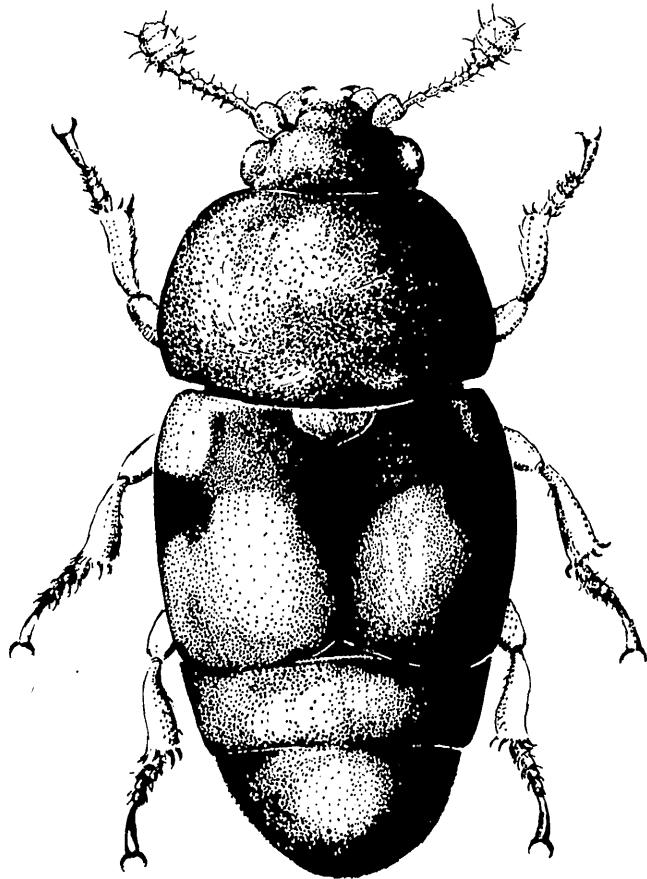


# **Bibliography of the Genus *Carpophilus* Stephens (Coleoptera: Nitidulidae)**

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## CONTENTS

Introduction .....	3
List of the species and their distribution .....	7
Species finder (for synonyms, etc.) .....	12
Bibliography .....	15
Subject index .....	82

## COVER

The drawing of the driedfruit beetle, Carpophilus hemipterus (L.), on the front cover was done by Pongsak Thiemmedh. It was drawn on tracing vellum paper using a Koh-I-Noor Rapidograph pen.

## SPONSORSHIP

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BIBLIOGRAPHY OF THE GENUS CARPOPHILUS STEPHENS

(COLEOPTERA:NITIDULIDAE)

R. N. Williams, D. S. Fickle, M. Kehat,  
D. Blumberg, and M. G. Klein

INTRODUCTION

The purpose of this publication is to consolidate all known literature on the genus Carpophilus Stephens. Carpophilus species occur in all of the faunal regions of the world, with the great majority being found in the tropics. There are presently 191 species worldwide and 32 of these are found in the United States. The most common pest species are cosmopolitan in distribution, probably having been spread through international commerce.

The bibliographical information provided here was obtained by a thorough search of the libraries at The Ohio State University and the Ohio Agricultural Research and Development Center for the years 1758 to 1982. Abstracting journals which were searched through 1982 included: Entomology Abstracts, Biological Abstracts, Review of Applied Entomology and Bibliography of Agriculture and the Index to the Literature of American Economic Entomology. Two data bases (CAB abstracts and AGRICOLA) were searched through the DIALOG Information Retrieval Service by the OARDC Library. These searches revealed many references not found elsewhere. The literature searches recovered most, but not all, checklists, faunal lists, and comprehensive publications which contained information on the genus. We would appreciate receiving any additional citations which we have missed.

The genus Carpophilus was erected by Stephens in 1830. The last worldwide revision was published by Murray in 1964. The most recent world catalog is that of Grouvelle (1913). Parsons (1943) reviewed the species

found in the United States. The following description and comments on the genus is from Parsons 1943:

"Usually elongate, more or less depressed. Head broad but distinctly narrower than the pronotum. Clypeus indistinct, slightly porrect, margined by a depression at each side. Eyes usually large. Antennae a little longer than the head, first segment enlarged and often widened on the outside, second and third cylindrical, about of equal length, club compact, flattened, rounded or oval in outline. Antennal grooves moderately deep and convergent. Labrum bilobed, the lobes rounded. Mandibles usually with a large tooth on the inner side, behind the apex. Lacinia broad and rounded at tip. Maxillary palpi variable, rather short and thick, first segment small, the third usually shorter than the second. Ligula with rather large laterally projecting paraglossae; the palpi robust, first segment small, the next two about of equal length. Mentum more or less transverse, not strongly emarginate. Pronotum nearly or as broad as the elytra. Scutellum usually broadly rounded posteriorly. Epipleurae narrow to broad, extending about half the length of the elytra or to the apex. Elytra abbreviated, rarely exposing three, usually two abdominal segments. Ventral segments two and three very short; one, four, and five long. Prosternal process widened and rounded posteriorly, reaching the mesosternum. Mesocoxae about equally separated. An additional strongly deflexed segment in the male. Legs short, tarsi dilated. Claws simple.

Carpophilus is rather closely related to both Colastus and the Oriental Tetrisus, and serves to connect the Carpophilinae with the Nitidulinae.

Species of this genus occur most commonly in flowers and at sap under bark, less commonly in decaying or dried fruit and in fungi."

Carpophilus is the most important genus in the Nitidulidae when considering pest status. These beetles are among the most destructive insect pests of ripe fruits and dried fruits (Hinton 1945). Their persistence as nuisance pests at canning factories and other food processing areas is also well documented (Schmidt 1935, Hinton 1945, and Gallardo-Covas 1983). As was pointed out by Connell (1981), there is a critical need for a revision of the Carpophilus in light of the fact that the last revision was conducted by Murray (1864). The objective of this bibliography has been to concentrate the literature on the genus for our own research interests and hope that this will in some way stimulate interest by others to work with this group. We agree that a revision of the genus Carpophilus is badly needed.

The references which were most useful to us in putting this publication together were: Parson (1943 Nearctic), Chatterjee (1924 India), Murray (1864 World), Grouvelle (1913 World), Sharp (1889-99 Central America), Blackwelder (1945 Latin America), Leng (1920 Literature citations), Hinton (1945 Economically important species w/hosts) and Connell (1957 Biology and hosts of Nearctic species).

Citations are listed alphabetically by author except in cases where the publication is anonymous or more likely to be identified with the governmental agency under which it was published. Abbreviations in citations follow Hammack, G. M. 1970 "The serial literature of Entomology, a descriptive study." Entomol. Soc. Amer. 85 pp. or "American standard for periodical title abbreviations," Biological Abstracts, 45(13):4347-4361. Other abbreviations, especially those in foreign languages, usually follow abstracting journals.

This entire manuscript was processed through the text document processor (TDP) of the OARDC computer. Since it was impossible to enter accents through this system, these and other diacritical marks do not appear. This is particularly noticeable in the entries in German, French, Spanish and Portuguese. We apologize for any inconvenience which these omissions may cause.

#### ACKNOWLEDGMENTS

The authors wish to express their appreciation to the following persons who have contributed so much to this publication. To librarians Connie Britton and Susan Lowe for assistance in retrieval of citations and articles. To Pong Thiemmedh and Jim Werner for valuable assistance rendered. To Maxine Johnson and Mabel Kirchner for typing portions of the manuscript. To Dr. Edwin L. Soderstrom, USDA Stored-Product Insects Research Laboratory, Fresno, California, for assistance with references.

Very special assistance was rendered by an international group of Nitidulidae systematists who made great contributions to the species list, making it a more useful tool. They are: Dr. J. Jelinek, National Museum, Prague, Czechoslovakia; Dr. W. C. Connell, Emeritus Professor, University of Delaware, Newark; Dr. S. Endrody-Younga, Transvaal Museum, Pretoria, South Africa; Dr. R. M. Dobson, The University of Glasgow, Great Britain; and Mr. Lorin R. Gillogly, of San Pedro, California, retired from the California Department of Agriculture and more recently from USDA, APHIS.

We are very grateful for the input of each of those listed here.

