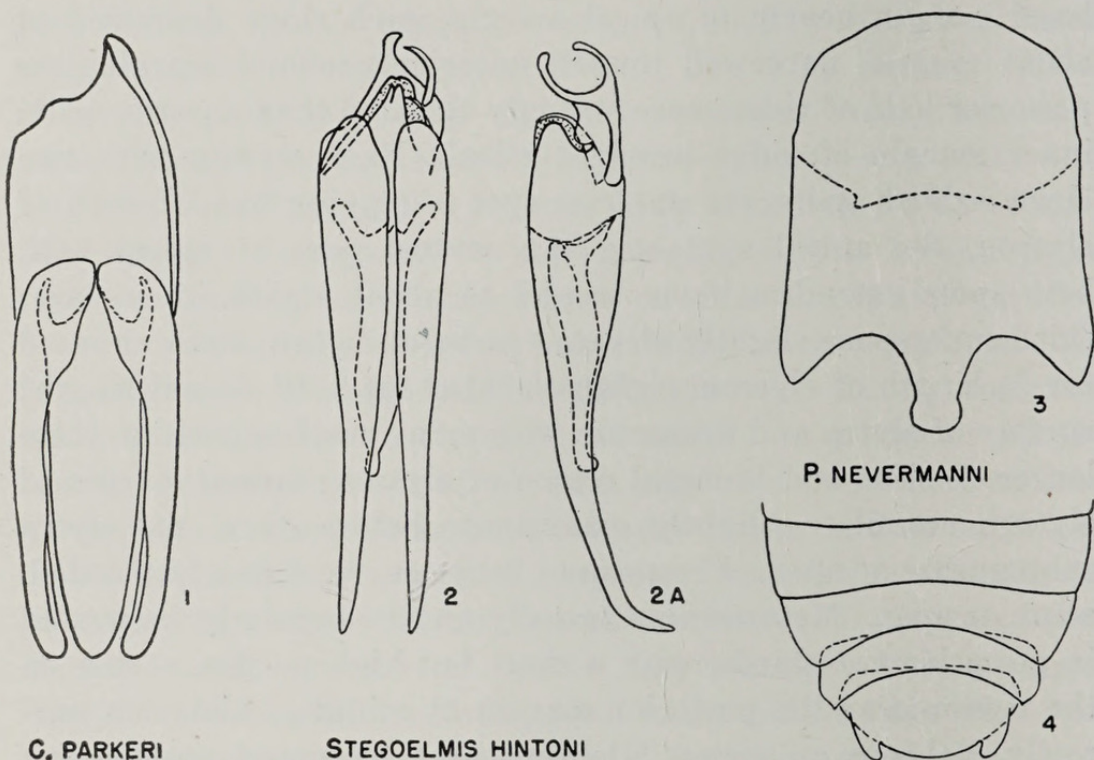
Male. Length 2.3 to 3 mm.; width 1.2 mm. Body above black, dully shining, each elytron with two large reddish spots. Head evenly convex with closely set and evenly spaced rugosities separated by about their own widths; fronto-clypeal suture straight, distinctly impressed; anterior margin of labrum evenly rounded; antenna nearly $1\frac{1}{4}$ times greatest width of head across eyes, very dark brown except the first two segments which are a little lighter; last four antennal segments distinctly wider than each of preceding five segments, each enlarged toward apex. Scutellum flat. Pronotum about $\frac{1}{8}$ wider than long, widest behind middle of lateral margin, the margin narrowed but broadly

emarginate before the acute posterior angle, more strongly narrowed but margin straight to the acute anterior angle; lateral margins of pronotum strongly crenulate; median pronotal groove deep at middle, becoming shallow and disappearing at about apical sixth, strongly narrowed posteriorly, the lateral margins of the groove together forming a flat ridge which reaches the posterior pronotal margin; lateral pronotal ridge extending from basal margin nearly to apical margin, each ridge depressed at about middle, narrowed toward anterior pronotal margin, the posterior half of ridge more strongly elevated than anterior half; inner margin of ridge nearly vertical. Each elytron with two large reddish spots, the anterior spot occupying basal fourth of elytron, the apical spot covering central part of apical half, both spots extending from second to about eighth innerspace; third innerspace slightly elevated in basal eighth, sixth elevated for $\frac{3}{4}$ length of elytron, eighth elevated for $\frac{9}{10}$ elytral length; surface of elytra and pronotum with many small asperities, these larger on sides and humeral region of elytron; lateral margin of elytron crenulate, slightly emarginate before apex, the elytra subtruncate at apex. Prosternum between coxae nearly parallel, acute at apex. Metasternum broadly and triangularly impressed in posterior two-thirds, with a short but high median carina on the meson near the posterior margin at middle. Abdomen narrowly glabrous on meson, glabrous area narrowed posteriorly; first visible segment broadly depressed at middle between the longitudinal ridges which extend to posterior margin. Each leg with a dense patch of hairy tomentum occupying anterior half or more of tibia; middle femur with patch of tomentum on inside in basal half; tarsal segments without dense patches of hairs or spines. Genitalia (fig. 1) with median and lateral lobes nearly equal in length, simple in design.

Female. Similar to male and apparently indistinguishable by external characters.

Holotype male, allotype female, 26 male and female paratypes, Bloody Basin, Yavapai Co., Arizona, June 8, 1947, F. H. Parker. The types have been deposited in the collection of the Illinois Natural History Survey through the courtesy of their collector. Paratypes are in the collection of Mr. Parker, the Philadelphia Academy of Sciences, and H. P. Chandler.

In Hinton's key to the Mexican and Central American species of *Cylloepus* (1940), *parkeri* keys to *proximus* Hinton described from Mexico. It differs from *proximus* and the closely related *sexualis* Hinton principally by its much broader median lobe of the male genitalia (fig. 1). Hinton's illustrations for his species (Hinton, 1940, p. 363, figs. 314, 317) have been used for comparison.



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Fig. 1. *Cylloepus parkeri* n. sp. Male genitalia, dorsal aspect.

Fig. 2. *Stegoelmis hintoni* n. sp. Male genitalia, dorsal aspect. 2a, lateral aspect.

Fig. 3. *Portelmis nevermanni* Hinton. Prosternum.

Fig. 4. *Portelmis nevermanni* Hinton. Abdomen.



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