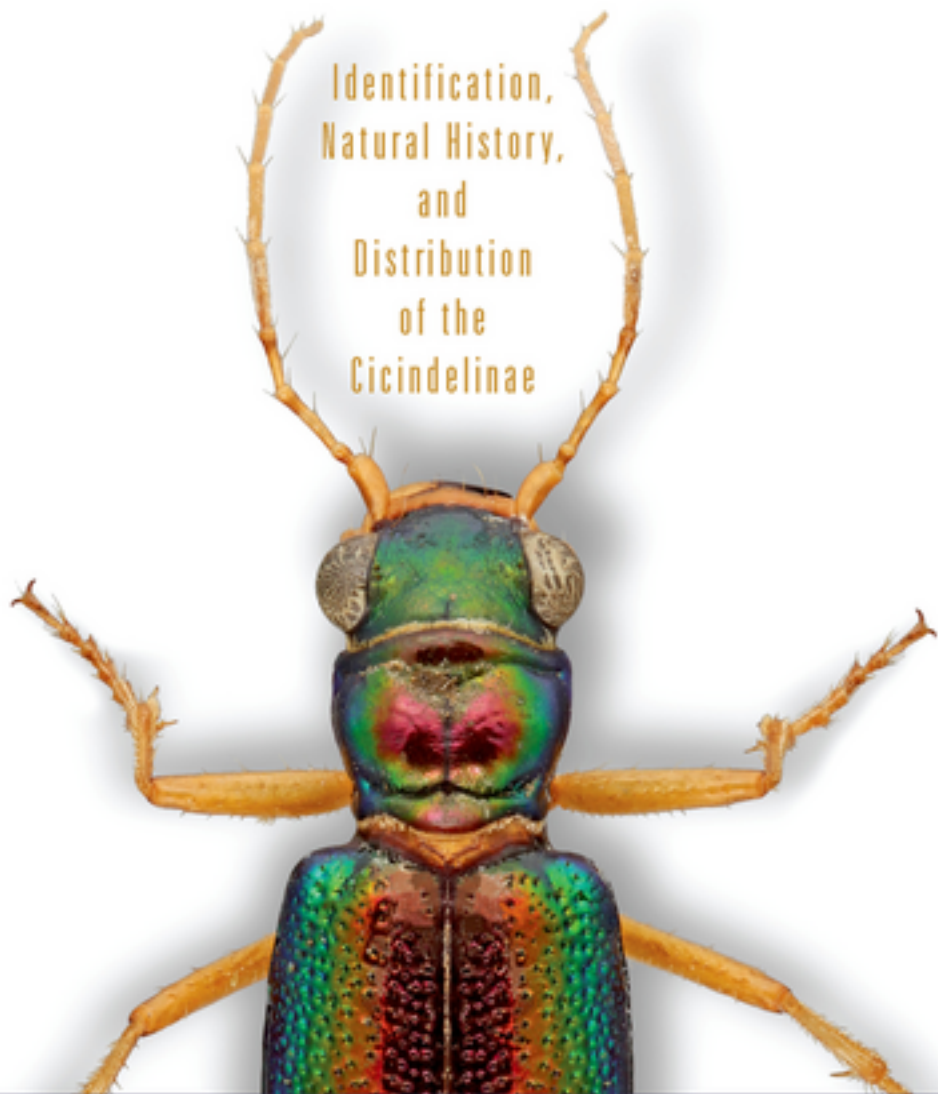


SECOND EDITION

A FIELD GUIDE TO THE
TIGER BEETLES
OF THE UNITED STATES AND CANADA

Identification,
Natural History,
and
Distribution
of the
Cicindelinae



DAVID L. PEARSON • C. BARRY KNISLEY • DANIEL P. DURAN • CHARLES J. KAZILEK

A Field Guide to the **Tiger Beetles** of the United States and Canada

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BY DAVID L. PEARSON

C. BARRY KNISLEY

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Preface

Within months after the appearance of the first edition of this field guide, we began to receive suggestions for changes, corrections of errors, and new observations of seasonality, range extensions, and biology. The recent publication of several major taxonomic revisions of tiger beetles also changed many of the concepts we had used in the first edition. The critical mass of these changes finally reached a point where we thought these updates needed to be included in a second revision.

The journal *CICINDELA* continues to be a great help in providing new information about tiger beetles, but more and more journals in America, Europe, Australia, Asia, and South America have become important for both professionals and a growing number of amateurs to publish their observations. We hope that the increasing number of regional field guides to tiger beetles across the world will reflect our experience with the first edition of *The Field Guide to the Tiger Beetles of the United States and Canada*. Many young people, established naturalists, and outdoor enthusiasts, when given the means to recognize and easily identify tiger beetles, become tiger beetle aficionados. These enthusiastic amateurs advance our knowledge of nature around the world to a level that would be impossible for the professionals to do on their own.

We strove to write the first edition and now this second edition of the guide in a pleasant and comprehensible style that limits scientific jargon and concepts. Even more basic, however, was resolving simple problems such as developing an acceptable list of common names. Over almost a year, an ad hoc committee of ten stalwart volunteers sifted through suggestions and debated details. We even enlisted the entire readership of the journal *CICINDELA* to vote their favorite common names and provide suggestions for alternatives. The resulting selection was a cautious consensus, and these are the common names we use here.

