

Identification of *Scaphinotus manni*



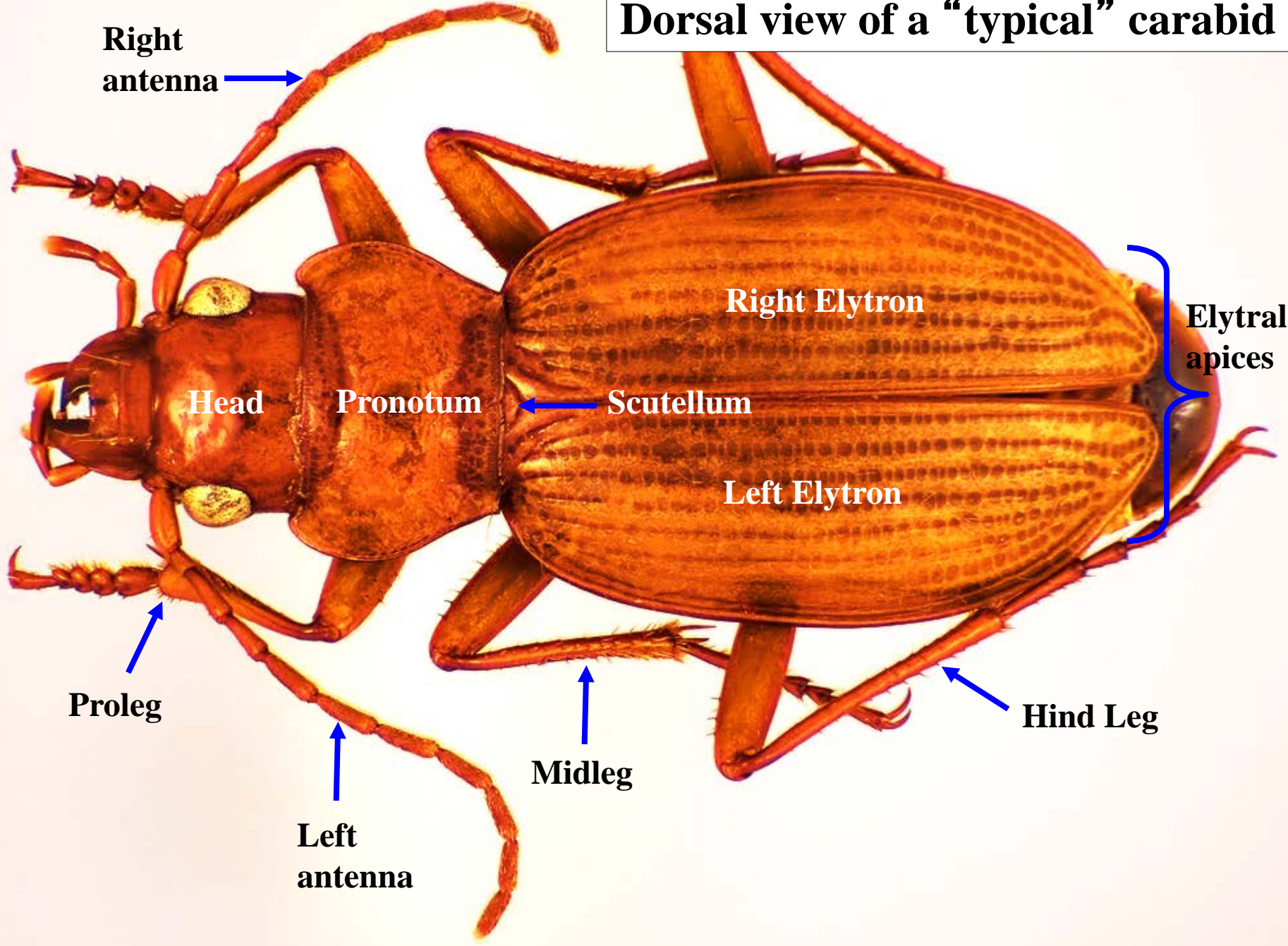
James R. LaBonte (content) & Steve Valley (images)

Introduction

Scaphinotus manni Wickham is a member of the Carabidae, or “ground beetles”. It is known from 3 sites in western Idaho, 1 site in northeastern Oregon, and a few localities in southeastern Washington. This beetle has been of conservation concern due to its limited distribution and habitat requirements.

There are just under 100 genera and 600 species of Carabidae known from the Pacific Northwest (PNW). Fortunately, *S. manni* belongs to one of the most distinctive tribes, the Cychrini. Of the 18 species of Cychrini found in the PNW, only 6 others are known from or likely to be found in the range of *S. manni*. This guide will enable the user to distinguish *S. manni* from these species.

