University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Transactions of the Nebraska Academy of Sciences and Affiliated Societies

Nebraska Academy of Sciences

1-1-1991

A Review of the Scaritinid Beetles (Coleoptera: Carabidae: Scaritini) of Nebraska

Richard E. Clopton
Peru State College, RClopton@peru.edu

Follow this and additional works at: http://digitalcommons.unl.edu/tnas

Part of the Life Sciences Commons

Clopton, Richard E., "A Review of the Scaritinid Beetles (Coleoptera: Carabidae: Scaritini) of Nebraska" (1991). *Transactions of the Nebraska Academy of Sciences and Affiliated Societies.* Paper 143.
http://digitalcommons.unl.edu/tnas/143

This Article is brought to you for free and open access by the Nebraska Academy of Sciences at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Transactions of the Nebraska Academy of Sciences and Affiliated Societies by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

1991. *Transactions of the Nebraska Academy of Sciences*, XVIII: 53–65

A REVIEW OF THE SCARITINID BEETLES (COLEOPTERA: CARABIDAE: SCARITINI) OF NEBRASKA

Richard E. Clopton

Department of Entomology
University of Nebraska—Lincoln
Lincoln, Nebraska

Current Address:
School of Biological Sciences
University of Nebraska—Lincoln
Lincoln, Nebraska 68588-0118

The tribe SCARITINI includes 18 Nebraska species in five genera. Keys are provided for the genera and the species. Descriptions and distributions are delineated. Illustrations clarify key characters for all genera and 12 species. Faunal distribution maps are provided for the six most widespread species.

† † †

INTRODUCTION

This paper provides descriptions, keys, and distributional records for the adult SCARITINI of Nebraska. This work was based on specimens in the Division of Entomology of the University of Nebraska State Museum, Lincoln, Nebraska.

The Tribe SCARITINI contains 84 genera and 1,259 described species (Csiki, 1927). The tribe is world-wide in distribution, but, only 16 genera and 242 species are known in North and Central America (Blackwelder and Arnett, 1977; Nichols, 1986; Bousquet, 1988). Currently, five genera and 20 species comprise the Nebraska SCARITINI. The genera *Pasimachus* and *Schizogenus* are confined to the Americas, reaching peak diversity in the southern United States. *Dyschirius* and *Clivina* are distributed throughout the Northern Hemisphere; however, only two Holarctic species, *Dyschirius politus* and *Dyschirius nigricornis*, are known. That genus is most abundant in northern temperate regions, being ecologically replaced by *Clivina* in the tropics. The genus *Scarites* is circumpolar (Lindroth, 1961, 1985; Csiki, 1927).

Putzeys (1846, 1866) and LeConte (1857, 1879) examined many of the species of SCARITINI, and LeConte provided limited keys to several genera. Lindroth (1961) treated the group as a tribe of the subfamily *Carabinae*, including 18 of the 20 Nebraska species. Bousquet (1988) provided keys to the North American species of *Dyschirius*.

The Tribe SCARITINI is characterized by a pedunculate body. The anterior portion of the mesothorax is constricted to form a peduncle behind the prothorax. The scutellum is located on the peduncle. Lindroth (1961) noted that the peduncle grants mobility to the prothorax by separating its posterior edge from the elytra. The SCARITINI are characterized by having strong, forward-projecting mandibles. The protibiae are dilated and flattened as an adaptation for digging. There is little external sexual dimorphism.

The natural history of this group is largely unknown, but the adults tend to be found near water, burrowing in soil with little or no vegetation. The adults and larvae of the genus *Dyschirius* are predaceous and are often associated with the staphylinid beetles upon which they prey. Most of the SCARITINI have fully developed wings and can be

taken at light traps (Lindroth, 1961; Bousquet, 1987, 1988).

Tribe SCARITINI

Key to Adults of Nebraska Genera

1. Lateral margin of pronotum with 2 prominent setae (Figs. 6, 9, 10, 12, 13) 2

1'. Lateral margin of pronotum with 1 prominent seta (Figs. 1, 2)..... 3

2. Pronotal disk with sharp, denticulate angles formed by lateral and basal margins (Fig. 2)..... ***Pasimachus***

2'. Outline of pronotal disk smooth, without denticulate angles formed by lateral and basal margins (Fig. 1)..... ***Scarites***

3. Pronotal disk with two deeply impressed longitudinal fissures at base on both sides of median line; frons with 3 or more pairs of parallel carinae surrounding a shiny central field (Fig. 13) ..... ***Schizogenus***

3'. Not as above 4

4. Pronotal disk oval, hemispherical in cross-section (Fig. 6); row of setigerous punctures along lateral margin of each elytron broadly interrupted, leaving 1–3 sub-humeral foveae, each with a single seta ..... ***Dyschirius***

4'. Pronotal disk oblong to subquadrate, not hemispherical in cross-section (Figs. 9, 12); row of setigerous punctures along lateral margin of each elytron continuous, sub-humeral foveae absent ..... ***Clivina***

Genus ***Pasimachus*** Bohelli

Pasimachus Bonelli, 1813: 476; *Emydopterus* Lacordaire, 1854: 190; *Molobrus* Putzeys, 1846: 521.

Nebraska species are black with enlarged mandibles and the protibia are dilated as an adaptation for digging. They share the following characters: *HEAD*: Frons with paired, effaced, parallel grooves from middle of each eye to the apex of labrum. Antennae 11-segmented; scape as long as next 2 segments, with a single setigerous puncture; pedicel glabrous; flagellum pubescent, setae light yellowish brown to gold. *PRONOTUM*: Lateral margins completely beaded; each margin with a single brown seta at denticulate angle of lateral and basal margins. Basal margin deeply cleft. Pronotal field with median Y-shaped sulcus, opening anterior. *ELYTRA*: Humeral carina long, sharp. Lateral margins complete, beaded, with a single, uninterrupted row of setigerous punctures from humerus to apex; setae yellowish brown to pale yellow. *LEGS*: Profemur dilated, rounded. Protibia with enlarged terminal spur; subapical spur reduced with curved basal spine; median edge with pubescent groove modified as an antennal cleaner; setae light brown.

Genus *Pasimachus* : Key to Adults of Nebraska Species

1. Lateral margins of pronotum and elytra metallic violet, elytra without striae ..... *P. elongatus*

1'. Lateral margins of pronotum and elytra colored as body, each elytron with 8 striae (Fig. 2)..... *P. obsoletus*

Pasimachus elongatus LeConte

Pasimachus elongatus LeConte, 1848a: 147; *P. angustulus* Casey, 1913: 84; *P. evanescens* Casey, 1913: 84; *P. pimalis* Casey, 1913: 84; *P. vegasensis* Casey, 1913: 85; *P. vernicatus* Casey, 1913: 85

Description: Body length: 25–26 mm. *HEAD*: Black. Surface smooth. Labrum exposed, rectangular, with 4 setigerous punctures; setae brown to yellow brown; apex subtruncate with ventral tooth. Mandibles large; cutting edge asymmetrically toothed, left with 2 teeth, right with 1 tooth; each mandible with 2 longitudinal rows of ventral setae; setae light reddish brown to yellowish brown; mandible ventrally rugose, dorsally rugose in basal 2/3. *PRONOTUM*: Color as head except margin metallic blue-violet to blue. Surface smooth. *ELYTRA*: Color as head except margin metallic blue violet-to blue. Surface smooth. *LEGS*: Protibia with 3 lateral teeth, basal tooth rudimentary; dorsum with median groove, single row of setigerous punctures present along midline; setae stout, reddish brown to dark brown.

Distribution: Restricted to North America, but widely distributed from Alberta, Saskatchewan, Manitoba and South Dakota south to Texas, Arizona and Mexico (Csiki, 1927; Lindroth, 1961; Blackwelder and Arnett et al., 1977).