We also knew that the color identification plates would be essential to this field guide meeting its goals. These plates needed to be artistically pleasing as well as scientifically accurate if the field guide was to be useful and attract many new enthusiasts. Charles Kazilek worked diligently and with great passion on the twenty-five species identification color plates that grace this field guide. Without his work and partnership in this effort, the field guide would not have been possible. With real specimens and the magic of digital photography and Adobe PhotoShop, he painted the illustrations with pixels in all their glory and color but without sacrificing identification details.

To write this field guide, we relied not only on our combined eighty-five years of experience studying tiger beetles, but also unabashedly drafted the help of many of our colleagues. They generously shared their knowledge and interest in tiger beetles, so that we could assemble as complete a picture as possible of the identification, distribution, natural history, and habitat details of the 116 species of tiger beetles occurring on the continent. Those who provided indispensable information and advice include John Acorn, Giff Beaton, Chris R. Brown, Matt Brust, David Brzoska, Gary Budyk, Deannna Dodgson, Richard Freitag, Henri Goulet, Alan Harvey, David Herrmann, Wyatt Hoback, Ronald Huber, Michael Kippenhan, Ron Lyons, Ted MacRae, Jonathan Mawdsley, Bob Pape, Will Richardson, David Roemer, Steve Roman, W. Dan Sumlin II, Steve Spomer, and Gretchen Waggy. Photographs of live tiger beetles in the field were generously supplied by Giff Beaton, Christopher Brown, Matt Brust, Kevin Fielding, Eva Furner, Ted MacRae, Fred Pfeifer, David Rogers, David Roemer, and Stephen Spomer. Alan Harvey and Michael Kippenhan produced several of the line drawings. Cameras and technical assistance for photo imaging were supplied by Nico Franz and the ASU Hasbrouck Insect Collection.

Finally, but certainly not least, we thank our wives, Nancy Pearson, Peggy Knisley, Melissa Duran, and Sally Kazilek, for their patience and support over these many years.

David L. Pearson

School of Life Sciences
Arizona State University
Tempe, Arizona 85287-4501 USA

C. Barry Knisley

Department of Biology
Randolph-Macon College
Ashland, Virginia 23005-5505 USA

Daniel P. Duran

Department of Biology
Drexel University
Philadelphia, Pennsylvania 19104-2875 USA

Charles J. Kazilek

Vice Provost
Office of University Provost
Arizona State University
Tempe, Arizona 85287-7805 USA

A Field Guide to the **Tiger Beetles**
of the United States and Canada

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Giant Tiger Beetles

Giant Tiger Beetles, *Amblycheila*

Night-active and flightless, these huge tiger beetles are found only in upland habitats of the west.

- 1 **Montane Giant Tiger Beetle, *Amblycheila baroni*** Very local in low boulder strewn mountains of central and southeastern Arizona and perhaps west Texas. Large and dull black with a single pleat running the length of each elytron (Fig. 4.4A). (p. 52)
- 2 **Mojave Giant Tiger Beetle, *Amblycheila schwarzi*** Confined to boulder fields in low desert mountains of the Mojave Desert. Large and shiny black with three pleats and a few rows of pits running the length of each elytron. (p. 53)
- 3 **Great Plains Giant Tiger Beetle, *Amblycheila cylindriformis*** Widespread in open grassy areas of the Great Plains. Large and shiny black or dark brown with surface of elytra covered with pitting. (p. 54)
- 4 **South Texas Giant Tiger Beetle, *Amblycheila hoversoni*** Restricted to mesquite and scrub forest areas of the Rio Grande Valley of Texas. The largest tiger beetle in the Western Hemisphere. (p. 55)
- 5 **Plateau Giant Tiger Beetle, *Amblycheila picolomini*** Widely scattered in the plateau grasslands of Arizona, New Mexico, and Colorado. Shiny black to dark brown with three pleats and a few rows of pits running the length of each elytron. (p. 56)



Night-stalking Tiger Beetles

Night-stalking Tiger Beetles *Omus*

Flightless and all black, these tiger beetles hide and run in leaf litter of dense coniferous and oak forest in the Pacific Northwest. They are most active late in the day, at night, and on cloudy days.

- 1 **Greater Night-stalking Tiger Beetle, *Omus dejeani*** Common on coastal moist forest floors from Oregon to southwestern British Columbia. Its large size and small dimples covering the elytra are distinctive. (p. 57)
- 2 **Lustrous Night-stalking Tiger Beetle, *Omus submetallicus*** Known from a small area on the eastern slopes of the coastal range facing onto the San Joaquin valley in central California, it occupies steep oak woodland, the driest habitat for any Night-stalking Tiger Beetle. The unique row of black hairs along the upper sides of the thorax is only diagnostic in the hand (Fig. 4.5). (p. 58)
- 3 **Mount Ashland Night-stalking Tiger Beetle, *Omus cazieri*** Known only from the area surrounding Mt. Ashland, Jackson, County, in southwestern Oregon, it shares external characteristics of Audouin's Night-stalking Tiger Beetle but has a rougher texture to elytral surface and a male aedeagus that is different. Best distinguished by geographic location. (p. 61)
- 4 **California Night-stalking Tiger Beetle, *Omus californicus*** Coastal California to 2400 m elevation in the Sierras, this highly variable species differs geographically and by altitude in size and shape. All populations are distinguished in the hand by a relatively flat thorax, whose forward corners extend straight out to the side and are not distinctly turned down (Fig. 4.6A). (p. 59)
- 5 **Audouin's Night-stalking Tiger Beetle, *Omus audouini*** Forest floors from southwestern British Columbia south to northwestern California. In general, individuals in the north are larger with strong texture to the elytral surface and gradually become smaller and smoother toward the south. In the hand, the forward corners of the thorax are curved distinctly downward in all forms (Fig. 4.6B). (5a) Washington; (5b) Oregon. (p. 60)