Dorsal view of a “typical” carabid



Right antenna



Right Elytron

Elytral apices

Head

Pronotum

Scutellum

Left Elytron

Proleg



Left antenna

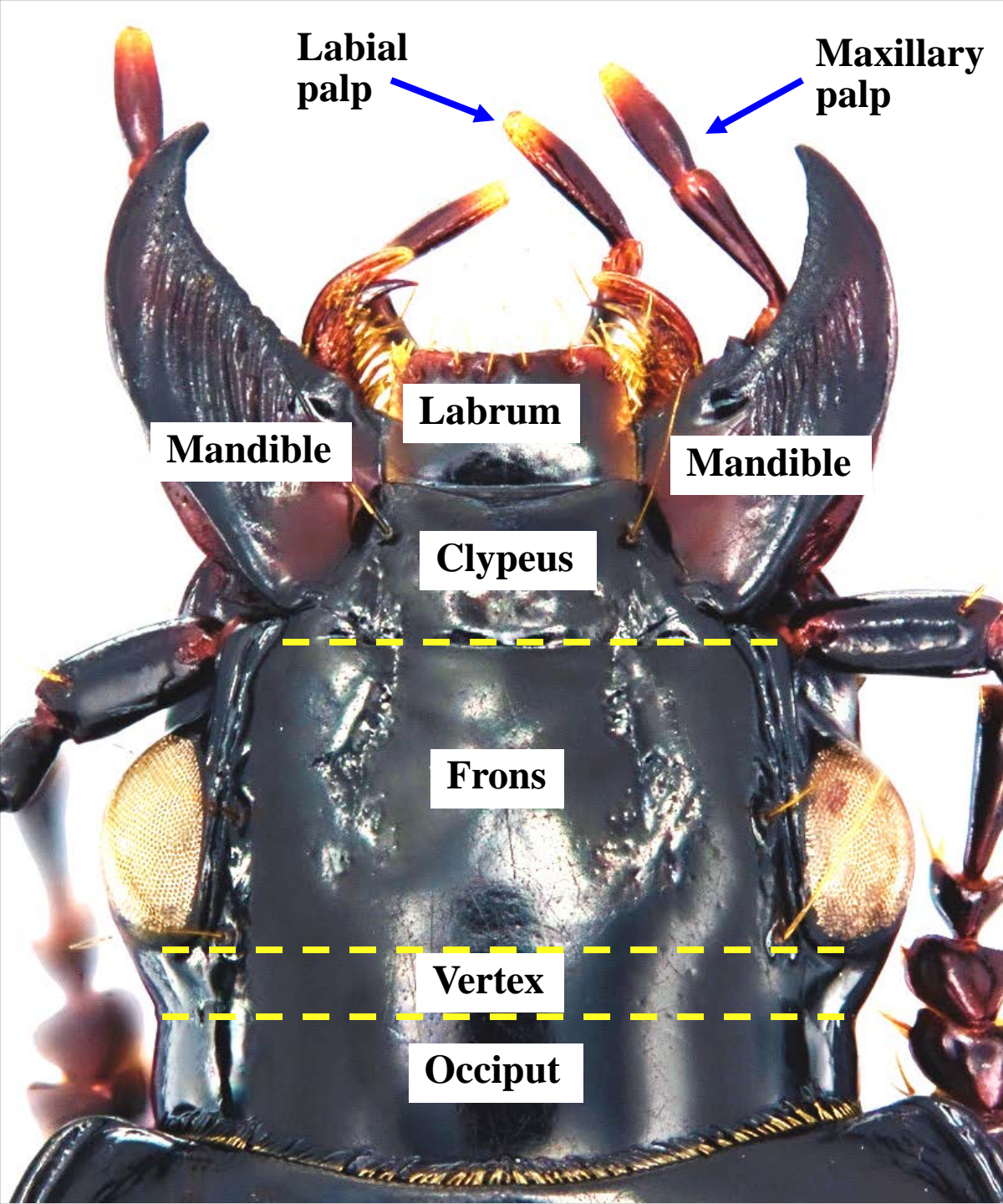


Midleg



Hind Leg





Labial
palp



Maxillary
palp



Mandible

Labrum

Mandible

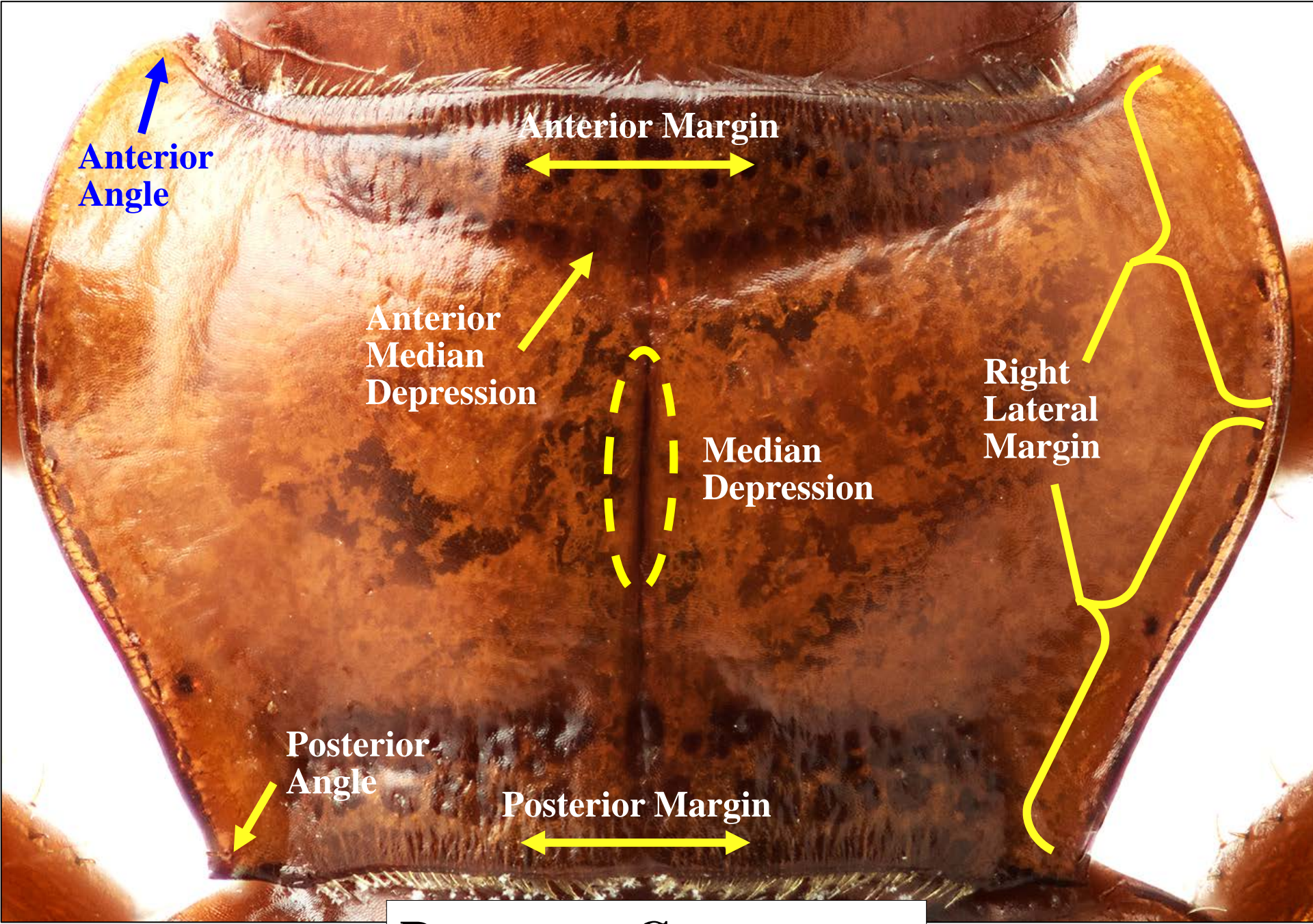
Clypeus

Frons

Vertex

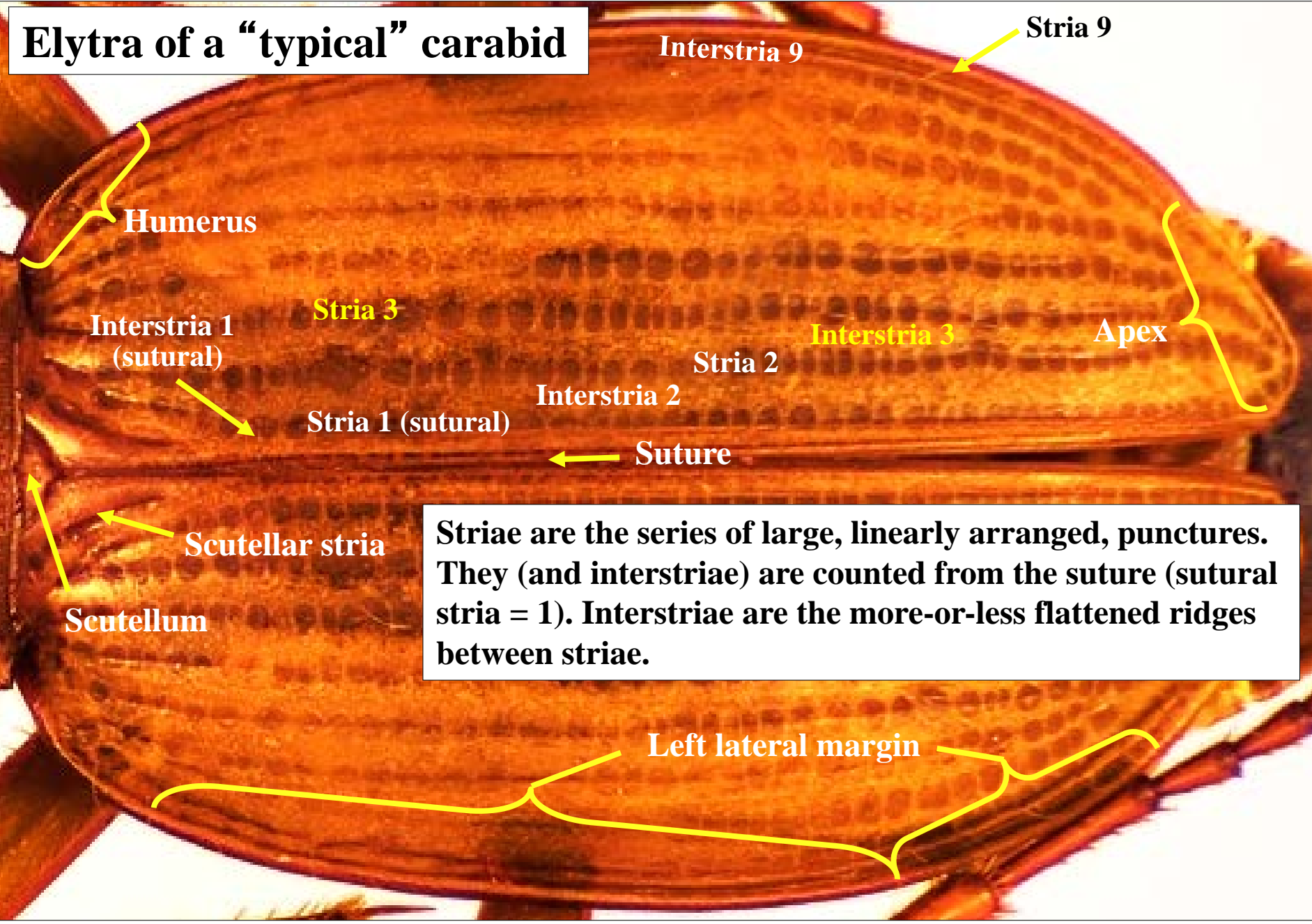
Occiput

**Dorsal view of the
head of a
“typical” carabid**



Pronotum Components