LIST OF THE SPECIES OF CARPOPHILUS STEPHENS  
AND THEIR DISTRIBUTION

This is an alphabetical listing of the good species of Carpophilus. If you do not locate a species within the list, then consult the "Species Finder" which follows.

<u>Species and Synonyms</u>	<u>Distribution</u>
<u>acutangulus</u> Reitt., 1884	Japan
<u>adumbratus</u> Murr., 1864	China
var. <u>conspicuus</u> Murr., 1864	
<u>altilcola</u> Sharp, 1889	Guatemala
<u>analis</u> Grouv., 1899	Cameroon, Congo Rep.
<u>angustatus</u> Murr., 1864	Malagasy Rep.
<u>antiquus</u> (Melsh.), 1844	North America
var. <u>punctulatus</u> (Melsh.), 1844	
<u>apicipennis</u> Fairm., 1869	Malagasy Rep., Ivory Coast, Rep. Equat. Guinea, Tanzania
<u>assimilis</u> Olliff, 1883	Indonesia
<u>australis</u> Murr., 1864	Australia
<u>bakewelli</u> Murr., 1864	Australia
<u>bicolor</u> Grouv., 1892	Burma
<u>bifenestratus</u> Murr., 1864	India
<u>biguttatus</u> Motsch., 1858	India
<u>binotatus</u> Murr., 1864	Africa
<u>bipustulatus</u> (Heer), 1841	Europe, Africa
<u>quadripustulatus</u> Er., 1843 (Zool. Rec. 1882)	
<u>bisignatus</u> Boh., 1851	Africa
<u>bistigma</u> Grouv., 1908	West Africa
<u>brachypterus</u> (Say), 1825	North America
<u>carbonatus</u> Lec., 1859	
<u>brevipennis</u> (Blanch.), 1842	S.C. & N. America
<u>lacertosus</u> Murr., 1864	
<u>purpureipennis</u> Murr., 1864	
<u>ignobilis</u> Fall, 1910 (Parsons 1943)	
<u>californicus</u> Schaeffer, 1911	U.S.A. (Ariz. Calif.)
<u>canescens</u> Sharp, 1889	Mexico
<u>chalybeus</u> Murr., 1864	Japan, Siberia
<u>heterostomoides</u> (Reitt.), 1877	
<u>punctatissimus</u> Reitt., 1877	
var. <u>canus</u> Murr., 1864	
<u>cingulatoides</u> Nakane, 1959	Japan
<u>cingulatus</u> Reitt., 1884	Japan
<u>comatus</u> Sharp, 1889	Panama
<u>compressus</u> Murr., 1864	Brazil
<u>concolor</u> Sharp, 1889	Guatemala

<u>confertus</u> Sharp, 1889	Guatemala, Mexico, Panama
<u>constrictus</u> Grouv., 1908	West Africa
<u>corticinus</u> Er., 1843	North America
<u>craigheadi</u> Dobson, 1972	North America, (Cuba, Jelinek, unpubl.)
<u>crassicollis</u> Reitt., 1873	Colombia
<u>crassus</u> Sharp, 1889	Mexico
<u>cibratus</u> Murr., 1864	West India
<u>cuneiformis</u> Murr., 1864	Indonesia
<u>curvipes</u> Sharp, 1889	Guatemala, Mexico
<u>cylindricus</u> Murr., 1864	India
<u>davidsoni</u> Dobson, 1952	New Zealand, Australia
<u>debilis</u> Grouv., 1897	Indonesia
<u>deceptor</u> Sharp, 1889	Guatemala, Mexico
<u>deflexus</u> Sharp, 1889	Guatemala, Mexico, U.S.A. (Ariz.)
<u>delkeskampi</u> His., 1963	Japan, China, Sri Lanka, Philippines, India
<u>hemipterus</u> Lewis, 1879	
? <u>hemipterus</u> Reitt., 1884. (His., 1963)	
<u>deplanatus</u> Boh., 1851	South Africa
<u>dimidiatus</u> (F.), 1792	Cosmopolitan
<u>europilosus</u> Woll., 1854	
<u>lewisi</u> Reitt., 1884	
<u>pusillus</u> Steph., 1830	
<u>contingens</u> (Walker), 1858	
<u>biguttatus</u> Gemm. & Har. (non Motsch.), 1868	
<u>dilutus</u> Murr., 1864	
<u>limbalis</u> Murr., 1864	
<u>nigritus</u> Murr., 1864	
<u>robustus</u> Murr., 1864	
<u>testaceus</u> Murr., 1864	
<u>hemipterus</u> (F.), 1792	
<u>bimaculatus</u> (Montr.), 1860	
<u>puberulus</u> (Montr.), 1860	
var. <u>ochropterus</u> Klug, 1862	
<u>tempestivus</u> Jacq.-du-Val (non Er.), 1856	
<u>discoideus</u> Lec., 1858	U.S.A.
<u>apicalis</u> Lec., 1859	
<u>caudalis</u> (Lec.), 1859	
<u>discolor</u> Murr., 1864	Malagasy Rep.
<u>distinctus</u> Reitt., 1873	Columbia
<u>dohrni</u> Reitt., 1876	Argentina
<u>dolens</u> Murr., 1864	Senegal, Rep. Equat. Guinea
<u>dubitabilis</u> (Grouv.), 1897	Burma
<u>dufaui</u> Grouv., 1908	Guadalupe
<u>dulcis</u> Sharp, 1889	Guatemala
<u>elaterinus</u> Sharp, 1889	Panama
<u>epuraeoides</u> Sharp, 1889	Guatemala
<u>erichsoni</u> Sharp, 1889	Guatemala
<u>erythrogonus</u> Grouv., 1898	India
<u>extensus</u> Grouv., 1908	West Africa

<u>familiaris</u> Grouv., 1897	Burma
<u>feai</u> (Grouv.), 1890	Burma
<u>ferrugineus</u> Murr., 1864	Mexico, Guatemala, Panama
<u>flavipes</u> Murr., 1864	India
<u>floralis</u> Er., 1843	U.S.A., Mexico
<u>pallipennis</u> Murray (in part), 1864, Horn (in part), 1879	
<u>foveicollis</u> Murr., 1864 (Endrody-Y. 1982)	Indonesia, Trop. Africa
<u>freemani</u> Dobson, 1956	N. & S. America, Morocco,
<u>dimidiatus</u> Er., 1843.	Reunion, Rep. Guinea
<u>frivolus</u> Murr., 1864	Australia, India, Philippines, Malaysia
<u>fulvipes</u> Motsch., 1858	India
var. <u>fusculus</u> Motsch., 1858	
<u>fumatus</u> Boh., 1851	Africa, U.S.A. (Fla.), West Indies, Malagasy Rep.
<u>funebris</u> Sharp, 1889	Guatemala, Panama, U.S.A. (Ariz.)
<u>funereus</u> Murr., 1864	India
<u>fusciceps</u> Grouv., 1913	Seychelles
<u>fusus</u> Murr., 1864	Papua-New Guinea
<u>gaveni</u> Dobson, 1964	New Zealand, Australia
<u>gentilis</u> Murr., 1864	Australia
<u>grandis</u> Motsch., 1860	U.S.S.R. (Siberia)
<u>hebetatus</u> Grouv., 1908	India
<u>fulvipes</u> Grouv. (non Motsch.), 1894	
<u>hemipterus</u> (L.), 1758	Cosmopolitan
<u>aterrimus</u> MacLeay, 1873 (Hinton 1945)	
<u>bimaculatus</u> (L.), 1767	
<u>brevipennis</u> Germain, 1856	
<u>cadaverinus</u> (F.), 1801	
<u>dimidiatus</u> (Heer), 1841	
<u>ficus</u> (F.), 1801	
<u>flexuosus</u> (Herbst), 1790	
<u>pictus</u> (Heer), 1841	
<u>quadriguttatus</u> (Thunb.), 1794	
var. <u>quadratus</u> (F.), 1798	
<u>heros</u> Grouv., 1892	Burma
<u>hoffmannseggi</u> Murr., 1864	Malagasy Rep., Puerto Rico, Old World
<u>humeralis</u> (F.), 1798	Trop. Africa, Iran, Indonesia, U.S.A.
<u>picinus</u> (Boh.), 1851	
<u>punctatus</u> Fleut., 1887 (Connell 1981)	
<u>rickseckeri</u> Fall, 1910	
<u>humerosus</u> Reitt., 1873	Japan
<u>humilis</u> Er., 1843	Guatemala, Mexico, Venezuela
<u>inconspicuus</u> Murr., 1864	Batchian
<u>indicus</u> His., 1963	India, Sri Lanka, Iran
<u>kollerii</u> Grouv., 1912	Rep. Congo
<u>languidus</u> Er., 1843	Columbia
<u>lepidus</u> Murr., 1864	West India
<u>ligatus</u> Murr., 1864	West India