Locality Records (Fig. 14): ANTELOPE COUNTY.: Brunswick (1 collection), Burnett (1); ARTHUR: Arapahoe Prairie (7); BANNER: Bull Canyon (2), Harrisburg (4); CHASE: Imperial (1); CHERRY: Hackberry Lake (1), Sparks (4), Valentine (1), Valentine Wildlife Refuge (1), No Data (1);CHEYENNE: Sidney (1); Clay: Edgar (1); CUMING: West Point (1); CUSTER: Milburn (1); DAWES: Fort Robinson (2), Pine Ridge (1), Whitney (3), Crawford (2); DIXON: Maskell (1); DUNDY: Haigler (4); FILLMORE: Fairmont (4); FRANKLIN: Bloomington (1); GARDEN: Lewellen (1); GRANT: Whitman (2); HALL: Grand Island (8); HOLT: Spencer Dam (1); KEITH: Cedar Point Biological Station (5); LANCASTER: Hickman (1), Lincoln (22); MCPHERSON:

Sandhills Agricultural Laboratory (1), No Data (3); MORRILL: Bayard (1); RICHARDSON: Rulo (2); Sandhills: No Data (1); SARPY: Childs Point (1); SCOTTS BLUFF: Mitchell (35); SHERIDAN: Hay Springs (1), Lakeside (1); SIOUX: Agate (1), Glen (10), Harrison (6), Monroe Canyon (3), Hat Creek Valley (1), Pine Ridge (1), War Bonnet Canyon (1), No Data (1); THOMAS: Halsey (3), Halsey National Forest (1); WEBSTER: Blue Hill (1).

Temporal Distribution: April (5 collections), May (13), June (43), July (39), August (46), September (13).

Pasimachus obsoletus LeConte

P. obsoletus LeConte, 1848a: 148; *P. acuminatus* Casey, 1913: 88; *P. vestigialis* Casey, 1913: 89; *P. atronitens* Casey, 1913: 89

Description: (Fig. 2) Body length: 18–20 mm. *HEAD*: Black. Anterior limit of each longitudinal frontal groove ending in a rugose field. Labrum exposed, rugose, subrectangular, with 1 lateral lobe on each side; apex subtruncate with no subapical tooth. Mandibles large, smooth; cutting edges asymmetrically toothed, left with 3 teeth, distal tooth nearly obliterated, right with 2 teeth; left mandible with rugose patch on dorsum of central tooth, both mandibles with rugose patch on apex ventrally. *PRONOTUM*: Color as head. Surface smooth. *ELYTRA*: Color as head. Surface smooth. Each elytron with 6 small striae, striae extending from humerus to apex; intervals punctate, often obliterated. *LEGS*: Color black. Surface smooth. Protibia with 3 lateral teeth, basal tooth rudimentary; dorsum with 2 short, longitudinal, median grooves; distal groove with 4 setigerous punctures, setae stout, reddish brown; proximal pit with 3 setigerous punctures, setae stout, reddish brown.

Distribution: Western United States, primarily between the Rocky Mountains and the Mississippi River from South Dakota south through Colorado and Kansas to Texas, New Mexico and Arizona (Csiki, 1927; Blackwelder and Arnett et al., 1977).

Locality Records (Fig. 14): ARTHUR COUNTY.: Arapahoe Prairie (3 collections); CHASE: Imperial (1); CHERRY: Dewey Lake Township (5), Hills (1), Sparks (1), Valentine (1); CUSTER: Milburn (1); DUNDY: Haigler (1); KEITH: Ogallala (1); SHERIDAN: Gordon (4); SIOUX: Agate (2); THOMAS: Dismal River (7), Halsey (22), Halsey National Forest (2).

Temporal Distribution: April (1 collection), May (12), June (7), July (16), August (15), September (1).

Genus ***Scarites*** Fabricius

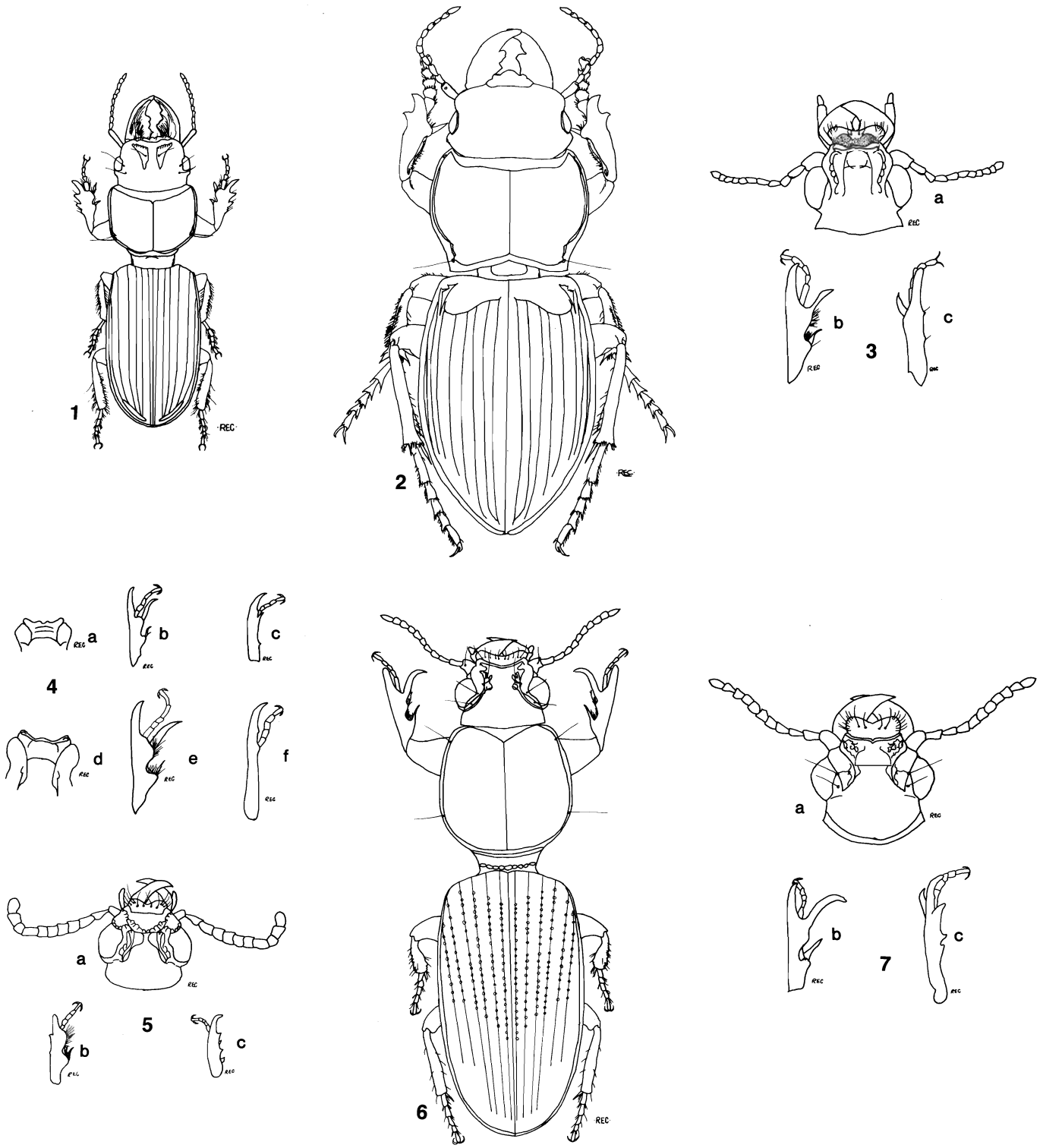
Scarites Fabricius, 1775: 249; *Scallophorites* Motschulsky, 1857:95

Beetles of the genus *Scarites* share the following characters: *HEAD*: Clypeus with a pair of setigerous punctures, antennae inserted beneath a lateral frontal shield; mandibles large and heavily toothed. *PRONOTUM*: Single lateral setae inside denticulate posteriolateral angles. *ELYTRA*: Cylindrical with complete striae, dorsal punctures present. *LEGS*: Protibiae palmate; dilated with large, lateral teeth.