Elytra of a "typical" carabid



Humerus

Interstria 1 (sutural)

Stria 3

Stria 1 (sutural)

Scutellar stria

Scutellum

Interstria 9

Stria 9

Interstria 3

Stria 2

Interstria 2

Suture

Apex

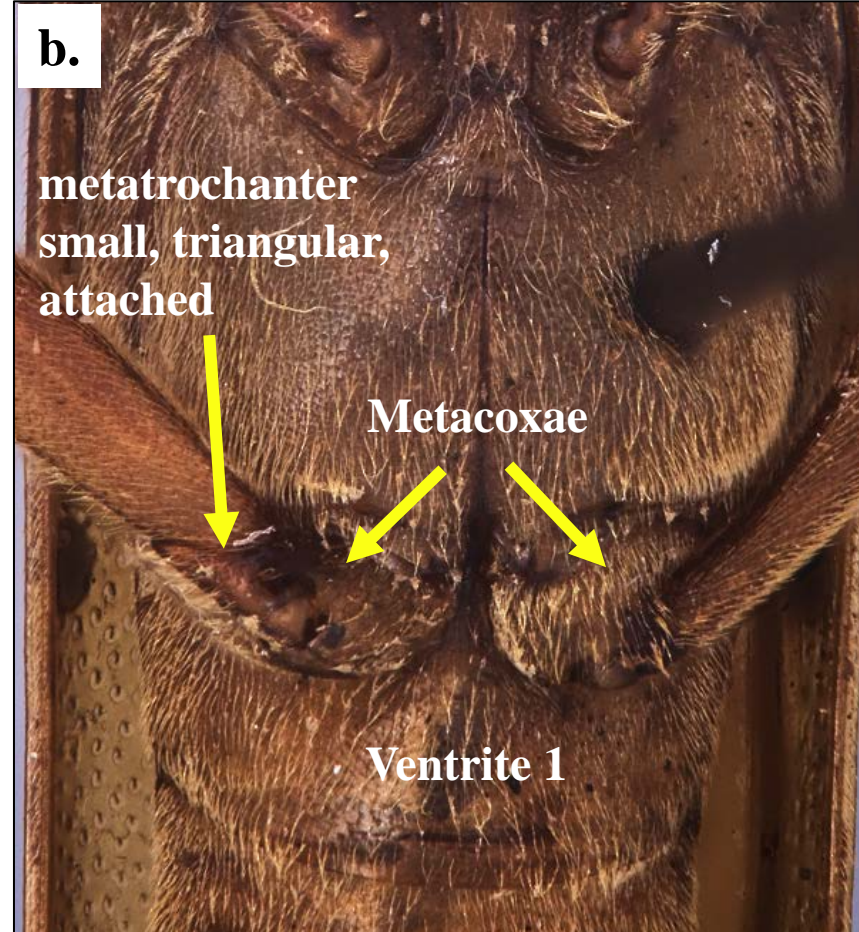
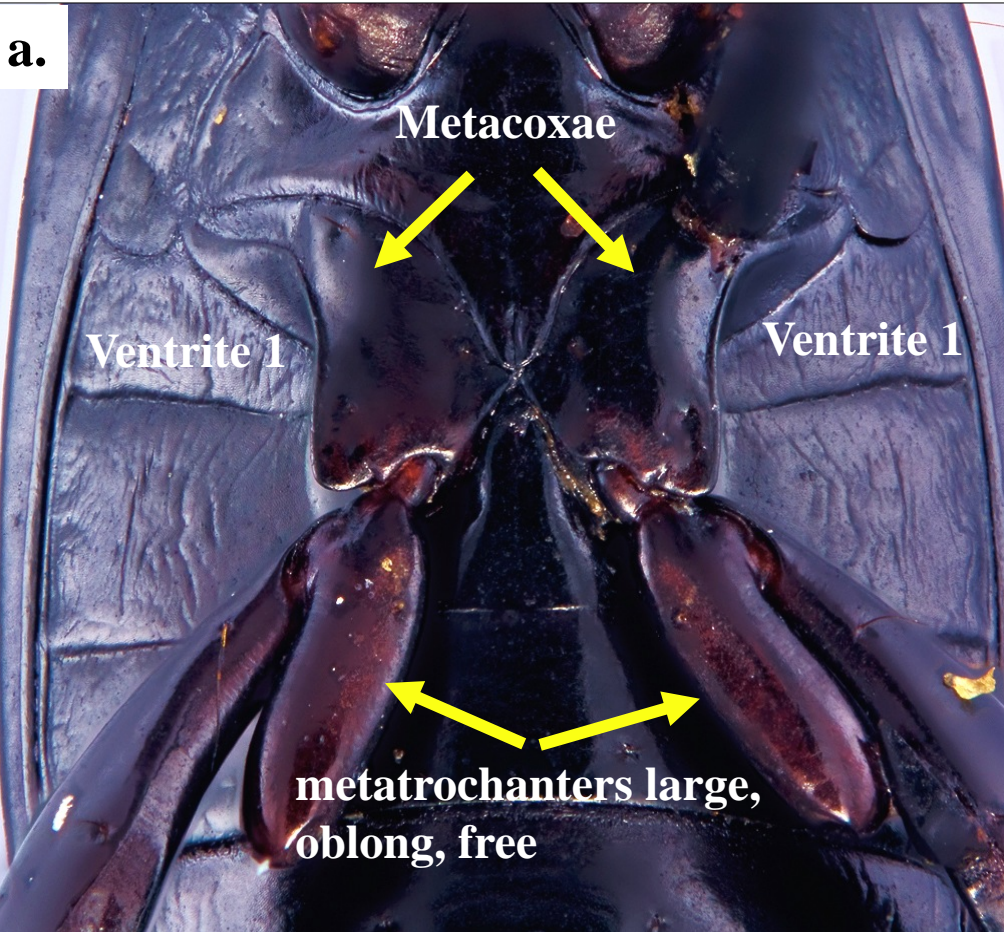
Striae are the series of large, linearly arranged, punctures. They (and interstriae) are counted from the suture (sutural stria = 1). Interstriae are the more-or-less flattened ridges between striae.