<u>ligneus</u> Murr., 1864	Guatemala, Mexico,
<u>decipiens</u> Horn, 1879 (Hinton 1945)	Nicaragua, Panama, France, U.S.A.
<u>littoralis</u> (Eschscholtz), 1822	French Polynesia
<u>longior</u> Grouv., 1912	Rep. Congo
<u>longiventris</u> Sharp, 1889	Mexico, U.S.A.
<u>longus</u> Fall, 1910	U.S.A.(Ariz.)
<u>loriae</u> (Grouv.), 1906	Papua-New Guinea
<u>lugubris</u> Murr., 1864	Brazil, Mexico, U.S.A., Guatemala, Venezuela, Australia
<u>luridipennis</u> MacLeay, 1873	Mexico
<u>excellens</u> Reitt., 1875	French Polynesia
<u>luteipennis</u> Reitt., 1873	U.S.A., Guatemala
<u>maculatus</u> Murr., 1864	W. India, W. China, Argentine, Malagasy Rep.,U.S.A., Africa
<u>vittiger</u> Murr., 1864 (Hinton 1943)	Unknown
<u>marginatus</u> Er., 1843	U.S.A., Mexico
<u>marginellus</u> Motsch., 1858	Mexico, Guatemala, U.S.A. (Ariz.)
<u>nitens</u> Fall, 1910 (Hinton 1943)	Indonesia
<u>megalops</u> Dobson, 1972	Malagasy Rep.
<u>melanopterus</u> Er., 1843 (Parsons 1943)	Burma, India
<u>mexicanus</u> Reitt., 1873.	French Polynesia (Tahiti)
<u>limbipennis</u> Reitt., 1873	Cosmopolitan
<u>modiglianii</u> Grouv., 1897	Kenya, Uganda, Rep. Congo
<u>morio</u> Murr., 1864	Brazil
<u>murrayi</u> Grouv., 1892	Indonesia
<u>mutabilis</u> Fairm., 1849	Mexico, U.S.A. (Ariz.)
<u>mutilatus</u> Er., 1843	Unknown
<u>luridus</u> Murr., 1864. (Dobson 1960)	Africa
<u>mycetophagus</u> (Lesne), 1938	Malagasy Rep.
<u>nepos</u> Murr., 1864	West India
<u>nigricans</u> (Grouv.), 1897	India
<u>nigrovittatus</u> Parsons, 1943.	Australia
<u>nitidulus</u> Fletcher (date?) (see Dobson 1954)	W. India, China, U.S.A., Africa, Japan, Iran, Malagasy Rep.
<u>nitidus</u> Murr., 1864	
<u>notatus</u> Murr., 1864	
<u>obesus</u> Murr., 1864	
<u>oblongopunctatus</u> Grouv., 1903	
<u>obscurus</u> MacLeay, 1873	
<u>obsoletus</u> Er., 1843	
<u>cribellatus</u> Motsch., 1858	
<u>funereus</u> Reitt., (non Murr.) 1884	
<u>immaculatus</u> Lucas, 1849(Audisio 1983 unpubl.)	
<u>sericeus</u> Motsch. 1858(Jelinek 1983 unpubl.)	
var. <u>strigipennis</u> Motsch., 1858	
<u>obtusicollis</u> Reitt., 1873	Mexico
<u>oculatus</u> Murr., 1864	Society Islands
<u>opaculus</u> (Grouv.), 1897	Indonesia
<u>opus</u> Grouv., 1908	Africa
<u>ophthalmicus</u> Murr., 1864	Central America, Mexico, Columbia, Trinidad, Guadeloupe
<u>ovatus</u> Grouv., 1912	Brazil, Argentina
<u>pallens</u> (Blanch.), 1842	

<u>sordidus</u> Er., 1847	
<u>pallescens</u> Murr., 1864	Papua-New Guinea
<u>pallipennis</u> (Say), 1823	U.S.A., Bahamas,
var. <u>pollens</u> Sharp, 1889	Mexico
<u>palmatus</u> Sharp, 1889	Guatemala
<u>pauculus</u> Reitt., 1873	Cape of Good Hope
<u>piceus</u> Grouv., 1906	Malagasy Rep.
<u>piger</u> Murr., 1864	Guatemala
<u>pilipennis</u> MacLeay, 1873	Australia
<u>pilosellus</u> Motsch., 1858	W. India, China, Japan, N.C. & S. America
<u>floridanus</u> Fall, 1910 (Gilllogly 1962)	Malagasy Rep., Micronesia, Philippines
<u>halli</u> Dobson, 1954	India
<u>plagiatiipennis</u> (Motsch.), 1858	Australia
<u>dilutus</u> (Motsch.), 1858	Burma
<u>bosschai</u> (Grouv.), 1892	Paraguay
<u>planatus</u> Murr., 1864	Sri Lanka, China
<u>prodicus</u> Hinton, 1944	West Africa
<u>proximus</u> Grouv., 1906	Brazil
<u>pubescens</u> Murr., 1864	Indonesia
<u>puncticeps</u> Murr., 1864	Europe, Algeria
<u>punctipennis</u> Reitt., 1873	Indonesia
<u>pygidialis</u> Grouv., 1897	S. Europe, N. Africa (Soviet Middle Asia, Iran, Obs. Jelinek)
<u>quadrisignatus</u> Er., 1843 (His. 1963)	Cameroon, W., Cen. & E. Africa
<u>rubescens</u> Murr., 1864	Guatemala
<u>rubiginosus</u> Murr., 1864	U.S.A. (Ariz.)
<u>rubripennis</u> (Heer), 1841	Central America, Mexico, U.S.A.
<u>castanopterus</u> Er., 1843	Malagasy Rep.
<u>rufangulus</u> Grouv., 1899	Indonesia
 	N. America
<u>rufitarsis</u> Murr., 1864	
<u>rufiventris</u> Schaeffer, 1911	
<u>rufus</u> Murr., 1864	
<u>sanguineofasciatus</u> Gemm. & Har., 1868	
<u>biguttatus</u> Klug (non Motsch.), 1862	
<u>sanguinipennis</u> Grouv., 1897	
<u>sayi</u> Parsons, 1943	
<u>niger</u> Er. 1843 and others in error (non Say)	
<u>schioedtei</u> Murr., 1864	Indonesia
<u>scotti</u> Grouv., 1913	Seychelles
<u>scutellaris</u> Kraatz, 1895	Togo
<u>senex</u> Murr., 1864	Mexico
<u>senilis</u> Sharp, 1889	Central America, Mexico
<u>sexpustulatus</u> (F.), 1791	Europe
<u>abbreviatus</u> (Panz.), 1793	
<u>bimaculatus</u> (Marsh.), 1802	
<u>sibiricus</u> Reitt., 1879	Japan
<u>signatus</u> Grouv., 1908	India
var. <u>ornatus</u> Grouv., 1908	
<u>similaris</u> Sharp, 1889	Panama
<u>sinuatus</u> , Grouv. 1917	Philippines