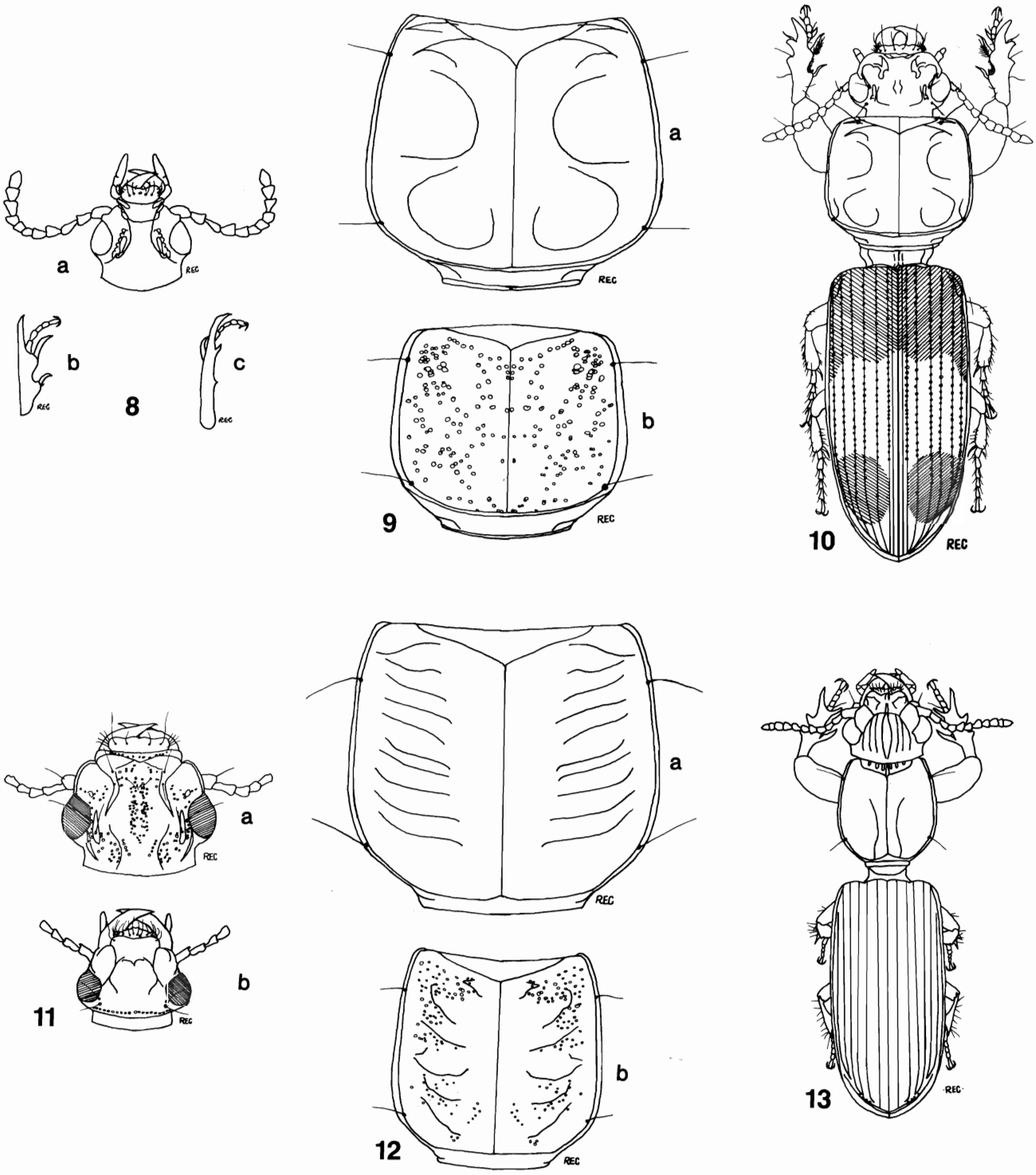
Scarites subterraneus Fabricius

S. subterraneus Fabricius, 1775: 249; *S.spinipes* Sulzer, 1776: 62; *S.interruptus* Herbst, 1784: 133; *S.subterrus* Bonelli, 1813: 466; *S.beckwithi* Stephens, 1828: 37; *S.denticollis* Chaudoir, 1843: 729

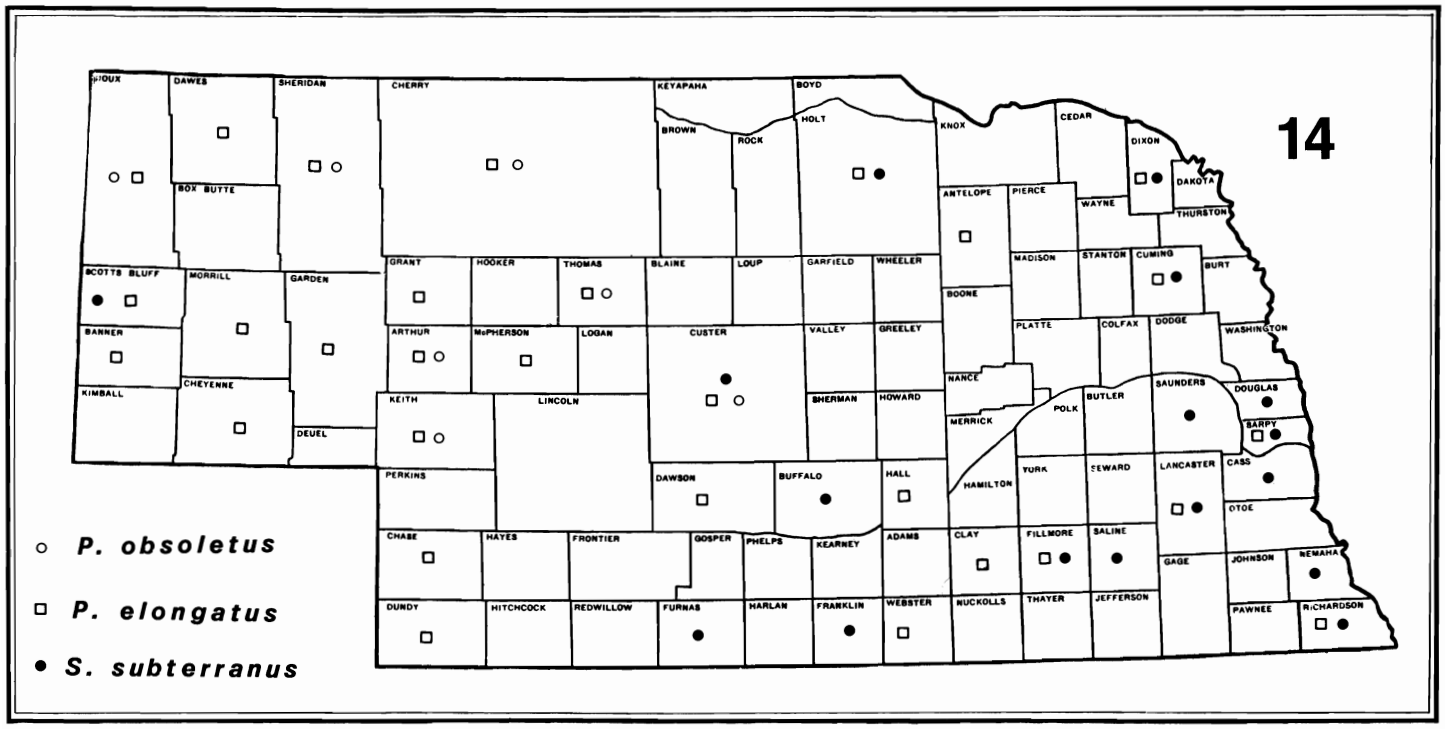
Description: (Fig. 1). Body length: 24–26 mm. *HEAD*: Black. Surface smooth, with longitudinal frontal suture from posterior base of each eye to fronto-clypeal suture. Frontoclypeal suture medially obliterated. Clypeal apex trisinuate. Labrum exposed, apex prominent, quadrisinuate. Mandibles large, dark reddish brown to black; surface obliquely striated; 1 large carina from base of mandible to apex along lateral edge, 1 median carina reaching from base of mandible to 2/3 mandible length; cutting edges asymmetrically toothed: left mandible with 3 teeth; proximal and distal teeth reduced, surface rugose; central tooth large and bicuspid, surface smooth; right mandible with 3 teeth; proximal and distal teeth reduced, proximal tooth rugose, distal tooth smooth; central tooth large and tricuspid, surface smooth. Antennae 11 segmented, color reddish black, scape as long as pedicel, glabrous; pedicel glabrous; flagellum pubescent, setae yellow brown to gold. *PRONOTUM*: Dark brown to black. Surface smooth. A single setigerous puncture at each posteriolateral angle; setae brown. Pronotum with a Y-shaped sulcus, opening anterior. Margins completely beaded. Basal constriction producing 4 basal denticulate angles. *ELYTRA*: Dark brown to black. Margins completely beaded, granulated; with a single row of setigerous punctures above and along margin extending from humerus to apex; setae light brown. Each elytron with 7 striae, striae reaching from humerus to apex, partially to completely obsolete near lateral margin of humerus; intervals smooth; interval 3 with 3–4 dorsal setigerous punctures, setae light brown. *LEGS*: Dark reddish brown to reddish black. Profemur dilated, rounded, glabrous. Protibia dilated, flattened, with 3-4 lateral teeth, proximal tooth often reduced, distal tooth sharp; terminal spur enlarged; subapical spur reduced, with sharp basal spine; median edge with pubescent groove modified as an antennal cleaner, with small, curved, basal spine.