Metallic Tiger Beetles and Temperate Tiger Beetles I

Metallic Tiger Beetles *Tetracha*

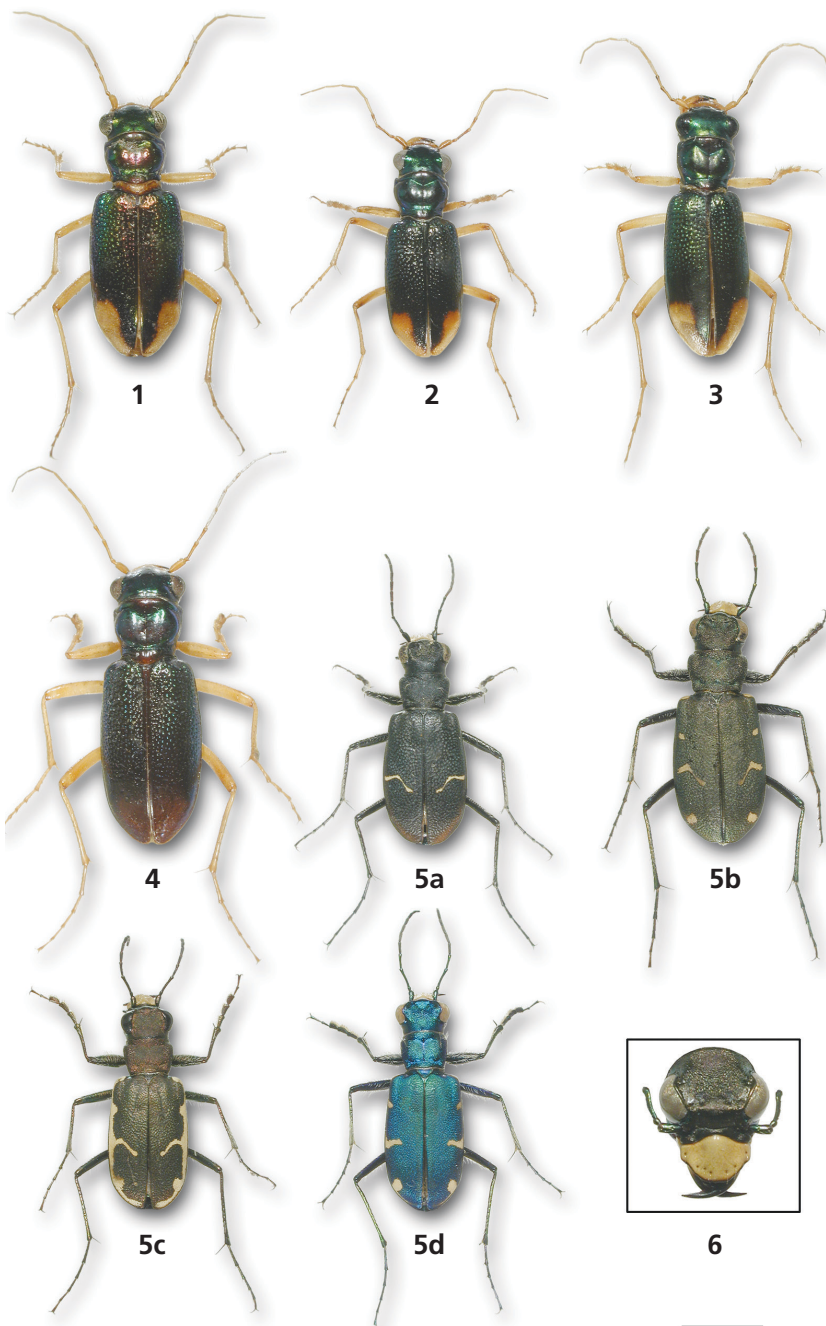
Active mainly at night, these beetles seldom fly. They run along brackish and fresh water edges and moist upland grassy areas. Most commonly seen scurrying around on the ground under artificial lights at night. During the day, they often are found resting under debris, vegetation, and small rocks. Dark shiny metallic body colors contrast with yellowish legs, antennae, and mouth parts.

- 1 **Carolina Metallic Tiger Beetle, *Tetracha carolina*** Widespread from southern Atlantic Coast to California, except southern half of Florida. Metallic maroon, green, and red body with a comma-shaped maculation at end of elytra that is distinctly wider at its forward tip. (p. 63)
- 2 **Florida Metallic Tiger Beetle, *Tetracha floridana*** Found only in the central and southern parts of Florida; body dark green with thinner maculation at rear tip of elytra. (p. 64)
- 3 **Upland Metallic Tiger Beetle, *Tetracha impressa*** In the United States found only in southern tip of Texas along the Rio Grande Valley. Body blackish-green with a relatively smooth elytral surface, and broad, pale crescents on apex of elytra that are not obviously expanded at their forward tips. (p. 64)
- 4 **Virginia Metallic Tiger Beetle, *Tetracha virginica*** Throughout southeastern two-thirds of United States as far north as central Wisconsin. Largest Metallic Tiger Beetle species in United States, its body is dark, oily green with no light crescents at rear tip of elytra. (p. 65)

Temperate Tiger Beetles *Cicindela*

Active during daytime and usually in bright sunlight, these are the quintessential tiger beetles that run rapidly across the ground. They tend to have bulky bodies with relatively short legs.