<u>subplanus</u> Grouv., 1917	Philippines
<u>succisus</u> Er., 1843	Brazil, Central America, Argentina
<u>suturalis</u> Lea, 1921	Australia
<u>tectus</u> Murr., 1864	Indonesia
<u>tempestivus</u> Er., 1843	U.S.A., Cuba, Puerto Rico
var. <u>terminatus</u> Murr., 1864	
<u>tenenbaumi</u> Roubal, 1927	Israel
<u>tenuis</u> Murr., 1864	China, Japan
<u>tenuis hana</u> Nakane, 1959	Japan
<u>terminalis</u> Murr., 1864	Australia
<u>tersus</u> Woll., 1865	Canary Island
<u>teter</u> Grouv., 1913	Guatemala
<u>obscurus</u> Sharp (non MacLeay), 1889	
<u>titanus</u> Reitt., 1884	Japan
<u>transitans</u> Sharp, 1889	Mexico, Guatemala
<u>tristis</u> Er., 1843	Brazil, Argentina
<u>triton</u> Murr., 1864	U.S.S.R.(W. Siberia)
<u>truncatus</u> Murr., 1864	Malagasy Rep.
<u>tumidulus</u> Grouv., 1899	Cameroon, Angola
<u>undulatus</u> Grouv., 1908	India, Indonesia
<u>ustulatus</u> Murr., 1864	Papua-New Guinea
<u>variabilis</u> (Grouv.), 1897	Malaysia
<u>variolosus</u> Murr., 1864	Papua-New Guinea
<u>ventralis</u> Sharp, 1889	Guatemala
<u>veraepacis</u> Sharp, 1889	Guatemala
<u>viduatus</u> Sharp, 1889	Guatemala, Mexico
<u>vitraci</u> Grouv., 1902	Guadeloupe
<u>weyersi</u> Grouv., 1900	Indonesia
<u>xanthopterus</u> Murr., 1864	Indonesia
<u>yuccae</u> (Crotch), 1874	U.S.A.
<u>zeaphilus</u> Dobson, 1969	Kenya, Uganda
<u>zuni</u> Casey, 1884	U.S.A.(N.M. & Ariz.)

#### SPECIES FINDER

The following is an alphabetical list of species which are no longer valid but were formerly species or varieties. Information is given on their present status. Most are synonyms, however, a few have been transferred to other genera.

<u>abbreviatus</u> (Panz.), 1793 (= <u>sexpustulatus</u> (F.))
<u>apicalis</u> Lec., 1859 (= <u>discoideus</u> Lec.)
<u>aterrimus</u> MacLeay, 1873 (= <u>hemipterus</u> (L.)) (Hinton 1945)
<u>europilosus</u> Woll., 1854 (= <u>dimidiatus</u> (F.))
<u>biguttatus</u> Gemm. & Har. (non Motsch.), 1868 (= <u>dimidiatus</u> (F.))
<u>biguttatus</u> Klug (non Motsch.), 1862 (= <u>sanguineofasciatus</u> Gemm. & Har.)
<u>bimaculatus</u> (L.), 1767 (= <u>hemipterus</u> (L.))
<u>bimaculatus</u> (Marsh.), 1802 (= <u>sexpustulatus</u> (F.))
<u>bimaculatus</u> (Montr.), 1860 (= <u>dimidiatus</u> (F.))
<u>bosschai</u> (Grouv.), 1892 (= <u>plagiatiipennis</u> (Motsch.))
<u>brevipennis</u> Germain, 1856 (= <u>hemipterus</u> (L.))
<u>cadaverinus</u> (F.), 1801 (= <u>hemipterus</u> (L.))

canus Murr., 1864 (=chalybeus Murr.)  
carbonatus Lec., 1859 (=brachypterus (Say))  
castanopterus Er., 1843 (=rubripennis (Heer))  
caudalis (Lec.), 1859 (=discoideus Lec.)  
conspicuus Murr., 1864 (=adumbratus Murr.)  
contingens (Walker), 1858 (=dimidiatus (F.))  
convexusculus MacLeay 1873 (=Haptoncura ocularis Fairm.) (Lea 1920)  
cribellatus Motsch., 1858 (=obsoletus Er.)  
decipiens Horn, 1879 (=ligneus Murr.)  
dilutus (Motsch.), 1858 (=plagiaticornis (Motsch.))  
dilutus Murr. 1864 (=dimidiatus (F.))  
dimidiatus Er. 1843 (=freemani Dobson)  
dimidiatus (Heer), 1841 (=hemipterus (L.))  
excellens Reitt., 1875 (=luridipennis MacLeay)  
ficus (F.), 1801 (=hemipterus (L.))  
flavidus Fairm., 1849 (=Haptoncus)  
flexuosus (Herbst), 1790 (=hemipterus (L.))  
floridanus Fall, 1910 (=pilosellus Motsch.)  
fulvipes Grouv. (non Motsch.), 1894 (=hebetatus Grouv.)  
funereus Reitt. (non Murr.), 1884 (=obsoletus Er.)  
fusculus Motsch., 1858 (=fulvipes Motsch.)  
genuinus Heer? (Date unknown) (Letzner 1882, position unclear)  
halli Dobson, 1954 (=pilosellus Motsch.)  
hemipterus (F.), 1792 (=dimidiatus (F.))  
hemipterus Lewis, 1879 (=delkeskampi His.)  
hemipterus Reitt., 1884 (His., 1963) (=delkeskampi His.)  
heterostomoides (Reitt.), 1877 (=chalybeus Murr.)  
ignobilis Fall, 1910 (=brevipennis (Blanch.))  
immaculatus Lucas, 1849 (Audisio 1983 unpubl.) (=obsoletus Er.)  
lacertosus Murr., 1864 (=brevipennis (Blanch.))  
lewisi Reitt., 1884 (=dimidiatus (F.))  
limbalis Murr., 1864 (=dimidiatus (F.))  
limbipennis Reitt., 1873 (=mexicanus Reitt.)  
luridus Murr., 1864 (Dobson 1960) (=mutilatus Er.)  
minutus (Melsh.) 1844 (position unclear)  
niger Er. 1843 and others in error (non say) (=sayi Parsons)  
nigritus Murr., 1864 (=dimidiatus (F.))  
nitens Fall, 1910 (=marginellus Motsch.)  
obscurus Sharp, (non MacLeay), 1889 (=teter Grouv.)  
ochraceus (Er.), 1843 (=Haptoncus) (Grouv. 1912)  
ochropterus Klug, 1862 (=dimidiatus (F.))  
ordinatus Olliff, 1883 (Not Carpophilus, position unclear)  
ornatus Grouv., 1908 (=signatus Grouv.)  
ornatus Grouv., 1912 (Zoological Record 1913)  
pallipennis Murray, 1864/Horn, 1879 (=floralis Er.)  
picinus (Boh.), 1851 (=humeralis (F.))  
pictus (Heer), 1841 (=hemipterus (L.))  
pollens Sharp, 1889 (=pallipennis (Say))  
puberulus (Montr.), 1860 (=dimidiatus (F.))  
punctatus Fleut., 1887 (=humeralis (F.))  
punctatissimus Reitt., 1879 (=chalybeus Murr.)  
punctulatus (Melsh.), 1844 (=antiquus (Melsh.))  
purpureipennis Murr., 1864 (=brevipennis (Blanch.))  
pusillus Steph., 1830 (=dimidiatus (F.))

quadratus (F.), 1798 (=hemipterus (L.))  
quadriguttatus (Thunb.), 1794 (=hemipterus (L.))  
quadripustulatus Er. 1843 (=bipustulatus (Heer))  
rickseckeri Fall. 1910 (=humeralis (F.))  
robustus Murr. 1864 (=dimidiatus (F.))  
sericeus Motsch., 1858 (Jelineki 1983 unpubl.) (=obsoletus Er.)  
sordidus Er., 1847 (=pallens (Blanch.))  
strigipennis Motsch., 1858 (=obsoletus Er.)  
tempestivus Jacq.-du-Val (non Er.), 1856 (=dimidiatus (F.))  
terminatus Murr., 1864 (=tempestivus Er.)  
testaceus Murr., 1864 (=dimidiatus (F.))  
vittiger Murr. 1864 (Hinton 1943) (=maculatus Murr.)