Left lateral margin

1: Part I

Metatrochanters large, oblong, free of metatibiae except at base and ventrite 1 divided by metacoxae (a); all tarsi 5-segmented (c); antennae thread-like (g).....**Carabidae 2**

Metatrochanters small, triangular, completely attached to metafemora and ventrite 1 not divided by metacoxae (b); at least some tarsi **may** not be 5-segmented (d-f); antennae **may** not be thread-like (h-p).....**not Carabidae**



c. Carabidae: all tarsi 5-segmented

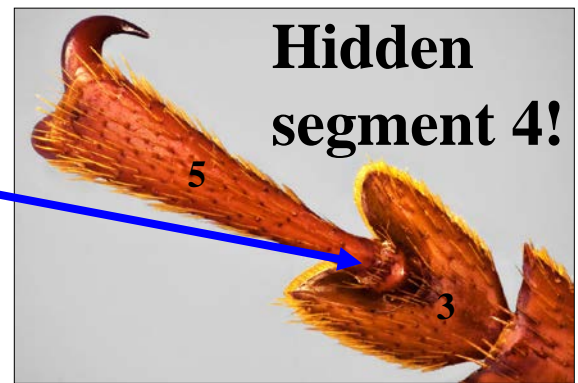
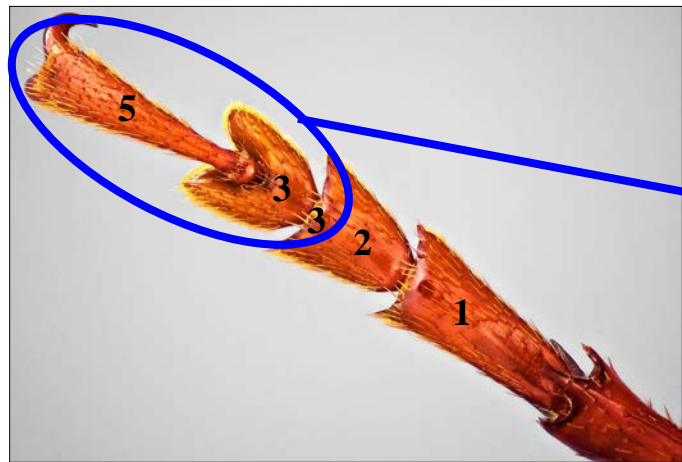


1: Part II

In North America, the number of beetle tarsal segments ranges from all 3-segmented to all 5-segmented and almost everything in between. Common examples are Tenebrionidae (**d**), with the last tarsus 4-segmented, and Cerambycidae (**e, f**), with a hidden segment 4.



d. Tenebrionidae



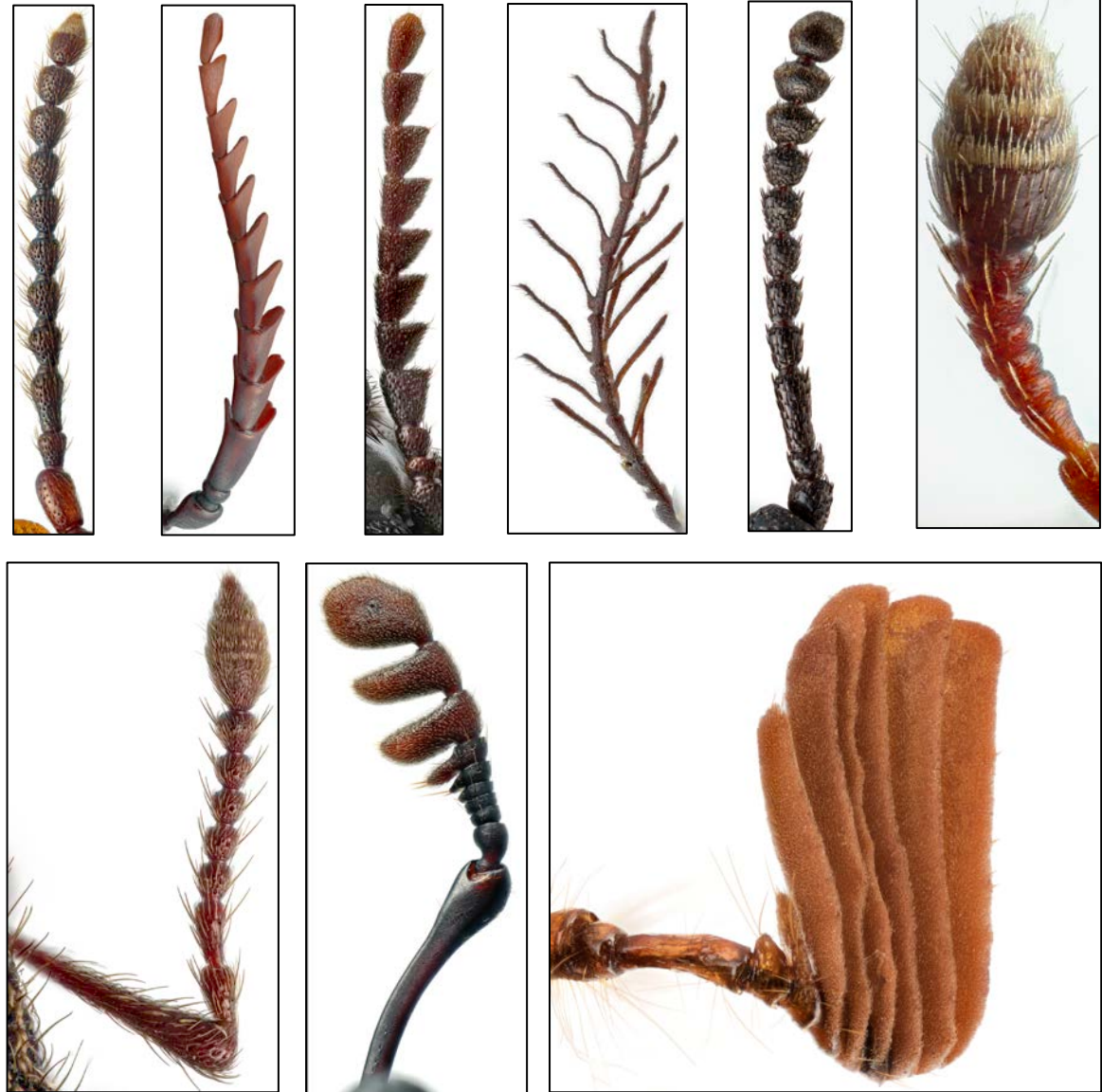
e, f. Cerambycidae

g. Carabidae antennae are thread-like.