- 5 **Long-lipped Tiger Beetle, *Cicindela longilabris*** Open areas and paths from high latitude and altitude boreal forests to grassy prairies. Color above varies from black and brown to green; the maculations are thin to absent. Below it is metallic green to purple or black. In the hand, labrum is longer than it is wide (6). (p. 67)
 - 5a “nebraskana” variant—shiny black above with reduced maculations and usually black below but occasionally purple or green; predominant variant in western Great Plains and Great Basin but some individuals present throughout many populations in the west.
 - 5b Black form common throughout eastern and central parts of the range.
 - 5c Brownish-green form regular among populations in the Rocky Mountains.
 - 5d Bright green to dull green form encountered in Cascade and Sierra Nevada Mountains in the west and Newfoundland in the east.

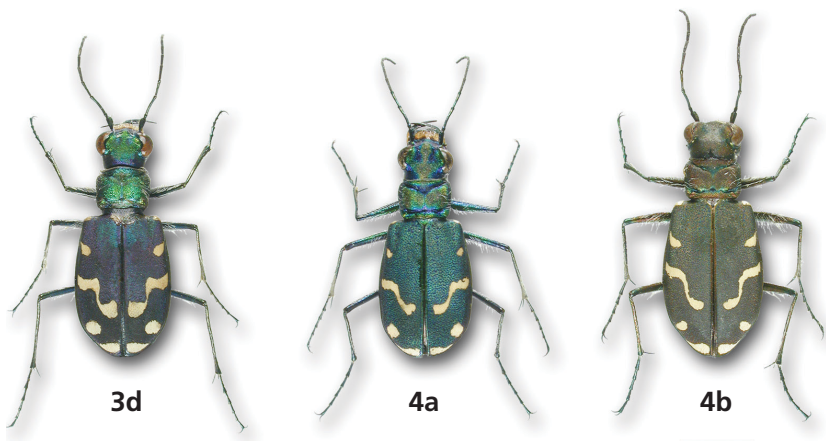
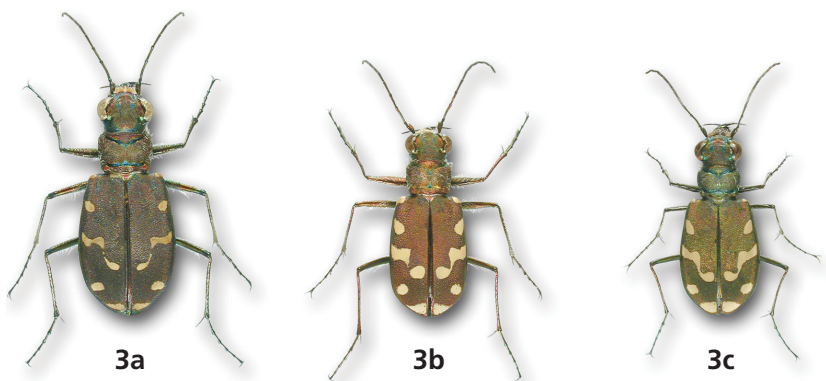
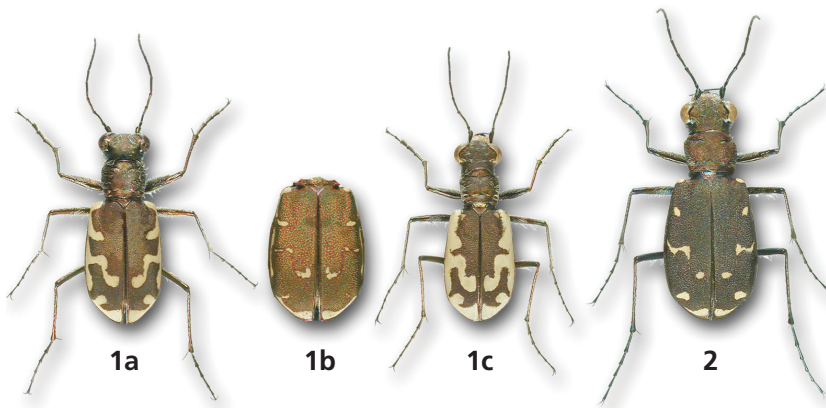


Temperate Tiger Beetles II

Temperate Tiger Beetles *Cicindela*

Active during daytime and usually in bright sunlight, these are the quintessential tiger beetles that run rapidly across the ground. They tend to have bulky bodies with relatively short legs.