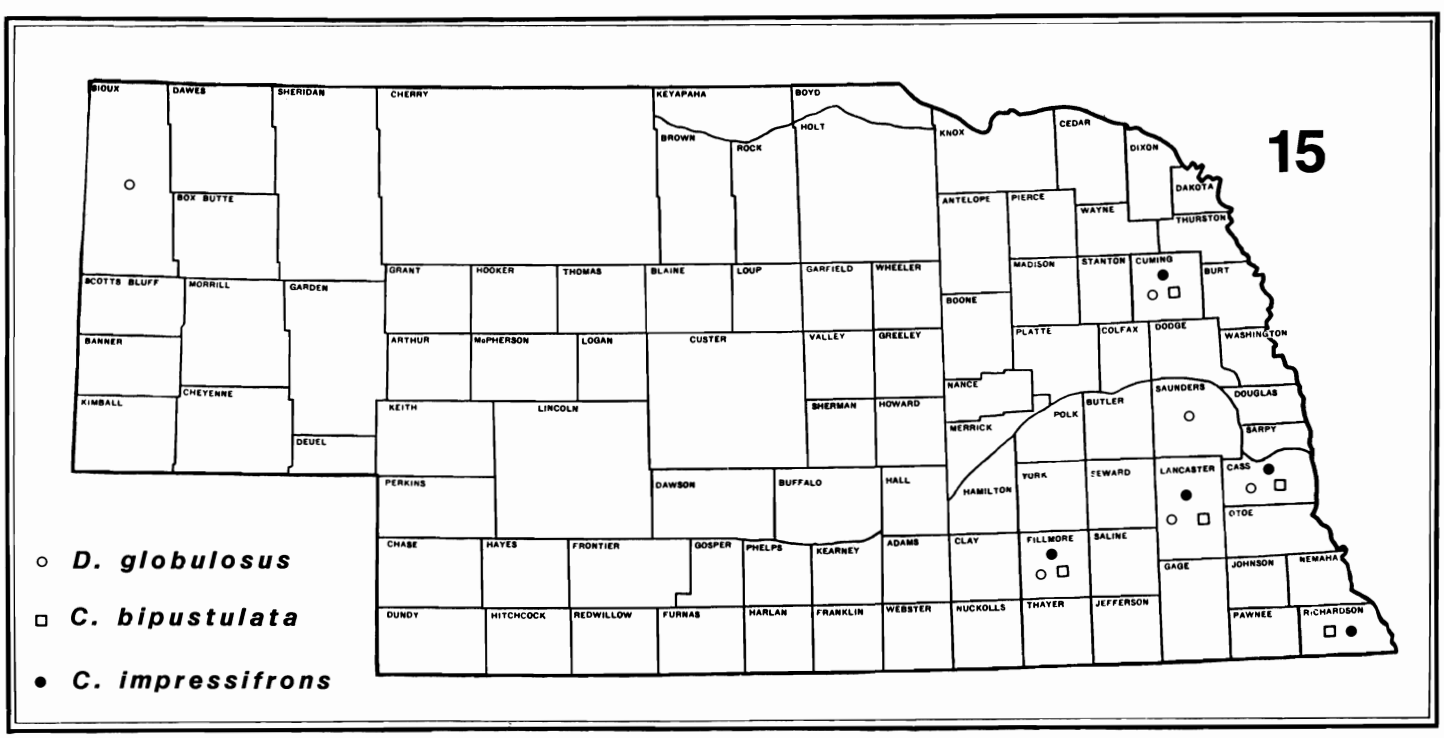


Figures 1–7: 1. *Scarites subterraneus* Fabricius 1775. 2. *Pasimachus obsoletus* LeConte 1848. 3. *Dyschirius sphaericollis* Say 1825; a, dorsal head; b, dorsal protibia; c, external lateral protibia. 4. *Dyschirius haemorrhoidalis* (Dejean 1831); a, clypeal field; b, dorsal protibia; c, external lateral protibia. *Dyschirius truncatus* LeConte 1857; d, clypeal field; e, dorsal protibia; f, external lateral protibia. 5. *Dyschirius integer* LeConte 1851; a, dorsal head; b, dorsal protibia; c, external lateral protibia. 6. *Dyschirius erythrocerus* LeConte 1857. 7. *Dyschirius erythrocerus* LeConte 1857; a, dorsal head; b, dorsal protibia; c, external lateral protibia.



Figures 8–13: 8. *Dyschirius globulosus* (Say 1825); a, dorsal head; b, dorsal protibia; c, external lateral protibia. 9. a, *Clivina bipustulata* Fabricius 1801, dorsal pronotum; b, *Clivina postica* LeConte 1848, dorsal pronotum. 10. *Clivina bipustulata* Fabricius 1801. 11. a, *Clivina impressifrons* Dejean, dorsal head; b, *Clivina dentipes* LeConte 1844, dorsal head. 12. a, *Clivina dentipes* LeConte 1844, dorsal pronotum; b, *Clivina impressifrons* Dejean, dorsal pronotum. 13. *Schizogenus ferrugineus* Putzeys 1864.





Figures 14–15: 14 Nebraska faunal distribution of *P. obsoletus*, *P. elongatus*, and *S. subterraneus*. 15. Nebraska faunal distribution: *D. globulosus*, *C. bipustulata*, *C. impressifrons*.

Remarks: *Attelabus fossor* (Linneaus) *sensu* DeGeer (1774:350) was long considered a junior synonym of the North American *Scarites subterraneus* Fabricius (1775:249) (Illiger, 1802). Nichols (1985a) examined and identified the DeGeer specimen as *Scarites orientalis* Bonelli (1813: 469). Nichols (1985b) states that the type of *Scarites subterraneus* Fabricius 1775 (described from "America") deposited in the Zoological Museum at Copenhagen, Denmark, is not conspecific with the species designation as it is commonly used in North America. It is more likely conspecific with *Scarites abbreviatus* Dejean (1825:379). In order to guarantee the taxonomic stability of *Scarites subterraneus* Fabricius 1775, Nichols (1985b) proposed a neotype specimen described from Pt. Pelee, Ontario, Canada.

Distribution: The *Scarites* complex is world-wide in distribution. *Scarites subterraneus* Fabricius 1775, as defined by Nichols (1986), is limited to North America from Canada south to Texas. It is uncommon in the northwestern United States. Prior to the Nichols' designation, *Scarites subterraneus* Fabricius 1775 was described throughout North America, Mexico, and Cuba, but the Mexican and Cuban descriptions may represent *Scarites marinus* Nichols (1986: 258).

Locality Records (Fig. 14): BUFFALO COUNTY.: Gibbon (1 collection); CASS: Louisville (1), Southbend (3); CUMING: West Point (1); CUSTER: Milburn (1); DIXON: Maskell (1); DOUGLAS: Omaha (1); FILLMORE: Fairmont (13); FRANKLIN: No Data (1); FURNAS: Oxford (1); HOLT: No Data (2); LANCASTER: Hickman (1), Lincoln (97), Roca (2), Waverly (1); NEMAHA: Peru (1); SALINE: Wilbur (2); SARPY: Bellevue (1); SAUNDERS: Cedar Bluffs (1); SCOTTS BLUFF: Mitchell (1).

Temporal Distribution: March (2 collections), April (8), May (59), June (34), July (17), August (2), September (3), October (2), November (1).

Genus ***Schizogenus*** Putzeys

Schizogenus Putzeys, 1846: 649; *Genioschizus* Whitehead, 1972: 144

Beetles of the genus *Schizogenus* share the following characters: *HEAD*: Frons with three pairs of parallel ridges, the median most widely separated and prolonged on the clypeus. Anterior margin of clypeus with three teeth. *PRONOTUM*: Pronotal field with paired, effaced, J-shaped, sulci either side of median, opening anteriolaterally. *LEGS*: Protibiae palmate, dilated with lateral teeth.