1: Part III

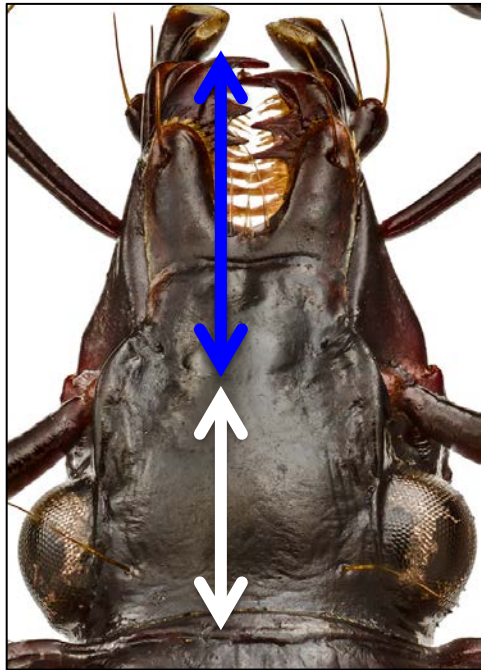
h-p. Many non-Carabidae have antennae that are not thread-like.



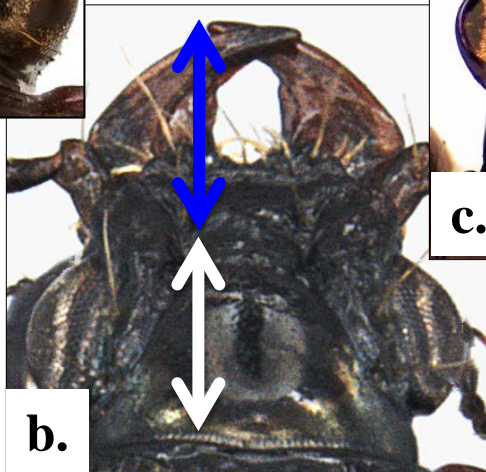
2 (1)

Mandibles shorter than rest of head or, if as long or longer than rest of head, not sickle-shaped (a-c).....3

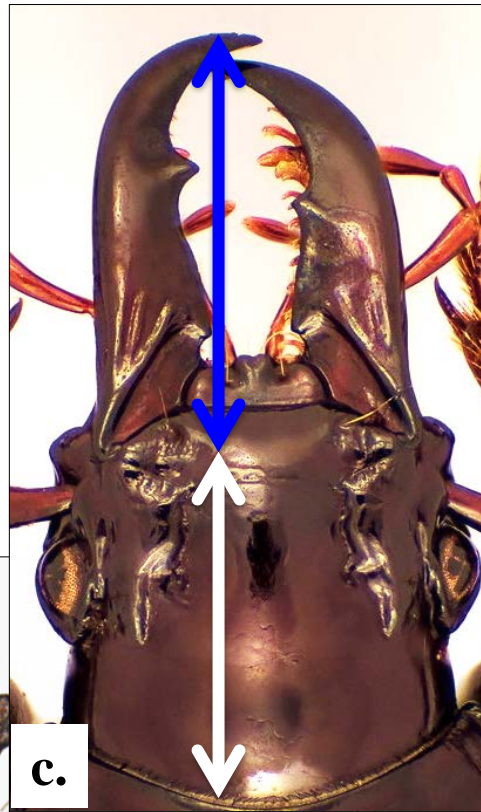
Mandibles sickle-shaped, as long or longer than the head (d-e).....not *Scaphinotus*



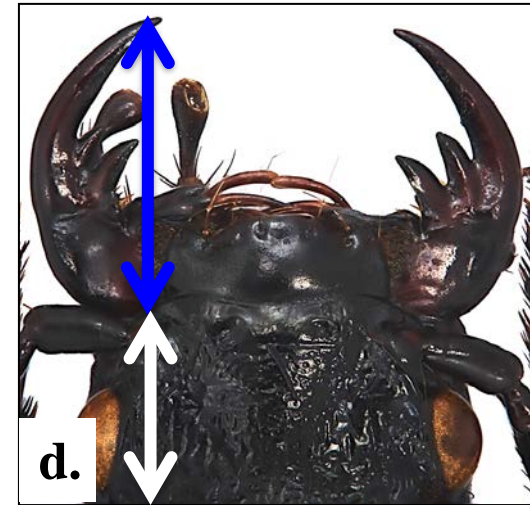
a.



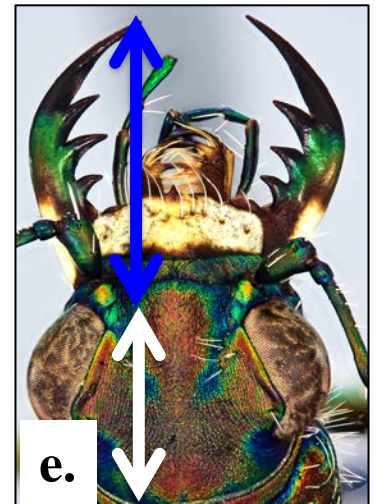
b.



c.



d.

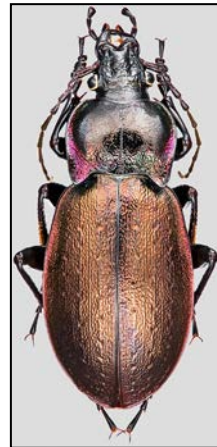


e.

3 (2): Part I

Body violin-shaped, with head and pronotum much more slender than abdomen and elytra; abdomen and elytra strongly ovate, narrowed at anterior and posterior; legs and antennae very long and slender (**a-b**); mandible slender, with two internal teeth (**k**).....4

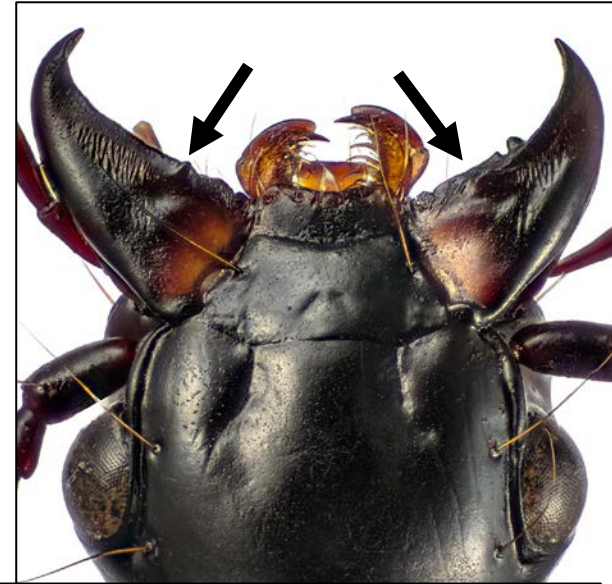
Body not violin-shaped, if head and pronotum very slender relative to abdomen and elytra, the latter are not strongly ovate and the legs and antennae are shorter and stouter (**c-j**); mandible stout or slender, with less than two internal teeth (**l-o**).....**not *Scaphinotus***



c-j. Not *Scaphinotus*.



3: Part II



l-o: Each mandible with only a single small internal tooth.



