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Ira La Rivers
University of Nevada, Reno

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THE STAPHYLINOID AND DASCILLOID AQUATIC COLEOPTERA OF THE NEVADA AREA

IRA LA RIVERS
University of Nevada, Reno

Included in the following list, in addition to actual records, are what are considered to be the most likely probables (genera and species) to be added to the list with future collecting. These are placed in the text and keys in the belief that such information will render their detection easier.

STAPHYLINOIDEA

HYDRAENIDAE (Limnebiidae)

The three genera currently placed in this family may be separated by Leech's 1948 key. He also gives a good review of the vicissitudes of the group, until comparatively recently included in the Hydrophilidae. On the basis of larval structure, they have been placed in the Staphylinoidea.

ADULTS

1. Second segment of hind tarsi elongate, longer than third; pronotum behind as broad as base of elytra, smooth, not coarsely punctate or sculptured, sides evenly arcuate; tiny black or rufescent beetles about 1 mm long.....(Limnebius)
 - Second segment of metatarsi short, about as long as third; pronotum slightly or decidedly narrower than base of elytra, surface uneven, coarsely punctate or with a transparent margin, sides sinuate or irregular; small black or reddish beetles, 1 to 2 mm long.....2
 - Surface more-or-less alutaceous.....2
2. Elytral base slightly narrower than prothorax; surface strongly alutaceous.....(*alutaceus* (Casey) 1886)
 - Elytral base equal in width to prothorax; surface only feebly alutaceous.....(*congener* (Casey) 1886)

Fall (1901) felt that Casey's *L. politus* 1886, *L. alutaceus* and *L. congener*, all described from California, were merely forms of the variable species *L. fuscus*, but the above key is offered to specifically enumerate the types of variation.

(HYDRAENA Kugelann 1894)

H. vandykei d'Orchymont is known from adjacent California.

OCHTHEBIUS Leach 1815

The following species must be considered for the general area (Horn 1890, Fall 1901, Usinger et al 1948):

1. Elytral sides explanate.....(*martini* Fall 1919)
- Elytral sides not explanate.....2
2. Thorax abruptly sinuately-narrowing from apex to base; transparent border broad3
- Thorax gradually sinuately-narrowing from apex to base; transparent border narrow10
3. Thorax abruptly sinuately-narrowing from one-third or less posterior to the apical angle, and with a pronounced angulation at middle of situation.....(*laevipennis* Le Conte 1878)
- Thorax abruptly sinuate from middle, or deeply-notched near the hind angles4
4. Thorax without discal foveae.....*cribricollis* Le Conte 1850
- Thorax with well-marked discal foveae.....5
5. Transparent thoracic border narrowly attaining the front angles....6
- Border ending (or beginning) at lateral thoracic situation.....8
6. Thoracic discal foveae on each side united by an impressed line....
.....*costipennis* Fall 1901
- Foveae not united.....7
7. Thoracic sides behind front angles straight....*rectus* Le Conte 1878
- Sides arcuate from apex to middle, there they are slightly sinuate and abruptly, deeply, emarginate, the angle prominent and acute.....
.....*wickhami* Fall 1901
8. Thoracic discal foveae united by a deep groove; disc coarsely-punctured.....*puncticollis* Le Conte 1852
- Foveae separate9
9. Thoracic disc sparsely punctate.....*discretus* Le Conte 1878
- Disc impunctate.....*nitidus* Le Conte 1850
10. Median thoracic line extremely short or wanting.....11
- Line distinct, extending two-thirds the length of the thorax.....12
11. Thoracic discal impressions forming a continuous line; lateral foveae broad and moderately deep.....*sculptus* Le Conte 1878
- Discal impressions very vague, posterior pair only distinct, these forming broad, shallow depressions which are indefinitely-confluent posteriorly; lateral foveae formed of indistinct sinuous depressions
.....*holmbergi* Mannerheim 1853
12. Thoracic discal foveae forming fine sinuate lines, disc rather flat; transparent border very narrow, beginning at middle.....
.....*lineatus* Le Conte 1851
- Foveae of usual form, but at times shallow.....13