Schizogenus ferrugineus Putzeys

Schizogenus ferrugineus Putzeys, 1864: 649; *S. sulcatus* LeConte, 1848b: 214

Description: (Fig. 13) Body length: 3–3.5 mm. *HEAD*: Reddish brown to orange brown. Surface lightly granulated to smooth. Frons with 6 parallel, longitudinal carina , median pair prolonged onto clypeus. Each median margin of eye with 2 setigerous punctures; setae yellow. Clypeus bilobed; apical margin and lateral lobes bisinuate; apical margin with 3 teeth. Labrum rectangular ; apex emarginate, bisinuate. Mandibles large, each mandible with strong, black, lateral carina. Antennae 11 segmented, color light reddish brown to light yellowish brown; scape as long as the next 2 segments, with 1 setigerous puncture; pedicel glabrous; flagellum pubescent, setae light yellowish brown to gold. *PROTHORAX*: Color as head, surface smooth. A single setigerous puncture at each angle of the lateral and basal margins, and in apical region of each lateral margin; setae long, brown. Margins completely beaded; basal margin twice as thick as lateral margins. Pronotal field with median Y-shaped sulcus, opening anterior; paired, effaced, J-shaped, sulci either side of median sulcus, parallel to stem of the Y-shaped sulcus, opening anteriolaterally. *ELYTRA*: Color as head. Margins completely beaded; with single row of setigerous punctures along and above margin from humerus to apex, setae light brown to yellowish white. Each elytron with 7 striae, striae extending from humerus to apex, with obsolete punctures; interval 3 with 6-8 apical, setigerous punctures, intervals 5,7 with 3-6 similar punctures, setae yellowish white. *LEGS*: Color as head, surface smooth. Profemur dilated. Protibia with 2 large lateral teeth; terminal spur enlarged; subapical spur enlarged, with curved basal spine; median edge with pubescent groove modified as antennal cleaner, setae light yellow to golden.

Distribution: Eastern North America from southern Ontario and South Dakota south to Texas, Florida and Arizona (Csiki, 1927; Lindroth, 1961; Blackwelder & Arnett et al., 1977).

Locality Records: CUMING COUNTY.: West Point (1 collection).

Temporal Distribution: June (1).

Genus ***Dyschirius*** Bonelli

Dyschirius Bonelli, 1813: 483; *Akephorus* LeConte, 1851: 194; *Dyschiridius* Jeannel, 1941: 264

The Nebraska species of *Dyschirius* share the following characters: *HEAD*: Frontolongitudinal suture extends from base of each eye to frontoclypeal suture. Frons with median carina between each frontolongitudinal suture and eye margin, with 2 median setigerous punctures, setae light brown to dark reddish brown. Mandibles large, surface smooth, with external, longitudinal, black carina, no internal teeth. Antennae 11–segmented, color as head; scape length variable by species; pedicel setation variable by species; flagellum pubescent; setae light yellow to translucent white. *PRONOTUM*: Pronotal field with Y-shaped median sulcus, opening anterior. Each external edge with 1 setigerous puncture at the angles of lateral and basal margins, 1 setigerous puncture in apical

region of lateral margin. *ELYTRA*: Each elytron with 8 striae, punctation and setation variable by species. Lateral margins with single row of setigerous punctures from base to apex, margin broadly interrupted leaving a series of subapical punctures or foveae, number variable by species. *LEGS*: Profemur dilated. Protibia dilated and flattened as an adaptation for digging; median edge with subapical, pubescent groove adapted for use as an antennal cleaner, with curved, basal spine.

Several group and subgeneric arrangements have been derived for the genus *Dyschirius*, notably the group designations used by Lindroth (1961) and Bousquet (1988). Group and subgeneric usage does not seem to be consistent on a world-wide basis. Because of the limited number of species in Nebraska, the following species are not presented in these groups.

Genus *Dyschirius*: Key to Adults of Nebraska Species

1. Odd intervals of elytra (1, 3 etc.) with series of setigerous punctures ..... *D. setosus*

1'. Elytral intervals bare 2

2. Elytra with striae deep, nearly smooth, impunctate ..... *D. pallipennis*

2'. Elytra with 7-8 punctate striae 3

3. Elytral striae effaced, evidently punctate in basal half, punctures effaced ..... *D. montanus*

3'. Elytral striae deep and clearly punctate, at least in basal half 4

4. Protibia with external teeth rudimentary or absent (Figs. 3c, 4f) 5

4'. Protibia with 2 distinct external teeth, at least apical tooth sharp, basal tooth often reduced (Figs. 4c, 5c, 7c, 8c) 7

5. Median subapical prong of protibia very short ..... *D. brevispinus*

5'. Median subapical prong of protibia normal (Figs. 3b, 4e) 6

6. Clypeus with bisinuate anterior margin (Fig. 3a) ..... *D. sphaericollis*

6'. Clypeus with straight or slightly arcuate margin at middle (Fig. 4d) ..... *D. truncatus*

7. Posterior margin of clypeus rugose, poorly defined, median subapical prong of protibia rudimentary or absent (Figs. 5a, b) ..... *D. integer*

7'. Posterior margin of clypeus well defined, median subapical prong of protibia normal to strong (Figs. 4a, b, 7a, b, 8 a, b) 8

8. Anterior margin of clypeus trisinuate (Fig. 4a) ..... *D. haemorrhoidalis*

8 . Anterior margin of clypeus straight or slightly arcuate (Figs. 6, 7a, 8a) 9

9. Width of clypeal field 3 times its depth, posterior limit elevated above frons at frontoclypeal suture (Figs. 6, 7a) ..... *D. erythrocerus*

9'. Width of clypeal field 2 times its depth, posterior limit not elevated above frons at frontoclypeal suture (Fig. 8a) ..... *D. globulosus*

Dyschirius setosus LeConte

Dyschirius setosus LeConte, 1857: 79; *D. alternatus* Hatch, 1949: 117

Description: body length: 3.0 mm. *HEAD*: Dark red to dark reddish brown. Surface smooth. Clypeus triangular, apex emarginate, the margin beaded. Labrum with apex emarginate. Scape as long as pedicel, with 1 dorsal, setigerous puncture; setae light brown to whitish brown; pedicel pubescent; setae white to translucent white. *PRONOTUM*: Color as head. Surface smooth. Each lateral margin beaded, with single row of setigerous punctures, setae light brown. Discal region bounded by elevated arms of Y-shaped sulcus. Basal margin crenulate. *ELYTRA*: Color as head. Surface smooth. Elytral striae poorly developed, mainly represented by punctation; odd intervals with setigerous punctures from base to apex, setae light yellowish brown. Lateral margins completely beaded with single row of setigerous punctures, setae light yellowish brown to whitish brown, margin broadly interrupted leaving 3 subhumeral foveae; 2 preapical punctures present. *LEGS*: Color as head. Protibia without lateral teeth; terminal and subapical spurs enlarged.

Distribution: Restricted to North America. Transamerican from Alaska south to Nebraska, east to New York and Maryland (Csiki, 1927; Blackwelder and Arnett et al., 1977; Lindroth, 1961).

Locality Records: CUMING COUNTY: West Point (3 collections); SAUNDERS: Cedar Bluffs (1).

Temporal Distribution: April (1 collection), May (1), June (1).

Dyschirius pallipennis (Say)

Clivina pallipennis Say, 1825: 24

Description: Body length: 3.5–4.0 mm. *HEAD*: Reddish brown. Surface smooth. Frontolongitudinal grooves shallow. Clypeus square, apex emarginate with denticulate apical lateral angles, center of clypeus raised or swollen. Labrum rectangular with lateral lobes, apex emarginate with prominent dorsal horn. Scape as long as pedicel, with 1 setigerous puncture; setae reddish brown, dorsal tooth present; pedicel with sparse reddish brown setae. *PRONOTUM*: Color as head except Y-shaped sulcus black. Surface smooth. Lateral and basal margins completely beaded. *ELYTRA*: Color as head. Surface smooth. Elytral striae very deep, complete from base to apex, without punctation. Lateral margins completely beaded; with single row of punctures in basal 2/3, subhumeral fovea absent; 1 or 2 preapical punctures present. *LEGS*: Protibia with two rudimentary lateral teeth; terminal and subapical spurs enlarged.