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## SUBJECT INDEX

The following index is designed to pick out the references pertaining to a given species or topic. The index covers citations in the main body as well as those in the Addendum at the end. Entries are listed in alphabetical order according to the following scheme:

Attractants, Biology, Control, Disease transmission, Faunal lists, Host crops, Natural enemies, Species, Taxonomy, and Textbook

### ATTRACTANTS

#### Artificial attractants (chemicals, light):

002, 225, 445, 627, 821

#### Natural attractants (decomposing fruits, fungus, etc.):

028, 167, 225, 301, 317, 322, 365, 373, 457, 510, 587, 627, 639, 640, 641, 642, 643, 644, 764, 785, 807, 808, 838, 845, 928, 929, 930, 940, 950

#### Pollination (attraction to flowers):

307, 312, 336

## BIOLOGY

#### Behavior:

011, 013, 014, 015, 016, 017, 018, 019, 020, 022, 056, 057, 059, 060, 062, 124, 181, 324, 639, 642, 643, 644, 821, 870, 955, 970

#### Diet:

366, 367, 801, 847

#### General Biology:

056, 061, 062, 128, 151, 188, 228, 236, 237, 241, 256, 264, 305, 310, 316, 321, 362, 366, 455, 509, 531, 546, 548, 552, 565, 580, 581, 590, 610, 612, 636, 644, 660, 699, 743, 752, 758, 763, 774, 800, 837, 839, 843, 861, 862, 881, 927, 935, 952, 956, 973, 982

#### Genetics:

012

#### Habitat:

023, 031, 077, 286, 306, 583

Rearing:

315, 910

CONTROL

Chemical:

001, 002, 003, 005, 021, 028, 036, 054, 058, 061, 103, 110, 118, 128, 134, 135, 150, 153, 172, 184, 186, 187, 200, 203, 228, 238, 239, 242, 243, 249, 258, 287, 310, 317, 322, 333, 369, 384, 385, 386, 387, 388, 389, 390, 391, 392, 395, 410, 429, 455, 466, 467, 468, 496, 497, 517, 547, 548, 549, 552, 556, 570, 590, 628, 629, 644, 645, 687, 688, 700, 707, 710, 724, 748, 749, 750, 751, 752, 762, 784, 798, 810, 820, 821, 822, 824, 831, 832, 851, 876, 877, 907, 908, 909, 910, 911, 912, 921, 922, 924, 925, 926, 928, 929, 969, 971, 972, 973, 985, 1000

Non Chemical:

093, 102, 109, 196, 197, 232, 235, 256, 297, 530, 590, 638, 848, 850, 878, 902, 979

Cultural:

063

Radiation:

611, 663, 934

DISEASE TRANSMISSION

Disease Transmission by Carpophilus:

026, 029, 033, 042, 073, 091, 092, 119, 120, 121, 132, 136, 148, 149, 181, 190, 206, 220, 221, 260, 307, 310, 328, 329, 374, 380, 383, 411, 426, 454, 507, 508, 585, 586, 597, 602, 603, 611, 646, 648, 673, 686, 802, 815, 817, 833, 840, 867, 868, 945

FAUNAL LISTS

Faunal Lists of Specific Areas:

035, 040, 045, 047, 064, 067, 068, 074, 078, 080, 081, 082, 083, 088, 106, 107, 108, 129, 133, 137, 144, 147, 176, 234, 292, 293, 302, 309, 323, 326, 340, 341, 343, 371, 375b, 376, 382, 452, 566, 567, 568, 573, 578, 580, 818, 957, 986

HOST CROPS

Apple:

031

Banana:

143, 446, 648

Cacao:

002, 003, 096, 097, 169, 322, 333, 649, 668, 749, 750,  
794, 975

Cactus:

070, 155, 215, 259, 261, 277, 335, 336, 635, 866, 880

Citrus:

031, 057, 089, 162, 192, 198, 328, 329, 368, 706

Copra:

160, 163, 165, 166, 167, 168, 532, 667, 708

Corn (maize):

007, 010, 053, 114, 139, 140, 150, 156, 157, 182, 185,  
186, 187, 189, 192, 203, 204, 205, 214, 230, 261, 324,  
331, 362, 377, 378, 384, 385, 386, 387, 388, 389, 390  
391, 392, 395, 482, 483, 498, 504, 517, 558, 599, 604  
709, 710, 717, 723, 724, 746, 762, 763, 861, 869, 870  
885, 887, 888, 889, 890, 891, 892, 894, 895, 896, 897  
898, 899, 900, 932, 933, 936, 940, 946, 973

Date:

001, 008, 048, 054, 061, 062, 090, 091, 092, 093, 094,  
110, 116, 117, 118, 127, 128, 184, 217, 235, 242, 261,  
372, 466, 467, 468, 469, 498, 545, 546, 548, 549, 576,  
577, 609, 631, 714, 810, 842, 843, 850, 877, 909, 911,  
912, 919

Dried Fruit:

034, 084, 103, 149, 179, 210, 218, 219, 229,  
258, 261, 295, 297, 299, 360, 434, 487, 499,  
530, 592, 613, 651, 712, 757, 771, 798, 799,  
902, 912

Fig:

026, 036, 046, 054, 056, 058, 077, 102, 119, 120, 121,  
148, 149, 172, 190, 194, 200, 219, 228, 232, 249, 285,  
287, 316, 317, 365, 367, 373, 374, 421, 443, 472, 475,  
507, 596, 597, 598, 639, 640, 641, 642, 643, 644, 645,  
664, 686, 687, 688, 700, 706, 746, 745, 751, 785, 796,  
805, 806, 807, 808, 809, 815, 817, 821, 823, 824, 831,  
835, 848, 876, 921, 924, 925, 926, 927, 928, 930, 945

Grape & Raisin:

032, 059, 060, 071, 072, 073, 113, 304,  
383, 475, 554, 628, 823, 832

Minor Hosts:

042, 085, 113, 164, 307, 311, 312, 330, 334,  
401, 403, 419, 435, 455, 456, 461, 462, 510,  
518, 524, 532, 534, 561, 579, 581, 584, 591,  
625, 630, 632, 636, 637, 647, 658, 659, 672, 694,  
696, 701, 704, 715, 718, 719, 725, 747, 748, 754,  
834, 836, 863, 878, 880, 903, 936, 939, 942, 948,  
970, 972, 974, 981

Multiple Hosts:

013, 027, 044, 099, 132, 151, 152, 154, 201,  
206, 212, 216, 219, 230, 256, 260, 284, 289,  
300, 304, 332, 361, 380, 394, 399, 542, 559,  
565, 569, 582, 626, 650, 657, 669, 683, 690,  
742, 793, 814, 820, 839, 843, 857, 882, 883,  
884, 901, 922, 950, 951, 958, 969, 971, 978

Nuts (Peanuts & Seeds Other than Grasses, Sunflower, etc.):

038, 041, 043, 076, 122, 134, 135, 183, 224, 261, 283,  
369, 379, 495, 496, 497, 564, 707, 813, 829, 851, 938

Onion & Garlic:

004, 069, 430

Pineapple:

146, 306, 431, 432, 533, 624, 633, 677, 761, 774, 858, 862

Sour & Decaying Fruit:

259, 277, 521

Stonefruits:

029, 030, 123, 124, 125, 126, 230, 231,  
245, 261, 298, 310, 311, 443, 867, 868

Stored Food:

265

Stored Grains:

005, 050, 051, 065, 075, 145, 158, 170, 171,  
185, 202, 222, 225, 230, 308, 313, 398, 414,

434, 464, 476, 490, 535, 541, 556, 617, 652,  
676, 830, 849, 857, 860, 917, 966, 976

Sugarcane:

006, 033, 034, 136, 673, 675, 711, 858, 916, 952

Yucca:

161, 175, 230, 277

NATURAL ENEMIES

Diseases (which attack the sap beetles):

115, 470, 471, 543, 544

Predators (of sap beetles):

595, 967, 968

Parasites (of sap beetles):

170, 199, 232, 318, 691, 692,  
741, 855, 865, 941, 954

Nematodes (of sap beetles):

693, 739, 740

Sap beetles as predators:

088, 114, 142, 188, 294

SPECIES

Species of Carpophilus (including synonyms):

acutangulus: 356, 734

abbreviatus: 223, 356, 409, 441, 661, 772, 852

adumbratus: 340, 343, 356, 619

alticola: 040, 081, 083, 356, 787

analis: 345, 356

angustatus: 356, 357, 619

antiquus: 040, 067, 088, 106, 151, 156, 157, 176, 189, 191,  
225, 278, 280, 289, 301, 356, 403, 420, 477, 478,  
479, 523, 588, 619, 660, 666, 763, 811, 812, 856,  
882, 891, 940

apicalis: 040, 356, 512, 619

apicipennis: 045, 275, 356

assimilis: 356, 655

aterrimus: 179, 298, 356, 562

europilosus: 040, 083, 356, 772, 959, 960, 961, 962

australis: 356, 619

bakewelli: 356, 619

bicolor: 137, 340, 343, 356  
bifenestratus: 137, 340, 356, 419, 465, 619, 991  
biguttatus Motsch.: 137, 314, 340, 356, 614  
biguttatus Gemm. & Har.: 040, 083, 356  
biguttatus Klug (non Motsch.): 356, 619  
bimaculatus (L.): 040, 131, 356, 501, 551, 606, 770  
bimaculatus (Marsh.): 356, 653  
bimaculatus (Montr.): 040, 083, 356, 364, 441, 575, 759, 772  
binotatus: 045, 356, 619  
bipustulatus: 035, 251, 309, 356, 363, 409, 441, 447, 448, 574, 619, 634, 689, 690, 698, 720, 721, 722, 738, 769, 772, 827, 853  
bisignatus: 095, 356, 452, 619  
bistigma: 356, 992  
bosschai: 339, 356  
brachypterus: 040, 067, 088, 106, 151, 176, 191, 201, 230, 266, 277, 301, 356, 371, 400, 403, 420, 422, 423, 426, 479, 523, 555, 559, 589, 619, 666, 694, 719, 763, 766, 804, 811, 812, 882, 913, 936, 941, 949  
brevipennis Blanch.: 040, 081, 082, 083, 086, 319, 356, 619, 849  
brevipennis Germain: 040, 083, 356, 666  
cadaverinus: 356, 441  
californicus: 040, 356, 394, 666, 767  
canescens: 040, 081, 083, 278, 356, 787  
canus: 356, 619  
carbonatus: 040, 356, 512  
castanopterus: 356, 409, 441, 447, 772  
caudalis: 040, 176, 356, 512, 513, 619  
chalybeus: 356, 416, 574, 619, 738  
cingulatoides: 622  
cingulatus: 356, 734  
comatus: 040, 081, 083, 356, 787  
compressus: 081, 083, 356, 619  
concolor: 040, 081, 083, 356, 787  
confertus: 040, 081, 083, 356, 787  
conspicuus: 356  
constrictus: 356, 992  
contingens: 040, 083, 356, 357, 656, 918  
convexusculus: 562  
corticinus: 040, 067, 088, 106, 151, 176, 191, 225, 301, 356, 371, 393, 420, 426, 454, 477, 523, 542, 587, 619, 666, 763, 811, 812, 882, 913  
craigheadi: 215, 984  
crassicollis: 081, 083, 356, 726  
crassus: 040, 081, 083, 356, 787  
cribellatus: 040, 082, 356, 614  
cribratus: 137, 356, 619  
cuneiformis: 356, 619  
curvipes: 040, 081, 083, 356, 787  
cylindricus: 137, 356, 619  
davidsoni: 207, 210, 326, 986  
debilis: 343, 356  
deceptor: 040, 081, 083, 129, 356, 787

decipiens: 040, 170, 277, 356, 375b, 420, 527, 607, 666, 738, 768, 771, 772, 977  
deflexus: 040, 081, 083, 356, 666, 787  
delkeskampi: 045, 396, 418, 419  
deplanatus: 095, 356, 619  
dilutus (Motsch.): 356, 614  
dilutus Murr.: 040, 083, 356, 619  
dimidiatus F.: 002, 003, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 022, 026, 035, 038, 040, 041, 042, 043, 044, 050, 051, 056, 057, 061, 062, 064, 065, 067, 069, 075, 078, 081, 082, 083, 084, 087, 088, 091, 092, 093, 096, 099, 106, 109, 115, 116, 117, 122, 128, 129, 134, 135, 137, 139, 141, 143, 149, 154, 155, 156, 157, 158, 160, 164, 165, 166, 167, 168, 169, 170, 171, 185, 191, 192, 202, 210, 211, 212, 217, 218, 219, 224, 225, 228, 230, 231, 233, 239, 241, 242, 245, 263, 265, 267, 268, 271, 277, 278, 280, 281, 283, 289, 309, 313, 322, 323, 324, 326, 331, 332, 333, 334, 338, 356, 357, 360, 369, 370, 371, 372, 375b, 377, 378, 394, 396, 399, 400, 401, 402, 403, 407, 409, 410, 414, 415, 417, 426, 430, 440, 441, 447, 448, 461, 464, 465, 466, 468, 471, 477, 478, 480, 495, 496, 497, 504, 509, 518, 519, 520, 523, 525, 526, 527, 528, 532, 534, 535, 538, 539, 540, 542, 547, 548, 555, 556, 564, 565, 567, 569, 571, 574, 582, 583, 589, 594, 605, 607, 609, 613, 616, 618, 619, 630, 634, 648, 654, 658, 665, 666, 684, 689, 690, 698, 701, 704, 706, 708, 717, 724, 736, 738, 742, 746, 747, 748, 749, 750, 772, 786, 787, 789, 793, 794, 800, 802, 811, 812, 813, 818, 826, 827, 829, 830, 835, 843, 849, 851, 863, 864, 870, 879, 882, 892, 893, 894, 895, 901, 903, 905, 906, 909, 910, 911, 914, 917, 919, 927, 934, 938, 943, 951, 952, 956, 958, 964, 966, 975, 980  
dimidiatus Er.: 250  
dimidiatus Heer.: 356, 409  
discoideus: 040, 067, 176, 277, 356, 376, 394, 420, 422, 423, 511, 607, 619, 666, 703  
discolor: 340, 343, 356, 619  
distinctus: 081, 083, 356, 726  
dohrni: 081, 083, 356, 729  
dolens: 356, 619  
dubitabilis: 137, 343, 356, 451  
dufaui: 040, 081, 083, 351, 356, 359, 519  
dulcis: 040, 081, 083, 356, 787, 788  
elaterinus: 040, 081, 083, 356, 787, 788  
epuraeoides: 040, 081, 083, 356, 787, 788  
erichsoni: 040, 081, 083, 356, 787, 788  
erythrogonus: 137, 344, 356  
excellens: 356, 728  
extensus: 356, 993  
familiaris: 137, 343, 356  
feai: 137, 337, 340, 343, 356  
ferrugineus: 040, 081, 083, 129, 278, 338, 356, 424, 619,

776, 787  
ficus: 356, 441  
flavipes: 137, 210, 341, 356, 414, 465, 480, 527, 619, 667, 742, 836, 991  
flexuosus: 356, 405, 441, 662, 671, 772  
floralis: 040, 081, 083, 107, 151, 278, 335, 356, 477, 478, 523, 555, 666, 787, 988, 989  
floridanus: 040, 154, 157, 278, 356, 555, 666  
freemani: 040, 115, 151, 156, 157, 158, 189, 191, 211, 212, 233, 316, 366, 396, 419, 426, 471, 477, 479, 493, 542, 594, 595, 603, 607, 638, 639, 640, 641, 642, 643, 644, 650, 651, 717, 763, 805, 806, 807, 809, 819, 820, 821, 826, 827, 867, 868, 938, 941, 984  
foveicollis: 040, 045, 082, 114, 159, 340, 343, 356, 357, 528, 582, 619, 862  
frivolus: 326, 327, 356, 419, 619, 987  
fulvipes Motsch.: 137, 340, 342, 356, 419, 614, 619  
fulvipes Grouv.: 356  
fumatus: 005, 045, 095, 155, 156, 157, 158, 210, 212, 320, 324, 356, 542, 584, 594, 619, 718, 739, 740, 984  
funebris: 040, 081, 083, 356, 666, 787  
funereus Murr.: 082, 137, 356, 619, 734  
funereus Reitt. (non Murr.): 040, 356  
fusciceps: 356, 357  
fusculus: 356, 614  
fusus: 356, 619  
gaveni: 213, 311  
gentilis: 356, 619  
genuinus: 998  
grandis: 356, 438, 574, 615, 738  
halli: 040, 209, 212  
hebetatus: 137, 351, 356  
hemipterus L.: 001, 008, 011, 013, 015, 017, 018, 020, 022, 025, 026, 027, 033, 035, 036, 037, 040, 042, 044, 046, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 067, 071, 072, 077, 078, 081, 083, 084, 087, 088, 091, 092, 093, 098, 099, 100, 102, 103, 104, 106, 115, 116, 117, 119, 120, 121, 123, 124, 125, 127, 128, 136, 137, 146, 149, 151, 156, 157, 158, 162, 170, 172, 173, 176, 177, 179, 180, 184, 189, 190, 191, 193, 194, 196, 197, 198, 200, 210, 212, 217, 218, 219, 221, 225, 228, 232, 233, 235, 236, 237, 239, 241, 248, 257, 258, 260, 263, 264, 265, 277, 278, 279, 281, 284, 285, 286, 287, 291, 295, 296, 297, 299, 300, 301, 303, 304, 307, 309, 310, 312, 315, 316, 317, 318, 322, 323, 326, 328, 329, 330, 331, 340, 356, 357, 360, 361, 362, 365, 366, 368, 370, 371, 372, 373, 374, 375b, 381, 394, 396, 399, 400, 408, 409, 410, 414, 415, 417, 418, 420, 425, 426, 427, 430, 433, 435, 436, 437, 439, 441, 442, 444, 446, 448, 452, 453, 455, 457, 458, 462, 465, 466, 468, 469, 470, 471, 473, 474, 475, 476, 477, 478, 479, 480, 486, 489, 490, 492, 493, 499, 500, 507, 519, 520, 523, 527, 528, 530, 531, 538, 539, 540, 542, 543, 548, 550, 551, 553, 555,