- 1 **Bronzed Tiger Beetle, *Cicindela repanda*** Common and widespread along water's edge throughout the United States and southern Canada. Bronzy above with three distinct maculations, front one in shape of a "C". Thorax relatively cylindrical in shape (Fig. 4.29A). (p. 69)
 - 1a *C. r. repanda*—widespread; maculations distinct and moderate in thickness.
 - 1b *C. r. novascotiae*—restricted to a small area of southeastern Canada on the coast of Nova Scotia and Prince Edward Island; maculations incomplete and reduced to lines and spots.
 - 1c *C. r. tanneri*—Green River valley of eastern Utah; maculations thick and often connected to each other.
- 2 **Twelve-spotted Tiger Beetle, *Cicindela duodecimguttata*** Common along water's edge and in moist upland areas with bare soil east of Rocky Mountains. Maculations disrupted and often reduced to spots, but usually a short white line runs along part of the outer edge of elytra. If present, middle line on elytra usually has an abrupt turn or "elbow" rearward. Thorax trapezoidal in shape (Fig. 4.29B). (p. 71)
- 3 **Western Tiger Beetle, *Cicindela oregona*** Often abundant along water's edge west of Rocky Mountains. Maculations as in Twelve-spotted Tiger Beetle but normally without white line running along outer edge of elytra. Middle line on elytra with abrupt turn or "elbow" rearward. Thorax trapezoidal in shape. (p. 72)
 - 3a *C. o. oregona*—wide range west of crest of Cascades and Sierra Nevada; all one color above, dull brown to green, with thin maculations often disrupted.
 - 3b *C. o. guttifera*—east slope of Rocky Mountains from New Mexico to Yukon Territory; above uniformly rich brown with complete and moderately thick maculations.
 - 3c *C. o. navajoensis*—east slope of southern Rocky Mountains and intermontane valleys of southwestern plateau area; above light brown with thick maculations.
 - 3d *C. o. maricopa*—confined to Arizona and eastern Utah; above bicolored with elytra purple to dark brown and head and thorax green.
- 4 **Dispirited Tiger Beetle, *Cicindela depressula*** Pacific coast to alpine meadows above tree line; common along beaches of rivers and moist muddy areas from northern California to southeastern Alaska. Uniform brown, blue, or green above with thin but complete maculations. Middle line on elytra generally has a wave-like curve instead of a sharp bend or "elbow," as in Twelve-spotted and Pacific Tiger Beetles. (p. 75)
 - 4a *C. d. depressula*—usually only species of tiger beetle present in alpine habitats of Cascades, Sierra Nevada, and northern Rocky Mountains; above blue, green, or brown.
 - 4b *C. d. eureka*—gravel and sand rivers and beaches of north Pacific coast; larger and uniformly brown above with complete maculations.



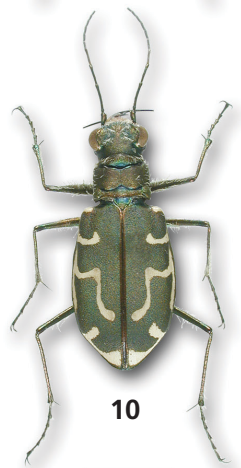
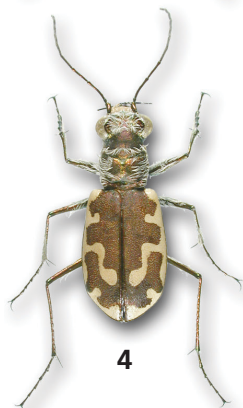
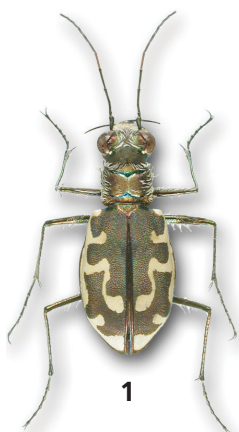
Temperate Tiger Beetles III

Temperate Tiger Beetles *Cicindela*

Active during daytime and usually in bright sunlight, these are the quintessential tiger beetles that run rapidly across the ground. They tend to have bulky bodies with relatively short legs.

Hairy-necked Tiger Beetle, *Cicindela hirticollis* Wide ranging across most of Canada and United States, it is largely restricted to water's edge of sandy river, lake, and ocean beaches. Brown to green above with maculations complete or disrupted. Distinctive tuft of long white hairs on side of thorax apparent in the hand, and if present, front maculation is usually in shape of a "G" or inverted "G." (p. 77)

- 1 *C. h. hirticollis*—throughout United States east of Mississippi River and south of Great Lakes; brown above with moderately thick maculations.
- 2 *C. h. abrupta*—confined to Sacramento Valley of California, this subspecies is likely EXTINCT. Distinctly dark blackish-brown above, maculations are disrupted.
- 3 *C. h. athabascensis*—isolated on sand dunes bordering Lake Athabasca in northern Alberta and Saskatchewan, it is the most northerly and largest form of the species. Above deep blue, green brown, reddish-brown, or purplish with maculations greatly reduced or absent
- 4 *C. h. coloradula*—restricted to Little Colorado River of northeastern Arizona, just before it enters east end of Grand Canyon; above reddish with very heavy maculations and tail of front maculation often missing to form a "C" or inverted "C".
- 5 *C. h. corpuscula*—along Colorado River and its tributaries from southwestern and central Arizona north to southeastern Utah; above reddish-brown with green reflections and thick maculations often connected to each other. Tail of front maculation ends in a bulb rather than a hook.
- 6 *C. h. couleensis*—confined to sandy river banks of Columbia and Snake Rivers in eastern Washington and Oregon and adjacent Idaho; above brown with relatively heavy maculations.
- 7 *C. h. gravida*—limited to sandy beaches of Pacific Ocean from northern Mexico to Southern California; above green, muddy green, brownish, or bluish.
- 8 *C. h. rhodensis*—throughout Maritime Provinces, New England, and Great Lakes region; large and dark brown above often with incomplete or thin maculations.
- 9 *C. h. shelfordi*—found widely across Great Plains from Texas north to southern portions of Prairie Provinces of Canada; above brown with thick maculations connected to each other along outer edge of elytra.
- 10 *C. h. siuslawensis*—restricted to a few Pacific Ocean beaches at mouths of rivers from Washington south to northern California; above brownish-green to brown with thin maculations and tail of front maculation is absent or quite small.