4 (3): Part I

Dorsum of elytra with striae (a) or with elongate, contiguous tubercles not raised above overall plane of elytra (b); dorsum of head and pronotum at most finely, transversely striatorugose (d).....*Scaphinotus* 5

Dorsum of elytron with large tubercles raised well above overall plane of elytra, striae obliterated by tubercles (c); dorsum of head and pronotum strongly, coarsely punctatorugose (e).....*Cychrus hemphillii rickseckeri* LeConte



4 (3): Part II



Cychrus hemphilli rickseckeri LeConte



5 (4): Part I

Elytra with interstriae essentially evenly convex (a) or with irregular punctures (b), without series of chain-like elevations; lobes of labrum no more than twice as long as wide (e-f).....6

Elytra with most interstriae consisting of a series of chain-like elevations (c-d); lobes of labrum three times as long as wide (g).....*Scaphinotus marginatus* (Fischer von Waldheim)



a.



b.



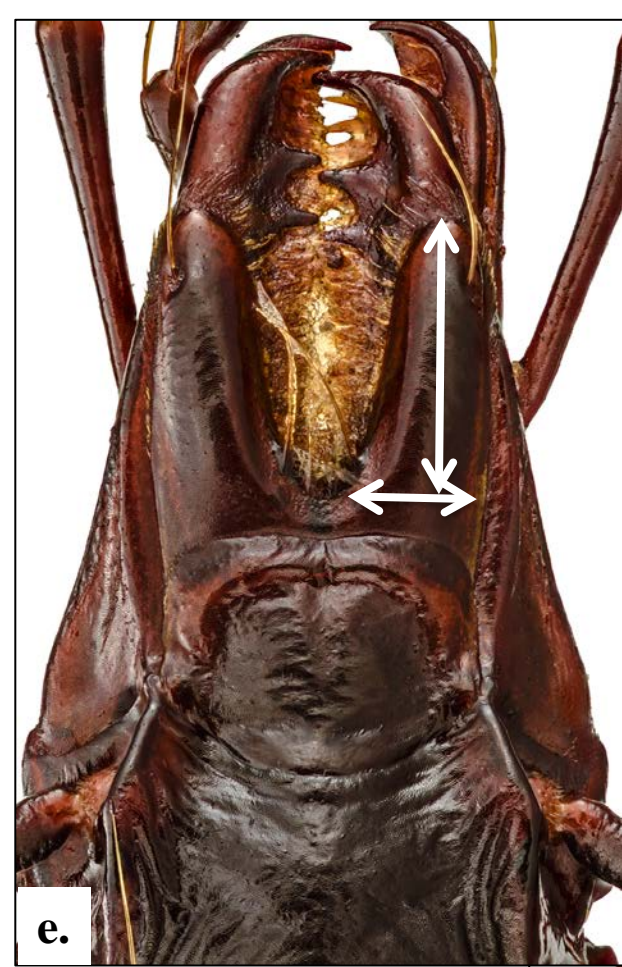
c.



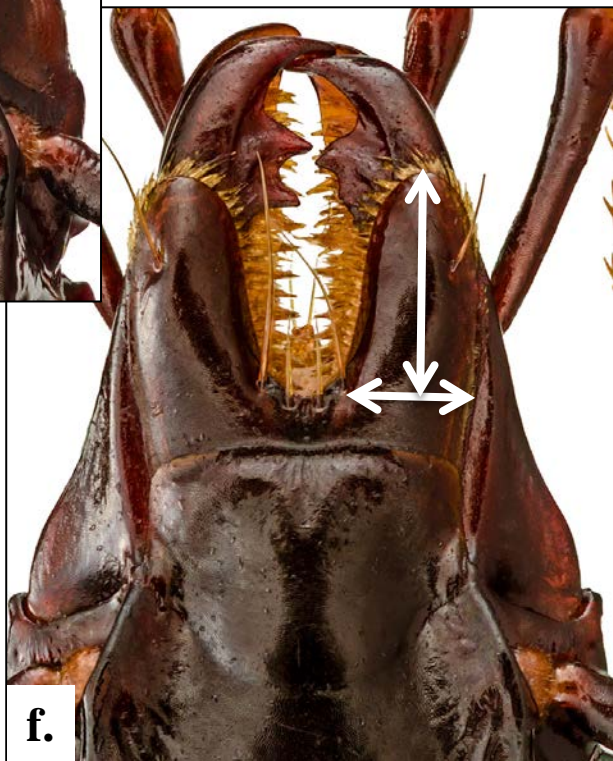
d.

*Body of *S. marginatus* is variable in color, from all black to metallic.

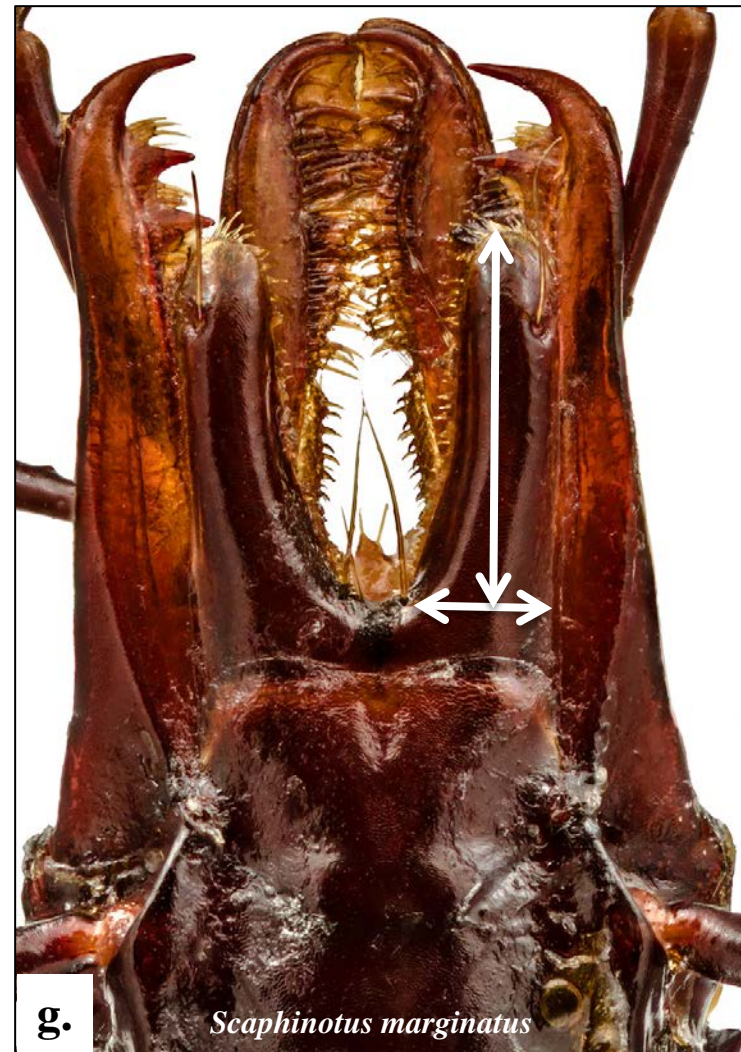
5 (4): Part II



e.



f.



g.