556, 559, 560, 565, 566, 568, 570, 574, 576, 577,  
579, 580, 581, 582, 586, 587, 589, 590, 591, 592,  
593, 594, 595, 596, 597, 598, 600, 601, 602, 603, 605,  
607, 610, 612, 617, 618, 624, 628, 629, 633, 634,  
638, 639, 640, 641, 642, 643, 644, 646, 647, 650,  
651, 654, 657, 659, 663, 664, 666, 673, 680, 681, 682,  
683, 684, 686, 687, 688, 689, 690, 698, 699, 700, 705,  
706, 716, 717, 725, 734, 736, 738, 742, 743, 751, 753,  
760, 761, 764, 771, 772, 774, 778, 779, 780, 781, 784,  
786, 787, 789, 791, 792, 793, 794, 796, 798, 800,  
802, 805, 806, 807, 808, 809, 810, 811, 812, 814,  
815, 817, 820, 821, 822, 823, 824, 826, 827, 831,  
832, 837, 840, 842, 843, 844, 847, 848, 849, 854,  
856, 862, 865, 867, 868, 873, 874, 876, 878, 880, 881,  
882, 883, 896, 902, 904, 906, 909, 910, 911, 912,  
913, 915, 920, 922, 923, 924, 925, 926, 927, 930, 939,  
941, 943, 944, 945, 949, 950, 952, 958, 967, 968, 972,  
974, 978, 979, 980, 985, 991  
hemipterus F.: 040, 083, 356, 409  
hemipterus Lewis: 536  
hemipterus Reitt.: 734  
heros: 137, 340, 343, 356  
heterostomoides: 356, 730  
hoffmannseggi: 356, 619  
humeralis: 007, 033, 034, 040, 042, 043, 045, 062, 068, 081,  
082, 083, 091, 092, 093, 104, 128, 136, 137, 151,  
156, 157, 158, 159, 163, 170, 189, 195, 210, 217,  
228, 229, 233, 235, 239, 241, 272, 305, 306, 307,  
312, 316, 326, 340, 343, 356, 357, 366, 372, 379,  
396, 406, 414, 426, 428, 429, 431, 432, 452, 453,  
465, 468, 469, 471, 472, 477, 478, 480, 482, 493,  
498, 521, 524, 527, 528, 533, 542, 543, 545, 546,  
548, 555, 556, 565, 568, 574, 594, 595, 619, 624, 631,  
633, 638, 639, 640, 641, 642, 643, 644, 650, 651,  
666, 673, 674, 675, 677, 691, 693, 702, 717, 725,  
756, 761, 764, 774, 789, 800, 805, 806, 819, 820,  
821, 837, 843, 849, 857, 858, 865, 867, 893, 901,  
907, 908, 909, 910, 912, 914, 916, 927, 935, 941,  
947, 952, 958, 974, 976, 980, 986, 991  
humerosus: 356, 726, 734  
humilis: 040, 081, 083, 356, 787  
ignobilis: 040, 082, 278, 356  
immaculatus: 035, 210, 356, 409, 414, 448, 557, 574,  
619, 669, 689, 690, 706, 738, 768  
immarginatus: 727  
inconspicuus: 356, 619, 987  
indicus: 418, 419, 453  
kollerii: 352, 356  
lacertosus: 040, 082, 083, 338, 356, 619, 787  
languidus: 081, 083, 356, 619  
lepidus: 137, 356, 619  
lewisi: 040, 083, 356, 734  
ligatus: 137, 356, 619  
ligneus: 040, 081, 083, 084, 123, 124, 125, 126, 170, 210, 212,

356, 370, 394, 399, 414, 415, 480, 487, 527, 602,  
618, 619, 634, 742, 757, 787, 827, 878, 977, 984  
limbalis: 040, 083, 356, 619  
limbipennis: 040, 083, 356, 726  
littoralis: 253, 356  
longior: 352, 356  
longiventris: 040, 081, 083, 129, 278, 356, 635, 666, 787, 942  
longus: 040, 278, 356, 666  
loriai: 108, 350, 356  
lugubris: 040, 081, 083, 101, 150, 151, 153, 156, 157, 158,  
176, 186, 187, 191, 203, 204, 205, 220, 221, 356,  
366, 384, 385, 386, 387, 388, 389, 390, 391, 392,  
394, 426, 477, 478, 482, 483, 508, 517, 542, 558,  
594, 595, 599, 604, 619, 651, 666, 684, 685, 717,  
756, 762, 763, 787, 806, 807, 861, 865, 887, 888,  
890, 891, 892, 894, 895, 896, 897, 898, 899, 900,  
914, 931, 941, 943, 946, 973, 983  
luridipennis: 079, 356, 562  
luridus: 040, 082, 083, 278, 341, 356, 424, 519, 555, 574,  
619, 772, 776, 856  
luteipennis: 040, 081, 083, 356, 726  
maculatus: 078, 112, 158, 182, 210, 212, 326, 356, 370, 414,  
480, 594, 619, 786, 789, 980, 987  
marginatus: 040, 081, 083, 088, 174, 176, 225, 278, 356, 371,  
394, 420, 456, 523, 666, 744, 787, 811, 812, 882, 913  
marginellus: 009, 052, 074, 081, 083, 137, 140, 151, 156, 157,  
158, 189, 210, 212, 290, 326, 340, 341, 356, 394,  
396, 414, 417, 419, 426, 460, 476, 477, 479, 480,  
510, 542, 594, 614, 619, 625, 650, 651, 685, 711,  
717, 734, 826, 845, 965, 984, 987, 991  
megalops: 215  
melanopterus: 040, 081, 083, 088, 106, 151, 176, 216, 230, 278,  
280, 323, 356, 420, 424, 426, 477, 478, 555, 589,  
619, 787, 914, 666, 684, 776  
mexicanus: 040, 081, 083, 129, 356, 726, 787  
modiglianii: 343, 356  
morio: 356, 619  
murrayi: 137, 340, 356  
mutabilis: 278, 356, 619  
mutilatus: 006, 007, 040, 044, 082, 107, 115, 142, 151, 155, 156,  
157, 158, 176, 188, 210, 211, 232, 233, 235, 278, 281,  
292, 293, 303, 307, 310, 312, 316, 326, 340, 356, 366,  
367, 371, 375b, 394, 396, 399, 409, 419, 420, 426, 440,  
441, 447, 448, 449, 452, 453, 468, 469, 471, 477, 478,  
480, 486, 493, 519, 520, 542, 543, 544, 555, 568, 574,  
582, 594, 634, 636, 638, 639, 640, 641, 642, 643, 644,  
650, 651, 689, 690, 698, 717, 725, 735, 736, 738, 744,  
745, 756, 764, 772, 783, 805, 806, 807, 809, 819, 820,  
823, 826, 827, 838, 865, 867, 868, 912, 941, 959,  
963, 987, 991  
mycetophagus: 529  
nepos: 081, 083, 356, 619  
niger: 040, 067, 069, 088, 106, 174, 176, 181, 201, 210, 225,  
277, 278, 301, 356, 371, 382, 393, 411, 420, 423, 523,