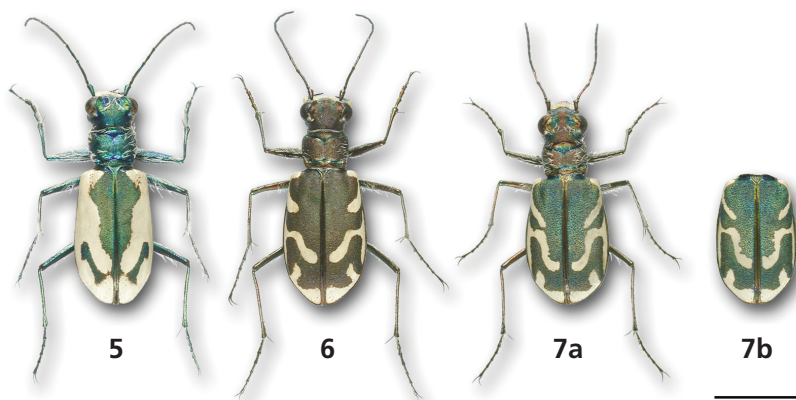
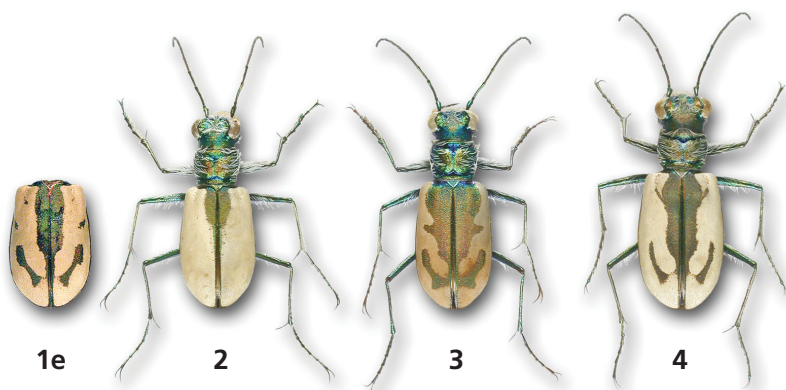
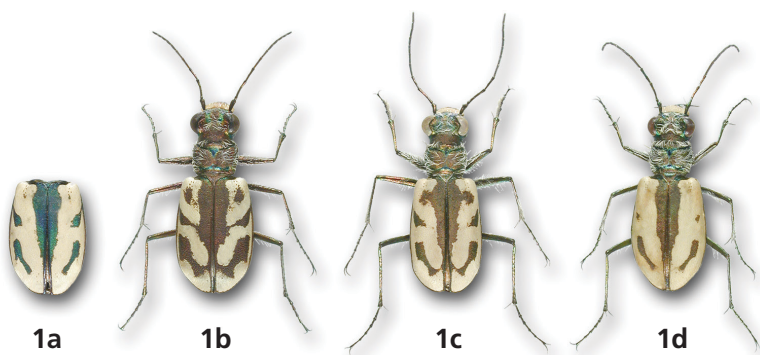


Temperate Tiger Beetles IV

Temperate Tiger Beetles *Cicindela*

Active during daytime and usually in bright sunlight, these are the quintessential tiger beetles that run rapidly across the ground. They tend to have bulky bodies with relatively short legs.

- 1 **Sandy Tiger Beetle, *Cicindela limbata*** Found in dry sandy dunes and sand blowouts in Great Plains and edges of boreal forest. Maculations are quite variable among populations. (p. 81)
 - 1a *C. l. limbata*—central and southern Great Plains; above dark parts greenish and elytra almost completely white.
 - 1b *Cicindela l. hyperborea*—restricted to sandy clearings in pine and poplar forests in far north of Manitoba, Alberta, Saskatchewan, and adjacent Northwest Territories; small and dark reddish-brown above with three heavy but separate maculations.
 - 1c *C. l. labradorensis*—isolated population found only in sandy clearings among coniferous forest of southeastern Labrador; dark brown above with maculations thick and connected but not coalesced to cover elytra.
 - 1d *C. l. nympha*—northern Great Plains and Prairie Provinces of Canada; dark parts above reddish-brown and elytra almost completely white.
 - 1e *C. l. nogahabarensis*—isolated in the Nogahabara Sand Dunes of northwestern Alaska; maculation pattern usually intermediate between *C. l. labradorensis* and *C. l. nympha*.
- 2 **Coral Pink Sand Dune Tiger Beetle, *Cicindela albissima*** Endemic to Coral Pink Sand Dunes area of southern Utah. Elytra completely white; head and thorax greenish-red. (p. 83)
- 3 **Colorado Dune Tiger Beetle, *Cicindela theatina*** Endemic to Great Sand Dunes National Park area in south central Colorado. Above reddish-brown with maculations greatly expanded and connected to cover much of elytral surface. (p. 84)
- 4 **St. Anthony Dune Tiger Beetle, *Cicindela arenicola*** Endemic to St. Anthony Dunes area of southeastern Idaho. Dark parts above reddish-brown and white maculations expanded to cover most of elytral surface. (p. 85)
- 5 **Bruneau Dune Tiger Beetle, *Cicindela waynei*** Endemic to Bruneau Dunes area of southwestern Idaho. Dark parts above greenish, and white maculations expanded to cover most of elytral surface. Diagnostic in the hand is a peculiar tooth on mandible tip in both sexes that points forward rather than being in line with rest of the teeth (Fig. 4.28). (p. 86)
- 6 **Columbia River Tiger Beetle, *Cicindela columbica*** Formerly on sand river banks of Columbia, Snake, and Salmon Rivers of northeastern Great Basin, but now found only along Salmon River of northwestern Idaho. Above dark brown with three separate maculations. Middle line curved with no sharp “elbow” bending backward. (p. 87)
- 7 **Pacific Coast Tiger Beetle, *Cicindela bellissima*** Only on sandy Pacific coastal beaches or nearby dunes from extreme northern California north to Washington. Coppery-brown above with three distinct and unconnected maculations. Middle line of elytra curved with no sharp “elbow.” (p. 88)
 - 7a *C. b. bellissima*—over entire species’ range except extreme northwestern Washington; middle line on elytra not diffuse or eroded.
 - 7b *C. b. frechini*—isolated to northwestern coast of Olympic Peninsula in Washington; middle line on elytra eroded and average body size smaller than nominate race.