Scaphinotus marginatus

Scaphinotus marginatus (Fischer von Waldheim)



6 (5)

Total length at least 13 mm; luster of body somewhat dull (a-b).....7

Total length less than 13 mm; luster of body very shiny (c-d).....9



a.



b.



c.



d.

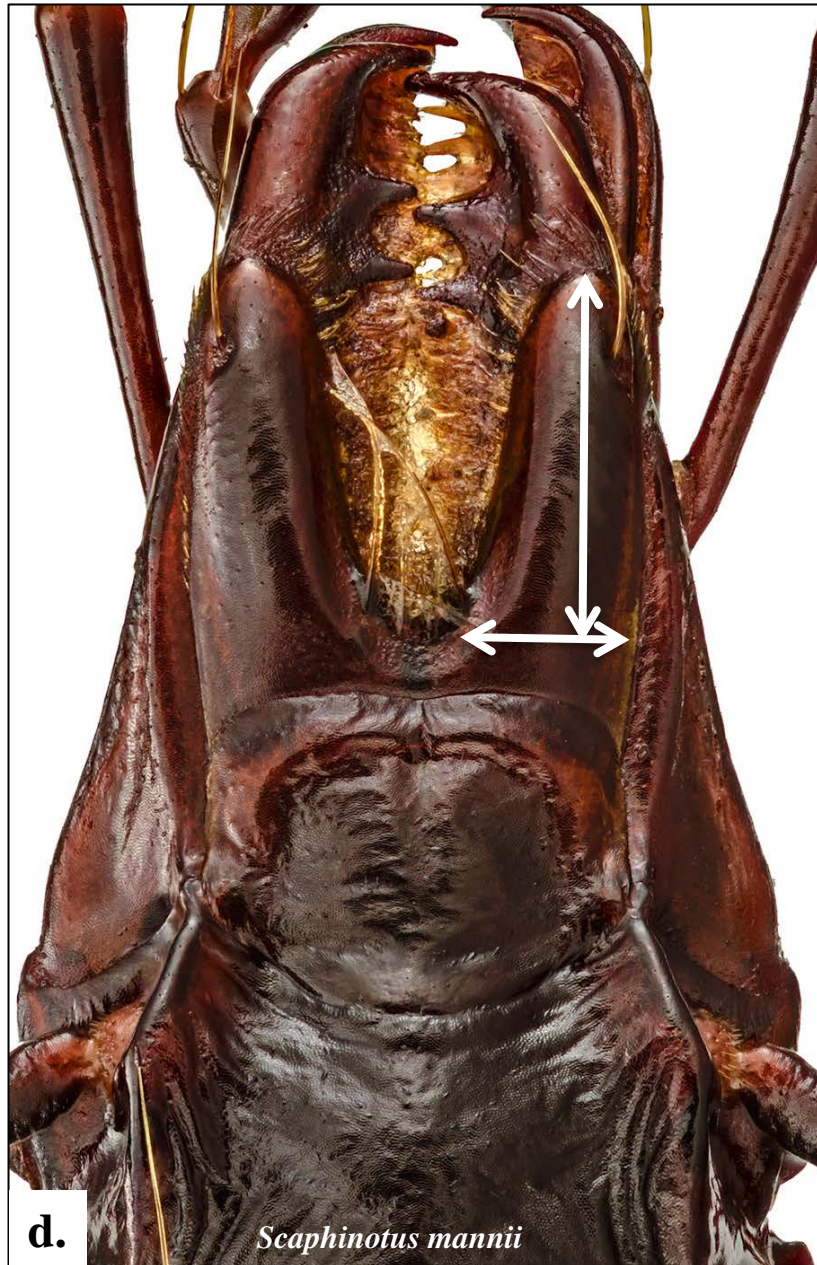
7 (6)

Head and pronotum narrow, eyes small and flattened in dorsal view (a); lateral lobes of labrum twice as long as wide (d).....*Scaphinotus manni* Wickham

Head and pronotum broad, eyes large and hemispherical in dorsal view (b-c); lobes of labrum no more than 1.5 times as long as wide (e).....8



5 (4): Part II



Scaphinotus manni Wickham



8 (7)

Elytral striae regular and easily counted (except perhaps near lateral margins), only interstriae 3 & 7 normally interrupted with a few setiferous pores along their lengths (a).....*Scaphinotus regularis* (LeConte)

Elytral striae very irregular, often coalescing, and difficult to count, especially along lateral margins and in posterior half, interstriae interrupted by many non-setiferous pores along their lengths (b).....*Scaphinotus relictus* (Horn)



Scaphinotus regularis (LeConte)



Scaphinotus relictus (Horn)



9 (6): Part I

At least elytra with distinct purple metallic reflection (best seen in the images along the margins) (a); antennomere 4 not densely pubescent (c); lobes of labrum only a little longer than wide (e); elytral intervals 4 & 8 with at least two discal setiferous punctures (g)..... *Scaphinotus hoodoensis* **Kavanaugh & Angel**

Elytra with at most a faint metallic bronze reflection (b); antennomere 4 densely pubescent (d); lobes of labrum about twice as long as wide (f); elytral intervals 4 & 8 without discal setiferous punctures (h).....*Scaphinotus merkelii* (**Horn**)