Distribution: Eastern North America from Quebec west to Alberta and South Dakota, south to Nebraska and Florida (Csiki, 1927; Blackwelder and Arnett et al., 1977; Bousquet, 1987; Lindroth, 1961).

Locality Records: CUMING COUNTY: West Point (4 Collections); RICHARDSON: Rulo (1).

Temporal Distribution: June (5 collections).

Dyschirius montanus LeConte

Dyschirius montanus LeConte, 1879: 507; *D. thompsoni* Hatch, 1949: 117

Description: Body length: 2.0 mm. *HEAD*: Reddish brown. Surface smooth. Eye margins beaded. Clypeus with apical margin emarginate. Labrum truncate, apex emarginate; anteriolateral margins bilobed, with ventral pubescence, setae reddish brown to gold. Scape as long as the next 2 segments, 1 dorsal setigerous puncture, dorsal tooth present; pedicel pubescent, setae golden. *PRONOTUM*: Color as head. Surface punctate. Y-shaped median sulcus effaced. Lateral margins beaded. Basal margin beaded. *ELYTRA*: Color as head. Surface smooth. Elytral striae complete from base to apex, punctate in humeral 1/3. Lateral margins completely beaded; with single row of punctures, margins broadly interrupted leaving 1 subhumeral fovea; 2 preapical punctures present. *LEGS*: Color as head. Protibia with 2 lateral teeth; terminal and subapical spurs enlarged.

Distribution: This species may be transamerican; however, erratic and incomplete locality records lead to a patchy distribution (Lindroth, 1961). Southern Canada from Quebec west to British Columbia; western United States from Washington west to South Dakota, south to Nebraska and Colorado (Blackwelder and Arnett et al., 1977; Lindroth, 1961).

Locality Records: CUMING COUNTY: West Point (3 collections).

Temporal Distribution: June (3 collections).

Dyschirius brevispinus LeConte

Dyschirius brevispinus LeConte, 1878: 593

Description: Body length: 3.5 mm. *HEAD*: Dark reddish brown. Surface smooth. Clypeus subquadrate, apex emarginate. Labrum subquadrate, surface granulated; apex deeply emarginate; lateral lobes with ventral setae, setae light brown to gold. Scape as long as the next 1 1/2 segments; pedicel with 4 setae. *PRONOTUM*: Color as head. Surface smooth. Basal margin complete. Lateral margins prolonged onto peduncle as raised, transverse bead parallel to basal margin. *ELYTRA*: Color as head. Surface smooth. Striae punctate; striae 1, 2 reaching nearly to apex; remaining striae obliterated below elytral midpoint. Lateral margins completely beaded; with single row of punctures above and along each lateral margin, broadly interrupted leaving 3 subhumeral setigerous foveae, setae whitish brown; 2 subapical punctures present. *LEGS*: Color as head. Protibia with 2 lateral rudimentary teeth; terminal spur enlarged, with basal setigerous puncture, setae light brown; a single poorly-developed subapical spine present, with a single basal setigerous puncture, seta light brown.

Distribution: Lindroth (1961) noted this species to be rare, resulting in a restricted distribution. Southeastern Canada from Ontario east to Quebec; northern United States from Michigan, Pennsylvania and Ohio west to Nebraska. The Nebraska specimen represents the westward edge of the described distribution (Csiki, 1927; Blackwelder and Arnett et al., 1977; Bousquet, 1987; Lindroth, 1961).

Locality Records: CUMING COUNTY: West Point (1 collection).

Temporal Distribution: June (1 collection).

Dyschirius sphaericollis (Say)

Clivina sphaericollis Say, 1825: 23

Description: Body length: 4.75–5.0 mm. *HEAD*: (Fig. 3a) Dark red to dark violet brown. Surface rugose to smooth. Clypeus trisinuate, apical margin beaded. Labrum punctate, apex widely emarginate; lateral lobes with ventral pubescence, setae light yellowish brown to gold. Scape as long as next 2 segments, with a single dorsal setigerous puncture, setae light yellowish brown; pedicel pubescent, setae light yellowish brown to gold. *PRONOTUM*: Color as head except lateral margins black. Surface smooth. Lateral margins beaded, basal margins absent. *ELYTRA*: Color as head. Surface smooth. Elytral striae reaching from base to apex, punctate from base to 1/2 length of elytron. Lateral margins

completely beaded; with single row of punctures, margin broadly interrupted leaving 1 subhumeral fovea, setae light brown; 2 preapical punctures present . *LEGS*: (Fig. 3b, c) Color as head. Protibia with 2 rudimentary lateral teeth, sometimes obliterated; terminal and subapical spurs enlarged.

Distribution: Widely distributed through southern Canada and the United States east of the Rocky Mountains from Alberta and South Dakota west to Michigan, Indiana and New York, south to Florida and Louisiana (Csiki, 1927; Blackwelder and Arnett et al., 1977; Lindroth, 1961).

Locality Records: CUMING COUNTY: West Point (1 collection); RICHARDSON: Rulo (2).

Temporal Distribution: June (2 collections), July (1).

Dyschirius truncatus LeConte

Dyschirius truncatus LeConte, 1857:78

Description: Body length: 5.0 mm. *HEAD*: (Fig. 4d) Color dark reddish brown. Surface smooth. Clypeus rectangular with lateral lobes; apex emarginate, beaded. Labrum punctate; apex emarginate with 2 small horns projecting anteriorly; Scape as long as the next 2 segments, with a single dorsal setigerous puncture, setae light yellowish brown; pedicel pubescent, setae light yellowish brown to gold. *PRONOTUM*: Color as head except Y-shaped sulcus black. Surface smooth. Lateral and basal margins completely beaded. *ELYTRA*: Color as head except lateral margins black. Surface smooth. Elytral striae complete from base to apex, punctate, punctures obliterated near apex. Lateral margins completely beaded; with single row of setigerous punctures, broadly interrupted leaving 1 subhumeral fovea, setae light brown; 2 preapical punctures present. *LEGS*: (Figs. 4 e, f) Color dark red. Protibia with 2 rudimentary lateral teeth, subapical tooth usually obliterated; terminal and subapical spurs enlarged.

Distribution: Transamerican from Alaska south to Baja California, west to Illinois (Csiki, 1927; Blackwelder and Arnett et al., 1977). Lindroth (1961) noted this species to be widely distributed, but rare in all locations.

Locality Records: CUMING COUNTY: West Point (4 collections); LANCASTER: Lincoln (1).

Temporal Distribution: June (5).

Dyschirius integer LeConte

Dyschirius integer LeConte, 1851: 196; *D. apicalis* LeConte, 1850: 204 (name preoccupied); *D. nigripes* LeConte, 1853: 363; *D. basalis* LeConte, 1857: 77; *D. nigriceps* LeConte, 1853: 396; *D. transmarinus* Mannerheim, 1853: 122

Description: Body length: 3.0 mm. HEAD: (Fig. 5a) Dark red to brown. Surface smooth. Clypeus short, rectangular; lateral lobes denticulate; apex emarginate. Labrum truncate, apex deeply emarginate; lateral lobes with ventral pubescence, setae white to translucent white. Scape as long as pedicel, with 1 dorsal setigerous puncture, setae white to clear; pedicel pubescent, setae white. PRONOTUM: Color as head except Y-shaped sulcus black. Surface smooth. Lateral margins without bead. Basal margin crenulate. ELYTRA: Color as head. Surface smooth. Elytral striae complete from base to apex; punctate in basal half. Lateral margins completely beaded; with single row of punctures, broadly interrupted leaving 3 subhumeral foveae; 2 preapical punctures present. LEGS: (Figs. 5b, c) Color as head. Protibia with 2 sharp external teeth; terminal spur enlarged, subapical spur absent.

Remarks: While *Dyschirius apicalis* LeConte (1850:204) is the oldest described name, it is preoccupied by *Dyschirius apicalis* Putzeys (1846:556) (Csiki 1927).

Distribution: Transamerican in northern regions from Newfoundland west to Alaska south to New York, South Dakota, California and Nebraska. The Nebraska specimen represents the southern edge of the described distribution (Blackwelder and Arnett et al., 1977; Lindroth, 1961).

Locality Records: CUMING COUNTY: West Point (1 collection).

Temporal Distribution: June (1 collection).