589, 619, 684, 694, 765, 811, 812, 882, 915, 948  
nigricans: 343, 356, 987  
nigritus: 040, 083, 356, 619  
nigrovittatus: 040, 082, 129, 666  
nitens: 040, 222, 278, 301, 331, 356, 555, 563, 565, 666, 913, 914  
nitidulus: 209, 210  
nitidus: 045, 210, 340, 343, 356, 528, 568, 619  
notatus: 356, 619, 739, 740  
obesus: 137, 356, 619  
oblongopunctatus: 137, 348, 356  
obscurus MacLeay: 356, 562, 787  
obscurus Sharp: 040, 083, 356  
obsoletus: 002, 004, 044, 069, 085, 115, 137, 143, 156, 157, 158, 170, 210, 212, 235, 324, 326, 340, 356, 370, 414, 415, 435, 453, 465, 480, 527, 541, 542, 543, 594, 618, 619, 649, 650, 652, 666, 676, 696, 717, 860, 954  
obtusicollis: 040, 081, 083, 356, 726, 787  
ochraceus: 250  
ochropterus: 040, 083, 138, 356, 357, 481, 486, 519, 619  
oculatus: 326, 356, 619  
opaculus: 343, 356  
opus: 045, 356, 992  
ophthalmicus: 040, 081, 083, 215, 356, 619, 787  
ornatus Grouv., 1908 (1912): 351, 356  
ordinatus: 994  
ovatus: 040, 081, 083, 353, 356, 519  
pallens Blanch.: 081, 082, 083, 356, 787  
pallescens: 356, 619  
pallipennis Say: 010, 040, 067, 070, 081, 082, 083, 129, 157, 161, 170, 176, 189, 210, 227, 276, 277, 278, 289, 335, 336, 356, 376, 394, 414, 424, 479, 512, 519, 527, 589, 620, 635, 666, 703, 765, 776, 787, 793, 811, 812, 818, 839, 856, 866, 880, 914, 915, 937, 988, 990  
pallipennis Murray/Horn: 356, 420, 426, 619  
palmatus: 040, 081, 083, 356, 787  
pauculus: 356, 726  
piceus: 349, 356  
picus: 040, 082, 095, 356  
pictus: 356, 402, 409, 441, 772, 998  
piger: 040, 081, 083, 129, 356, 619, 787  
pilipennis: 027, 298, 356, 562  
pilosellus: 074, 113, 115, 137, 145, 154, 156, 157, 158, 183, 283, 326, 356, 396, 417, 471, 478, 542, 594, 614, 619, 685, 829, 984  
plagiaticipennis: 137, 356, 614  
planatus: 356, 619, 997  
pollens Sharp: 040, 083, 086, 356  
prodicus: 413  
proximus: 081, 083, 350, 356  
puberulus: 040, 083, 356, 606  
pubescens: 137, 356, 619  
punctatissimus: 356, 730, 732, 734  
punctatus: 356

puncticeps: 356, 619  
punctipennis: 081, 083, 356, 726  
punctulatus: 040, 288, 356, 588, 589  
purpureipennis: 040, 082, 083, 338, 356, 619  
pusillus: 040, 083, 356, 841  
pygidialis: 343, 356  
quadratus: 356, 441, 654, 772  
quadriguttatus: 356, 875  
quadripustulatus: 250, 356, 409, 769, 994  
quadrisignatus: 394, 409, 418, 441, 448, 449, 574, 619, 634, 733, 772, 825, 827  
rickseckeri: 040, 082, 089, 262, 278, 561, 607  
robustus: 040, 083, 356, 619  
rubescens: 356, 619  
rubiginosus: 356, 619  
rubripennis: 035, 074, 309, 340, 343, 356, 402, 409, 441, 447, 448, 574, 619, 634, 690, 698, 727, 736, 738, 768, 772, 827  
rufangulus: 345, 356  
rufitarsis: 040, 081, 083, 356, 619, 787  
rufiventris: 040, 356, 666, 767  
rufus: 040, 081, 083, 176, 356, 479, 619, 666, 787  
sanguineofasciatus: 314, 356  
sanguinipennis: 343, 356  
sayi: 040, 082, 151, 181, 323, 400, 426, 585, 586, 587, 611, 666, 723, 802, 833, 834, 894, 913  
schioedtei: 356, 619, 987  
scotti: 356, 357  
scutellaris: 356, 486  
senex: 040, 081, 083, 129, 356, 619, 787  
senilis: 040, 081, 083, 129, 356, 787  
sericeus: 137, 614, 619  
sexpustulatus: 035, 065, 084, 173, 210, 270, 294, 309, 356, 407, 409, 414, 441, 448, 480, 574, 619, 626, 634, 654, 678, 679, 689, 690, 698, 727, 736, 738, 771, 772, 775, 827, 846  
sibiricus: 356, 396, 397, 485, 574, 732, 734, 738  
signatus: 137, 351, 356  
similaris: 040, 081, 083, 356, 787  
sinuatus: 358  
sordidus: 083, 252, 356, 601, 619  
strigipennis: 040, 082, 356, 614  
subplanus: 358  
succinus: 040, 081, 083, 210, 338, 356, 619  
suturalis: 506  
tectus: 137, 356  
tempestivus Er.: 040, 081, 083, 138, 278, 280, 356, 420, 440, 477, 519, 619, 666, 914, 958  
tempestivus Jacq.-du-Val: 040, 083, 356  
tenenbaumi: 755  
tenuis: 356, 619, 734, 987  
tenuis hana: 622  
terminalis: 356  
terminatus: 040, 083, 356

tersus: 356, 572, 962  
testaceus: 040, 083, 356, 619  
teter: 040, 081, 083, 354, 356  
titanus: 356, 396, 397, 485, 734  
transitans: 040, 081, 083, 356, 787  
tristis: 081, 083, 356, 619  
triton: 356, 574, 619  
truncatus: 356, 491, 520, 589, 619  
tumidulus: 045, 345, 356  
undulatus: 137, 351, 356  
ustulatus: 356, 619  
variabilis: 343, 356  
variolosus: 356, 619  
ventralis: 040, 081, 083, 356, 787  
veraepacis: 040, 081, 083, 356, 787  
viduatus: 040, 081, 083, 129, 356, 787  
vitraci: 040, 081, 083, 347, 356, 519  
vittiger: 040, 083, 356, 619, 859  
weyersi: 346, 356  
xanthopterus: 356, 619  
yuccae: 040, 175, 277, 278, 356, 376, 420, 515, 666  
zeaphilus: 214  
zuni: 040, 130, 356, 666, 803

Carpophilus Species Unknown: 002, 003, 004, 021, 023, 024, 028, 029, 030, 031, 032, 034, 039, 047, 048, 049, 073, 076, 080, 090, 094, 105, 110, 111, 115, 118, 132, 133, 144, 147, 148, 152, 178, 181, 199, 203, 206, 238, 240, 241, 243, 244, 246, 249, 250, 269, 273, 282, 300, 302, 308, 321, 325, 355, 383, 395, 404, 412, 421, 434, 442, 445, 450, 456, 463, 466, 467, 484, 488, 494, 502, 503, 505, 514, 516, 522, 537, 554, 556, 558, 573, 578, 627, 632, 637, 645, 657, 660, 668, 670, 692, 695, 697, 707, 709, 710, 712, 713, 714, 715, 731, 737, 741, 752, 754, 773, 777, 782, 790, 795, 799, 801, 816, 828, 850, 855, 869, 871, 872, 877, 884, 885, 886, 887, 889, 892, 894, 896, 929, 932, 933, 953, 969, 970, 971, 981, 982

## TAXONOMY

### Taxonomy

104, 173, 177, 178, 208, 212, 213, 274, 278, 289, 396, 397, 400, 412, 415, 420, 438, 474, 493, 514, 516, 550, 552, 651, 666, 684, 698, 712, 713, 731, 732, 734, 736, 756, 772, 792, 827, 881, 948, 977, 980

### Morphology

208, 325, 370, 400, 408, 415, 436, 437, 465, 473, 482, 492, 528, 690, 698, 712, 713, 792, 893, 901, 931, 932, 952

### Keys (to spp. or to genera)

039, 087, 100, 105, 111, 173, 246, 414, 418, 634, 689, 690

TEXTBOOK

Textbook Type Write-Up of Family

049, 099, 101, 132, 174, 191, 263, 284, 300

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