13. Thoracic discal and lateral impressions both strongly-marked.. *bruesi*
—Discal foveae deep, lateral foveae shallow..... *interruptus*

O. BRUESI Darlington 1928. Eureka County, 7 mi. S. of Beowawe, C. T. Brues, 1927—Hot Spring No. 24 (38.8°C, sp. gr. 1.0020, pH 9.6). (Brues 1928, 1932; Darlington 1928); Humboldt County, Soldier Meadows (35 mi. N. of Gerlach in SW Humboldt County, and not on maps), C. T. Brues, 1930—Hot Spring No. 113 (19.2°C, sp. gr. 1.0007, pH 8.8)); Lander County, Cortez, C. T. Brues, 1930—Hot Spring No. 103 (40.8°C, sp. gr. 1.0041, pH 8.5)) (Brues 1932). Beowawe is the type locality. I have no specimens.

O. INTERRUPTUS Le Conte 1852. Elko County, 4 mi. N. of Wells, C. T. Brues, 1927—Hot Spring No. 26 (32.5°C, sp. gr. 1.0018, pH 7.9)) (Brues 1927, 1932); Lander County (Cortez, C. T. Brues, 1930—Hot Spring No. 103 (44.5°C, sp. gr. 1.0041, pH 8.5)) (Brues 1932). I have no specimens.

(S P H A E R I I D A E)

(SPHAERIUS Waltl 1838)

S. politus Horn 1868 is a tiny, round, convex, shining beetle, measuring one mm or less, found along the water's edge or under wet stones. It was described from California. In 1901, Fall noted that it "is rather common on the sandy margins of streams, and is often started in numbers by 'washing' the banks" in southern California.

HYDROSCAPHIDAE

HYDROSCAPHA Le Conte 1874

H. NATANS Le Conte 1874. Nye County, Beatty (Amargosa River) 29/XII/46, el. 3390 ft.—LaR, T. J. Trelease, B. H. Banta & R. G. Miller. This is the first record of this tiny, distinctive species in southern Nevada; the animal is common to the area south of Nevada. A quite populous colony was located in the icy Amargosa river just south of Beatty in moderately swift, rough water which froze at the banks each night. Individuals were found clinging lethargically to the under-surface of rhyolite stones well-grown with thin algal layers. Associated species were *Tropisternus ellipticus*, *Deronectes striatellus*, *Peltochytes simplex*, *Berosus punctatissimus*, *Laccophilus decipiens*, *Helochares normalis*, *Enochrus diffusus*, *E. nebulosus* and *Laccobius agilis*. *H. natans* was noted by Le Conte (1874) as "Found abundantly by Mr. Crotch, at Los Angeles in the river."

DASCILLOIDEA

(GEORYSSIDAE)

(GEORYSSUS Latreille 1809)

G. californicus Le Conte 1874 is a small species taken along the banks of mountain streams. Fall (1901) listed the species as "taken once along the Truckee River, near Lake Tahoe; probably common enough in the middle and northern parts of the State" (California), and may very likely yet be found in the mountains in the south." Individuals are characteristically covered with mud, which effectively serves to conceal them.

(HELODIDAE)

(HELODES Latreille 1796)

Helodes adults, like those of *Eubrianax*, are frequenters of stream-side foliage, but the larvae are more-or-less aquatic; some species enter water only occasionally, others live more-or-less regularly in water accumulated in tree hollows. Larval respiration underwater is accomplished through abdominal spiracles operating in a terminal bubble of air.

Three species have been described from adjacent California; *H. apicalis* Le Conte 1866, *H. nunenmacheri* Wolcott 1922 and *H. aquatica* Blaisdell 1940. At the present time, it is not possible to offer a key to separate them. Blaisdell wrote of *H. aquatica*: "A colony was discovered on the under surface of a rather large flat rock, that projected out of and over the surface of the water, at an angle of few degrees, in a rather swiftly flowing stream. When the rock was lifted up the beetles were disturbed, most of them falling upon the water. As soon as they struck the water, they began to swim briskly and to gyrate as do the Gyrinids; they dove beneath the surface and swam rapidly under the surface, all endeavoring to return to the rock" (1940). The species was described from coastal California.

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