Dyschirius haemorrhoidalis (Dejean)

Clivina haemorrhoidalis Dejean, 1831: 511

Description: Body length: 2.25 - 2.5 mm. *HEAD*: (Fig. 4a) Yellowish brown. Surface smooth. Frons with raised cross formed by 2 transverse, parallel carinae and 1 median longitudinal carina; apex of median longitudinal carina ending in small, curved horn. Clypeus with apex emarginate, trisinuate, with 2 transverse carinae. Labrum truncate, with lateral lobes, apex prominent; lobes with dense ventral pubescence, setae golden. Scape as long as next 1 1/2 segments; 1 dorsal, setigerous puncture present, setae light brown; pedicel pubescent, setae light yellowish brown to light brown. *PRONOTUM*: Color as head except Y-shaped sulcus black. Surface smooth. Lateral margins beaded, prolonged onto peduncle as transverse bead parallel to true basal margin. Basal margin completely beaded. *ELYTRA*: Dark red except apical 1/3 light yellowish brown to golden. Elytral striae complete from base to apex, punctate from base to 1/2 length of elytron. Lateral margins completely beaded; with a single row of setigerous punctures, margins interrupted broadly leaving 3 subhumeral foveae, setae light brown; two preapical punctures present. *LEGS*: (Figs. 4b, c) Yellowish brown. Protibia apically dilated; with 2 lateral teeth, apical tooth sharp, subapical tooth reduced; terminal and subapical spurs enlarged.

Distribution: Eastern United States from Indiana and Ohio south to Florida, west to South Dakota, Kansas and Nebraska (Blackwelder and Arnett et al., 1977). Bousquet (1987) reported 3 specimens from southern Ontario.

Locality Records: CUMING COUNTY: West Point (3 collections).

Temporal Distribution: June (3 collections).

Dyschirius erythrocerus LeConte

Dyschirius erythrocerus LeConte, 1857: 78

Description: (Fig. 7) Body length: 4.5 - 5.0 mm. *HEAD*: (Figs. 6, 7a) Dark reddish brown. Surface smooth. Clypeus subquadrate, apex emarginate, beaded, Labrum bilobed, surface granulate; apex deeply emarginate; lateral lobes with ventral setae, setae light brown to gold. Scape as long as next 1 1/2 segments; pedicel pubescent, setae light yellowish brown to light brown. *PRONOTUM*: Dark brown. Surface smooth. Lateral margins beaded, prolonged onto peduncle as transverse bead parallel to basal margin. *ELYTRA*: Color as head. Surface smooth. Elytral striae complete from base to apex, punctate in basal 2/3 only. Lateral margins completely beaded; with single row of punctures, margin broadly interrupted leaving 1 subhumeral setigerous fovea, setae light brown; with 2 preapical punctures present. *LEGS*: (Figs. 6, 7b, c) Dark reddish brown. Protibia broad, dilated, with 3 lateral teeth, apical tooth sharp, both subapical teeth reduced; terminal and subapical spurs enlarged.

Distribution: North America east of the Rocky Mountains from Ontario, Quebec and Newfoundland south to Florida, west to Indiana, South Dakota and Nebraska (Csiki, 1927; Blackwelder and Arnett et al., 1977; Bousquet, 1987; Lindroth, 1961).

Locality Records: CUMING COUNTY: West Point (2 collections).

Temporal Distribution: June (2 collections).

Dyschirius globulosus Say

Dyschirius globulosus Say, 1825: 23; *D.parvus* LeConte, 1850: 204

Description: Body length: 2.8 - 3.3 mm. *HEAD*: (Fig. 8a) Dark reddish brown. Surface smooth. Clypeus subquadrate with lateral lobes; apex emarginate; a single transverse carina in anterior third, effaced at middle. Labrum subquadrate, surface granulate; apex deeply emarginate; lateral lobes with ventral setae, setae light brown to gold. Scape as long as next 1 1/2 segments; pedicel pubescent, setae light yellowish brown. *PRONOTUM*: Dark brown. Surface smooth. Lateral margins beaded, prolonged onto peduncle as transverse bead running parallel to basal margin. Basal margin complete, surface crenulate. *ELYTRA*: Color as head. Surface smooth. Elytral striae complete from base to apex, punctate in basal 2/3 only. Lateral margins completely beaded; with single row of punctures, margin broadly interrupted leaving 3 subhumeral setigerous foveae, setae light brown; 2 preapical punctures present. *LEGS*: (Figs. 8b, c) Dark reddish brown. Protibia broad, dilated; with 2 lateral teeth, apical tooth sharp, subapical tooth reduced ; terminal and subapical spurs enlarged.

Distribution: Nearly transamerican, but unknown on the Pacific coast; from Newfoundland, New York and Delaware south to Florida, west to South Dakota and Nebraska (Csiki, 1927; Blackwelder and Arnett et al., 1977; Lindroth, 1961).

Locality Records (Fig. 15): CASS COUNTY: Southbend (1 collection); CUMING: West Point (22); FILLMORE: Fairmont (2); LANCASTER: Lincoln (8); SAUNDERS: Ashland (1); SIOUX: Pine Ridge (2).

Temporal Distribution: March (1 collection), April (2), May (1), June (8), July (6).

Genus ***Clivina*** Latreille

Clivina Latreille, 1802: 96; *Eupalamus* Schmidt-Goebel, 1846:pl.3; *Paraclivina* Kult, 1947: 31; *Semiclivina* Kult, 1947: 31

Nebraska species of *Clivina* share the following characteristics: *HEAD*: Frontolongitudinal suture reaching from posterior base of each eye to frontoclypeal suture. A broad carina rises between frontolongitudinal suture and eye margin, extending from base of each eye to frontoclypeal suture; each carina with 2 setigerous punctures, 1 each at anterior and posterior of each eye, setae light yellow to light brown. Frontal field with large central fovea, most distinct in *C. impressifrons*. Antennae 11-segmented; scape with single setigerous puncture; pedicel glabrous; flagellum pubescent, setae light yellow to golden. *PRONOTUM*: Each lateral margin with 2 setigerous punctures, 1 each near posteriolateral angle and anteriolateral angle. Lateral margins prolonged behind posterior setigerous puncture either forming sides of peduncle, or a complete basal ridge parallel to true basal margin. Pronotal field with a median Y-shaped sulcus, opening anterior. *ELYTRA*: Margins completely beaded. Each elytron with 8 usually punctate striae. Each lateral margin with single row of setigerous punctures extending from humerus to apex, complete, lacking subhumeral fovea. *LEGS*: Profemur dilated, *C. dentipes* alone with single apical tooth. Protibia broad, dilated and flattened; median edge with pubescent groove modified as antennae cleaner, usually with a curved, basal spine, setae golden.

Genus *Clivina*: Key to Adults of Nebraska Species

1. Base of pronotum with bead complete (Figs. 9a, b)..... 2

1 . Base of pronotum lacking bead (Figs. 11a, b).... 3

2. Prothorax punctate, punctures minute, shallow (Fig. 9b)..... *C. postica*

2 . Prothorax smooth, with faint C-shaped ridges (Fig. 9a) ..... *C. bipustulata*

3. Frons irregularly punctate, with median sulcate fossae (Fig. 11a); prothorax with irregular punctures (Fig. 12b); profemur without apical tooth (Figs. 11a, 12b)..... *C. impressifrons*

3 . Frons smooth, with shallow fossae or none, fossae never sulcate (Fig. 11b); prothorax smooth, with paired transverse beads (Fig. 12a); profemur with apical tooth..... *C. dentipes*

Clivina postica LeConte

Clivina postica LeConte, 1848b: 213

Description: Body length: 5.5 - 6.0 mm. *HEAD*: Dark red. Surface smooth except for small transverse granulated band behind eyes. Longitudinal frontal suture shallow, narrow, granulated. Frontoclypeal suture effaced. Clypeus subrectangular, apex emarginate, 1 setigerous puncture at each basal corner, setae reddish brown. Labrum rectangular, apex emarginate, apical corners denticulate, and with ventral pubescence, setae yellowish brown to light gold. Scape as long as next 3 segments, with 1 setigerous puncture, setae gold; scape with 1 small, distal, dorsal tooth. *PRONOTUM*: (Fig. 9b) Color as head except margins black. Surface punctate, punctures small. Pronotal disk with median Y-shaped sulcus, opening anterior; arms of sulcus punctate. *ELYTRA*: Color as head. Interval 3 with 3 dorsal setigerous punctures, setae light yellow. Elytra black with reddish clouding on elytral apices. *LEGS*: Red. Protibia with 3 lateral teeth each with basal setae, setae long, light brown; terminal spur enlarged; subapical spur reduced, with curved basal spine.