Temperate Tiger Beetles V

Temperate Tiger Beetles *Cicindela*

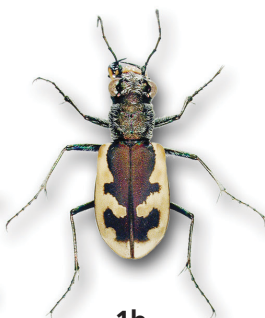
Active during daytime and usually in bright sunlight, these are the quintessential tiger beetles that run rapidly across the ground. They tend to have bulky bodies with relatively short legs.

Big Sand Tiger Beetle, *Cicindela formosa* Only in dry sandy areas of open pinewoods, blowouts, and large sand dunes. Largest species of Temperate Tiger Beetle. Brown, red, purple, or green above with maculations thick and distinct to fused and covering most of elytral surface. (p. 89)

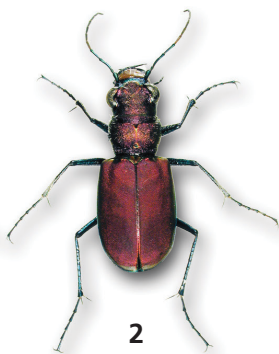
- 1a *C. f. generosa*—generally east of Missouri River but absent from southeastern states; above dark brown with thick and separate maculations connected along outer elytra edge.
- 1b *C. f. generosa* "manitoba"—many individuals in south central Canada have maculations connected into a broad band.
- 2 *C. f. rutilovirescens*—Mescalero Sands of southeastern New Mexico and adjacent Texas; above uniform purple with green reflections and no maculations except for small whitespots at rear tip of elytra.
- 3 *C. f. gibsoni*—restricted to two unconnected areas: Great Sand Hills of southwestern Saskatchewan and Maybell Sand Dunes of northwestern Colorado; above dark red to purple with ivory-colored markings on elytra expanded and coalesced to cover most of the elytra surface except for a broad dark wedge down length of middle (3a). Occasionally, a small dark area expands behind middle line to extend this dark wedge to the rear (3b).
- 4 *C. f. formosa*—west of Missouri River; above bright coppery-red with broad maculations connected to each other or along outer edge of elytra (4a). In northeastern Wyoming, some individuals have similar maculations but with background color bright green (4b).
- 5 *C. f. pigmentosignata*—restricted to northeastern Texas and adjacent Arkansas and Louisiana; above violaceous with deep purple areas. Maculations range from absent except for a thin ivory line on outer edge of end of each elytron (5a) to complete markings connected by a thin line along outer side edge of elytra (5b, 5c).



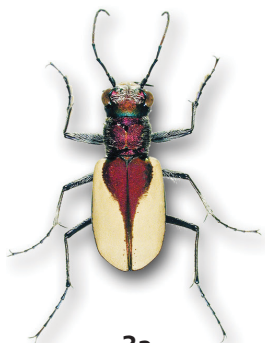
1a



1b



2



3a



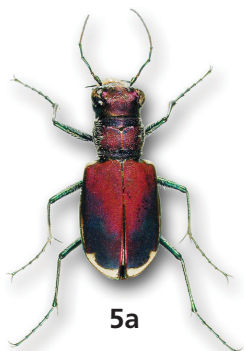
3b



4a



4b



5a



5b



5c

Temperate Tiger Beetles VI

Temperate Tiger Beetles *Cicindela*

Active during daytime and usually in bright sunlight, these are the quintessential Tiger Beetles that run rapidly across the ground. Members of this subgenus tend to have bulky bodies with relatively short legs.