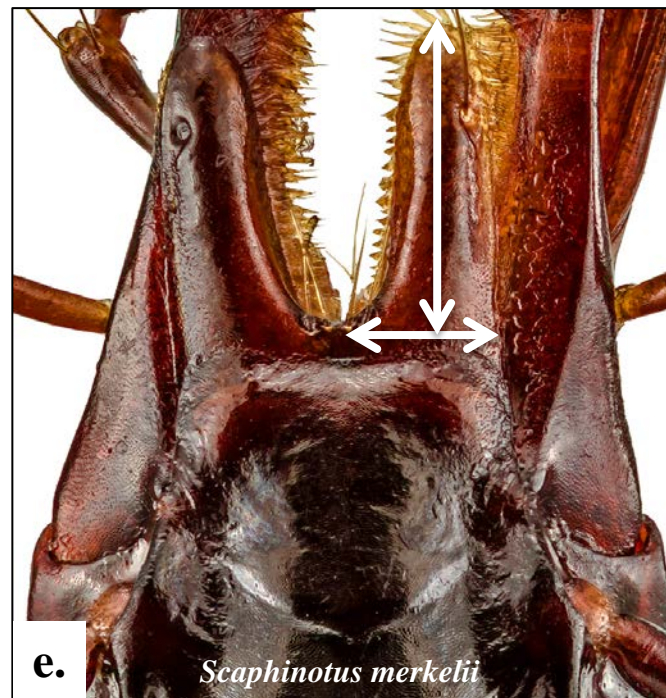
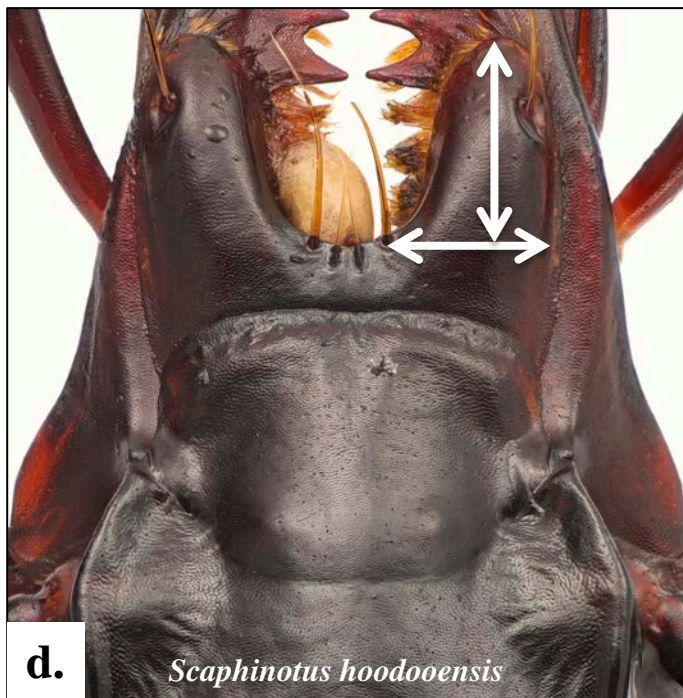
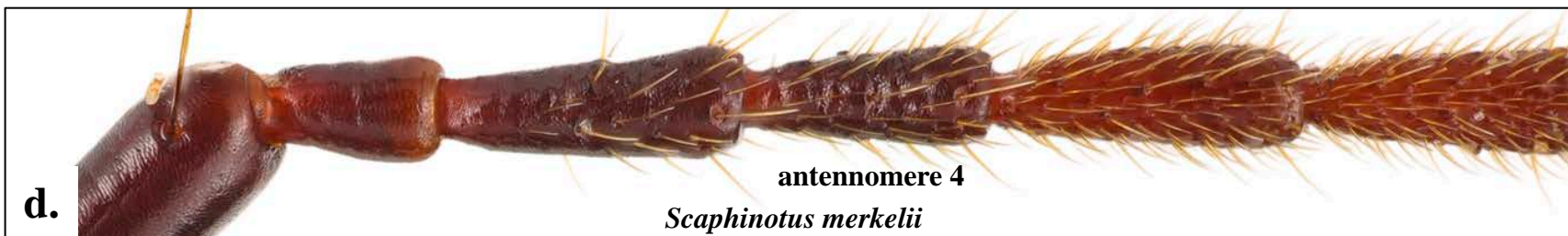
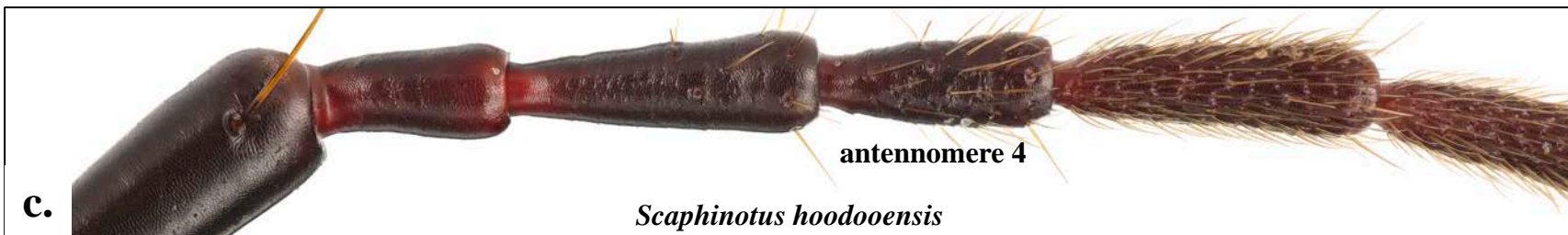


a.

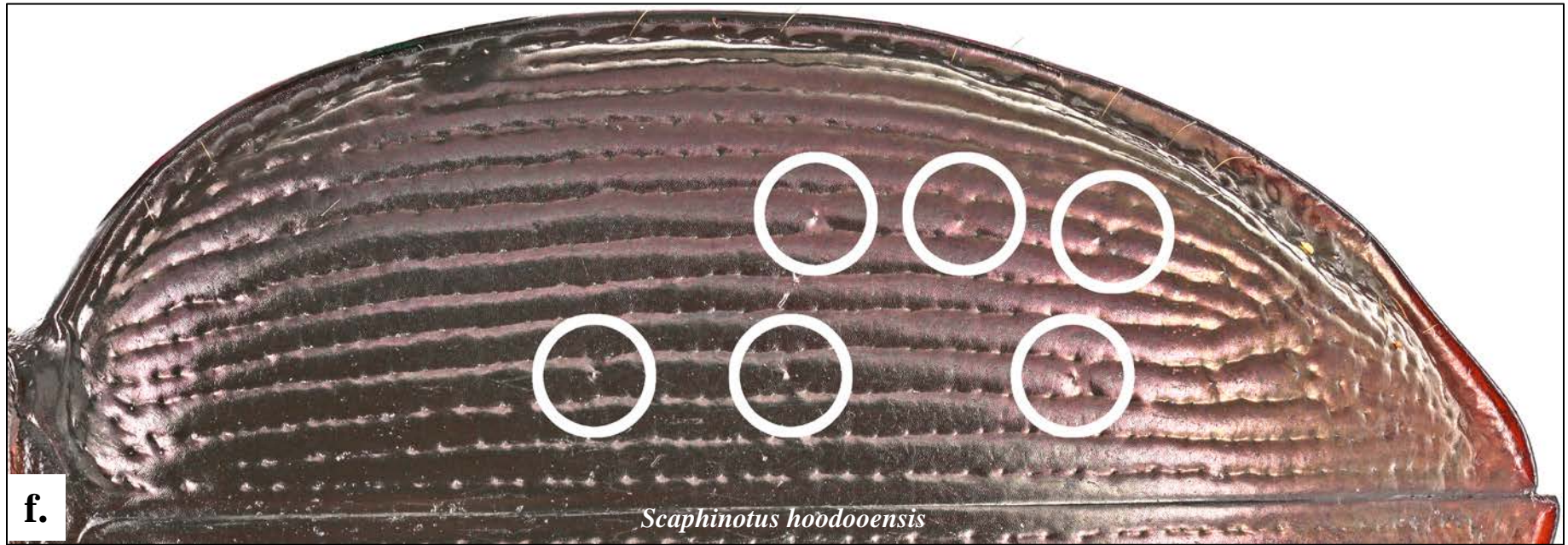


b.

9 (6): Part II



9 (6): Part III



Scaphinotus hoodoensis Kavanaugh & Angel



Scaphinotus merkelii (Horn)



Scaphinotus “Rogue’s” Gallery

Approximately to scale
based on average length

Scaphinotus hoodoensis



Scaphinotus merkelii



Scaphinotus marginatus



Scaphinotus manni



Scaphinotus regularis



Scaphinotus relictus

Gallery of *Scaphinotus* Heads

Not to scale

Scaphinotus manni



Scaphinotus hoodoensis



Scaphinotus marginatus



Scaphinotus regularis



Scaphinotus merkelii



Scaphinotus relictus



Gallery of *Scaphinotus* Pronota

Not to scale

Scaphinotus marginatus



Scaphinotus manni



Scaphinotus hoodoensis



Scaphinotus regularis



Scaphinotus relictus



Scaphinotus merkelii



Gallery of *Scaphinotus* Elytra

Not to scale

Scaphinotus hoodoensis



Scaphinotus merkelii



Scaphinotus marginatus



Scaphinotus regularis



Scaphinotus relictus



Scaphinotus manni