Distribution: North America from South Dakota south to Louisiana (Csiki, 1927; Blackwelder and Arnett et al., 1977).

Locality Records: LANCASTER COUNTY: Lincoln (2 collectiona).

Temporal Distribution: May (1 collection), June (1).

Clivina bipustulata (Fabricius)

Scarites bipustulata Fabricius, 1801: 125; *S. quadrimaculata* Beauvois, 1805: 107

Description: (Fig. 10) Body length: 8 - 9 mm. *HEAD*: Dark red to dark reddish brown. Surface smooth. Clypeus subtriangular with lateral carina ending in small apical teeth; 1 setae at each basal corner of clypeus, setae reddish brown. Labrum subrectangular, margins beaded, with transverse sinuous carina and four small apical horns, inner pair of horns smaller. Scape of antennae as long as next 2 segments. *PRONOTUM*: (Fig. 9a) Color as head except margins black, median y-shaped sulcus black. Surface smooth. Median Y-shaped sulcus. Angles of lateral and basal margins round, not denticulate. Lateral margins prolonged upon peduncle as a complete ridge parallel to basal margin, forming a false basal margin. *ELYTRA*: Reddish black except large, light reddish-brown clouding on basal and apical quarters. Interval 3 with 2 setigerous punctures, setae dark red. LEGS: Red. Protibia with 3 distinct lateral teeth, 1 setigerous puncture at base of each tooth, setae light yellow; terminal spur enlarged, subapical spur reduced, with curved basal spine.

Distribution: Eastern North America from Ontario, Delaware and Pennsylvania west to South Dakota, south to Florida, Arizona, and Mexico; also in the West Indies (Csiki, 1927; Lindroth, 1961; Blackwelder and Arnett et al., 1977).

Locality Records (Fig. 15) : CASS COUNTY: Southbend (1 collection); CUMING: West Point (1); FILLMORE: Fairmont (6); LANCASTER: Lincoln (45); RICHARDSON: Rulo (1).

Temporal Distribution: April (2 collections), May (18), June (11), July (19), August (1), September (1), October (1).

Clivina impressifrons LeConte

Clivina impressifrons LeConte, 1844: 50

Description: Body length: 6.5 -7.0 mm. *HEAD*: (Fig. 11a) Dark red to reddish brown. Surface smooth. Frontal longitudinal suture wide, surface granulated. Clypeus rugose with beaded margin, apex slightly emarginate. Labrum rectangular; apical margin bisinuate; apical corners with ventral pubescence, setae light yellow. Scape as long as the next 2 segments, with dorsal apical tooth. *PRONOTUM*: (Fig. 12b) Color as head. Surface smooth to lightly punctate. Pronotal field with median Y-shaped sulcus, opening anterior, color black, arms punctate. *ELYTRA*: Color as head. Interval 3 with 3 dorsal, setigerous punctures, setae light yellowish brown. *LEGS*: Color as head. Protibia with 4 lateral teeth, proximal tooth often obsolete, each tooth with basoventral setae, setae reddish brown; terminal spur enlarged; subapical spur reduced, with curved basal spine.

Distribution: Eastern North America: New York, Delaware west to South Dakota, south to Kansas, Iowa and Texas (Csiki, 1927; Lindroth, 1961; Blackwelder and Arnett et al., 1977).

Locality Records (Fig. 15): CASS COUNTY: Southbend (1 collection); CUMING: West Point (1); FILLMORE: Fairmont (7); LANCASTER: Lincoln (45); RICHARDSON: Rulo (2).

Temporal Distribution: April (4 collections), May (11), June (1), July (34), August (2).

Clivina dentipes Dejean

Clivina dentipes Dejean, 1825: 415; *C. confusa* LeConte, 1844: 50; *C. corvina* Putzeys, 1846: 610; *C. fissipes* Putzeys 1846: 607; *C. georgiana* LeConte 1857: 81

Description: Body length: 8.0 - 8.5 mm. *HEAD*: (Fig. 11b) Dark reddish brown. Surface smooth. Shallow transverse groove behind eyes, groove punctate. Clypeus nearly square; apical margin emarginate, beaded; each apical corner of clypeus with 1 setigerous puncture, setae light brown. Labrum oval, apex prominent. Scape as long as next 2 segments, with single setigerous puncture, setae light yellowish brown; pedicel surface granulated. *PRONOTUM*: (Fig. 12a) Color as head. Apical 3/4 with 10-12 transverse carina, carina sinuous, anteriorly effaced, giving pronotum washboard appearance. Pronotal field with median Y-shaped sulcus, opening anterior. *ELYTRA*: Color as head. Interval 3 with 5 dorsal, setigerous punctures, setae brown. *LEGS*: Color red. Profemur with small apical tooth. Protibia with 4 lateral teeth, proximal tooth rudimentary; terminal spur enlarged; subapical spur reduced, with curved basal spine.

Distribution: Transamerican south of Canada: South Carolina, Georgia and Florida west through Texas and Arizona to California (Csiki, 1927; Blackwelder and Arnett et al., 1977).

Locality Records: LANCASTER COUNTY: Lincoln (3 collections).

Temporal Distribution: May (1 collection), July (2).

ACKNOWLEDGMENTS

The author wishes to thank Dr. Brett Ratcliffe and the University of Nebraska State Museum for resources, direction, and criticism during the course of this project.

LITERATURE CITED

Blackwelder, R. E., R. H. Arnett, Jr., and the Associates of the North American Beetle Fauna Project. 1977. *Checklist of the beetles of Canada, United States, Mexico, Central America, and the West Indies*. (Yellow Version: Part 1, Family 4). Kinderhook, New York, World Digest Publications: 68 pp.

Bousquet, Y. 1987. The carabid fauna of Canada and Alaska: range extensions, additions and descriptions of two new species of *Dyschirius* (Coleoptera:Carabidae). *The Coleopterists' Bulletin* 41(2): 111–135.

_____. 1988. *Dyschirius* of America north of Mexico: descriptions of new species with keys to species groups and species (Coleoptera: Carabidae). *The Canadian Entomologist* 120(4): 361–387.

Csiki, E. 1927. Carbinae 1-3. *In*: Schenkling, S. (Ed.) 1927. *Coleopterum Catalogus*. pars 91, 92 & 127. Junk, The Netherlands: 648 pp.

Illiger, J. C. W. 1802. Zusatze, Berichtigungen und Bemerkungen zu Fabricii Systema Eleutheratorum. Tome I. *Magazin für Insektenkunde* 1: 306–325.

LeConte, J. L. 1857. Synopsis of the species of *Clivina* and allied genera inhabiting the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* 9: 75–89.

_____. 1879. Synoptic table of *Dyschirius* Bon. *Bulletin of the Brooklyn Entomological Society* 2: 17–18.

Lindroth, Carl H. 1961. The ground-beetles of Canada and Alaska. *Opuscula Entomologica Supplementum* 20(2): 1–200.

_____. 1985. The Carabidae (Coleoptera) of Fennoscandia and Denmark. *Fauna Entomologica Scandinavica* 15(1): 1–109.

Nichols, S. W. 1985a. On the identity of *Attelabus fossor* (Linnaeus) *sensu* DeGeer 1774 (Coleoptera: Carabidae: Scaritini: Scaritina). *The Coleopterists' Bulletin* 39(2): 131–132.

_____. 1985b. Neotype designation for *Scarites subterraneus* Fabricius 1775 (Coleoptera: Carabidae: Scaritini). *Journal of the New York Entomological Society* 93(4): 1212–1215.

_____. 1986. Two new flightless species of *Scarites* inhabiting Florida and the West Indies (Coleoptera: Carabidae: Scaritini). *Proceedings of the Entomological Society of Washington* 88(2): 257–264.

Putzeys, J. 1846. Monographie des *Clivina* et genres voisins, précédée d'un tableau synoptique des genres de la tribu des Scaritidés. *Mémoires de la Société des Sciences de Liège, Bruxelles* 2: 521–663.

_____. 1866. Révision générale des Clivinidés. *Annales de la Société Entomologique, Bruxelles* 10: 107–131.