- 1 **Cow Path Tiger Beetle, *Cicindela purpurea* Atlantic** Coast to Pacific but absent from most of the southern states. Above dark red to greenish-red or lime green with reddish edges. Some populations have all black individuals. Maculations are usually reduced to a small, angled, and wavy middle line, but they are more complete in some populations (p. 92).
 - 1a *C. p. purpurea*—east of Mississippi River; above purplish with green tinges and maculations reduced to a short middle line that does not reach outer edge of elytra.
 - 1b *C. p. audubonii*—Great Plains; above either greenish with a purplish tinge on edges or all black (1c). Maculations reduced to a single angled middle line and a white rear tip at edge of elytra.
 - 1d *C. p. cimarona*—central Colorado to southern Arizona and New Mexico, often in disjunct populations at tops of mountains rising out of the desert and dry grasslands; above muddy green to dark brown or reddish with heavy maculations completely or partially connected by a white band running along outer edge of elytra.
 - 1e *C. p. hatchi*—restricted to open coniferous forest of foothills of central Sierra Nevada Mountains in northern California and western foothills of Willamette Valley in Oregon north to southern Vancouver island, British Columbia; above grass green with distinct coppery patches on head, legs, and sides of elytra and thorax coppery.
 - 1f *C. p. lauta*—northwestern California north into Oregon through Klamath Mountains and along eastern foothills of Willamette Valley to Columbia River; above grass green with indistinct coppery patches on head and thorax; legs metallic green.
- 2 **Ohlone Tiger Beetle, *Cicindela ohlone*** Restricted to a few native grasslands in coastal Santa Cruz County, California. Above light green with subtle bronze highlights. Middle line on elytra heavy with a distinct curve rearward. Front maculation composed of two isolated dots, one hidden under shoulder and other more obviously situated on upper surface of elytron. Smaller and with more rounded outer edges of elytra than similar *C. p. lauta*. ENDANGERED. (p. 94)
- 3 **Sagebrush Tiger Beetle, *Cicindela pugetana*** Confined to northern Great Basin sagebrush areas. Above bright green (3a), blue-green or black (3d). Markings on elytra reduced to a thin white line on rear tip of each elytron and, on some individuals, a thin middle line that is not connected to outer edge of elytra. Female labrum of all color forms long and black (3b); male labrum shorter and ivory-white (3c). (p. 95)
- 4 **Alpine Tiger Beetle, *Cicindela plutonica*** Sparse in rocky alpine up to 2700 m elevation in northern Sierra Nevada and down to upper reaches of sage brush in central Great Basin. Above shiny green (4a), blue-green, or black (4b) usually with no maculations or occasionally an almost imperceptible white dash on tip of each elytron. As in the closely related Sagebrush Tiger Beetle, female labrum of all color forms long and black (3b); male labrum shorter and ivory-white (3c). (p. 96)



Temperate Tiger Beetles VII

Temperate Tiger Beetles *Cicindela*

Active during daytime and usually in bright sunlight, these are the quintessential tiger beetles that run rapidly across the ground. They tend to have bulky bodies with relatively short legs.

- 1 **Splendid Tiger Beetle, *Cicindela splendida*** Distributed patchily on red clay soils across East, Midwest, and central Great Plains. Above the green or greenish-blue head and thorax contrast with brick red elytra (1a). Maculations reduced to short lines and dots. Local color variant in northwestern Louisiana and adjacent Arkansas to Dallas area of Texas, "ludoviciana," with greenish-blue elytra (1b). (p. 97)
- 2 **Green Claybank Tiger Beetle, *Cicindela denverensis*** Throughout grasslands of Great Plains. Above all green with thin and usually reduced maculations (2a). Rarely some individuals have more complete maculations (2b). (p. 98)
- 3 **Common Claybank Tiger Beetle, *Cicindela limbalis*** On or near red clay banks throughout most of northern United States and Canada east of the Rocky Mountains. Above all bright reddish to reddish-green; distinct middle line reaches outer edge of elytra and crosses elytra horizontally, wave-like bend in middle. Some individuals in northern Colorado have heavy maculations (3b). (p. 99)
- 4 **Badlands Tiger Beetle, *Cicindela decemnotata*** Sparsely vegetated areas with bare soil in northern Great Basin, northwestern Great Plains north to Yukon Territory. Above green to red-purple with bold to nearly absent maculations; when present, middle line curved rearward at a sharp angle and usually does not reach outer edge of elytra. (p. 100)
 - 4a ***C. d. merivetheri***—bright green with distinct elytral maculations; restricted to Columbia Basin of central Washington and southern British Columbia.
 - 4b ***C. d. decemnotata***—green, dark green, blue-green, olive, green-purple, purple, and red-purple to black with complete elytral maculations; widely distributed from southern Yukon to New Mexico.
 - 4c ***C. d. bonnevillensis***—green, dark blue to green-purple with greatly reduced elytral maculations; restricted to ancient Lake Bonneville in north central Utah.
 - 4d ***C. d. montevolans***—red-purple with greatly reduced elytral maculations; restricted to high elevations of Bear River Mountains in northeastern Utah and southeastern Idaho.
- 5 **Six-spotted Tiger Beetle, *Cicindela sexguttata*** Shaded hardwood forest floors throughout east. Bright and shiny green to greenish-blue, and rarely purplish-black to black; usually with maculations reduced to six or four small spots but occasionally with no maculations. (p. 102)
- 6 **Laurentian Tiger Beetle, *Cicindela denikei*** Restricted to open grassy alvars within boreal forest on Canadian Shield of northern Great Lakes Basin. More robust than the closely-related Six-spotted Tiger Beetle, it is olive-green to shiny green above with six to no white spots on elytra. Best distinguished by its geographic range and habitat. (p. 103)
- 7 **Northern Barrens Tiger Beetle, *Cicindela patruela*** Patchily distributed in barren sandy, shale or gravelly soils in open forests of northeastern United States. Above dull green, greenish-brown, or black. Three distinct maculations are present but disconnected, and middle line, which is complete, reaches to outer edge of elytra. (p. 104)
 - 7a ***C. p. patruela***—most widespread subspecies; above dull green.
 - 7b ***C. p. consentanea***—restricted to pine barrens of central Atlantic coast; above black.
 - 7c Some individuals in southwestern Wisconsin are greenish-brown to brown above; formerly considered a subspecies, "huberi," but now regarded as a local color variant.