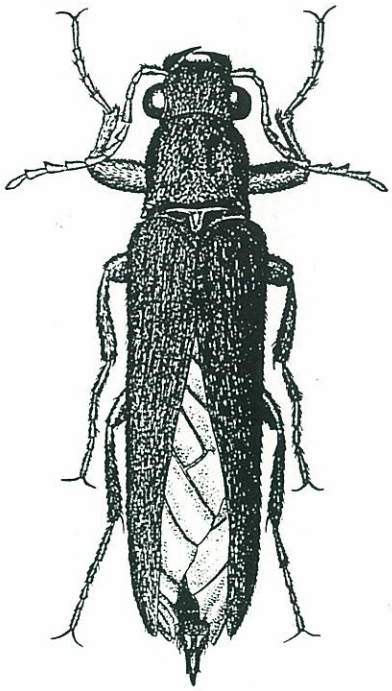
OCCASIONAL PAPERS OF THE FLORIDA STATE COLLECTION OF ARTHROPODS

Volume 10

REVISION OF THE GENUS *SELONODON* LATREILLE (COLEOPTERA: CEBRIONIDAE)

by

KRISTA E. M. GALLEY



FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
Bob Crawford, Commissioner

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1999

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ORDERS: Publications, DPI Technical Assistance, P. O. Box 147100, Gainesville, Florida 32614

ISSN: 0885-5943

Release Date: January 1999
Contribution No. 848, Section of Entomology

Cover: *Selonodon archboldi* Galley, male. Habitus.

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ABSTRACT

The genus *Selonodon* Latreille is revised, with a key to males and descriptions provided for 25 species. Nomenclatural history of the name *Selonodon* is reviewed. Cebrionid biology is discussed, including geographic distribution and phenology of selected *Selonodon* species. For the genus, synonymies, adult diagnosis, and adult description are included, along with discussion of species' diagnostic characters. At the species level, synonymies, type material, adult male diagnosis, adult description, geographic distribution, activity period, and material examined are given. The following 17 species from the southern United States are described as new: *Selonodon appalachiensis* (Georgia), *S. archboldi* (Florida), *S. depressifrons* (Texas), *S. ferrugineus* (Georgia), *S. floridensis* (Florida), *S. fulvus* (Texas), *S. gracilis* (Tennessee), *S. medialis* (Alabama), *S. mississippiensis* (Mississippi), *S. obscurus* (Alabama), *S. orestes* (Tennessee), *S. papillatus* (Tennessee), *S. parvus* (Oklahoma), *S. perplexus* (Alabama), *S. sagittiformis* (Texas), *S. santarosae* (Florida), and *S. similis* (Florida). The following new specific synonyms are recognized (junior synonym[s] first): *S. pallidipennis* (Van Dyke) = *S. abnormis* (Werner); *S. emarginatus* (Schaeffer), *S. knausi* (Van Dyke) and *S. bruesi* (Werner) = *S. compositus* (Fall); *S. confusus* (LeConte) = *S. simplex* (LeConte); *S. antennatus* (Schaeffer) and *S. atokanus* (Werner) = *S. speratus* (Fall). Cladistic analysis is used as a basis for a phylogenetic hypothesis of the genus. Six species groups containing 23 species are recognized; the relationships of two species remain uncertain. A preferred cladogram is presented, and species relationships are analyzed. Geographic data for *Selonodon* are summarized. The trend of phyletic size increase in *Selonodon* is briefly discussed.

ACKNOWLEDGMENTS

This paper represents dissertation research for the Master of Science degree in the Department of Entomology, Cornell University. Special thanks to J. K. Liebherr and Q. D. Wheeler for serving on my Special Committee. J. K. Liebherr's careful reading and adherence to high standards resulted in a substantially better thesis.

Thanks to all the people who have so generously offered their support throughout this project. K. Stephan and M. Deyrup were exceedingly gracious hosts during my field work. B. Alexander got me started on running Hennig86. Without the encouragement of M. C. Thomas and P. E. Skelley, this research would remain a dusty thesis weighing down a library shelf. R. W. Flowers' comments improved the manuscript; I am deeply indebted to him for his patient advice and invaluable assistance during preparation of the manuscript. The habitus drawing of *Selonodon archboldi* was provided by M. Deyrup.

I thank the following curators, institutions, and individuals for lending the *Selonodon* specimens examined in this study: M. A. Deyrup (ABS); L. H. Herman (AMNH); W. E. Clark (AUEM); C. M. F. von Hayek (BMNH); D. Kavanaugh (CAS); F. G. Andrews (CDFA); J. M. Campbell (CNC); K. Hoffman (CUEC); J. K. Liebherr (CUIC); E. G. Riley (EGR); J. S. Ashe (FMNH); B. Beck, M. C. Thomas, and R. E. Woodruff (FSCA); K. Stephan (KS); C. L. Hogue (LACM); V. L. Moseley (LSUC); M. A. Ivie (MAI); J. M. Carpenter and D. G. Furth (MCZ); T. L. Schiefer (MEM); R. L. Fischer and F. W. Stehr (MSU); D. C. Arnold (OKSU); P. K. Lago (OLM); C. A. Triplehorn (OSU); P. E. Skelley (PES); R. H. Turnbow (RHT); S. McCleve (SMC); H. R. Burke (TAMU); C. Carlton (UAK); F. G. Werner (UAZ); C. Smith (UGEM); J. R. Dogger and N. J. Vandenberg (USNM). Their assistance and patience are much appreciated.

The Graduate School (Cornell University), the Harold E. Moore, Jr. Endowment Fund (Liberty Hyde Bailey Hortorium, Cornell University), the Grace H. Griswold Fund (Department of Entomology, Cornell University), and the Theodore Roosevelt Memorial Fund (American Museum of Natural History) generously granted funds for summer field research in Oklahoma and Florida during 1987-88.

I thank the Longleaf Pine Restoration Ecology Project and The Nature Conservancy for allowing a leave of absence during manuscript preparation. Florida A&M University provided facilities which immeasurably aided manuscript preparation.

I am sincerely grateful to D. H. Galley and H. A. Galley for their unflagging support throughout this project.

FOREWORD

Krista Ellen Maria Galley was born in Flint, Michigan. As a child, she imitated her older brother in bringing home any insect she could catch, often letting them loose in her bedroom. "Bug collecting" remained merely a summer hobby until her junior year in high school, when she was awarded a scholarship to participate in the High School Field Biology course offered by the Teton Science School in Grand Teton National Park, Wyoming. Her project, "A Comparison of Butterflies in Three Plant Communities" convinced her to seriously consider entomology as a career.

Krista graduated co-valedictorian from Northern High School in Flint. She entered Michigan State University, where she had been accepted into the Honors College, awarded a National Merit Scholarship, a Distinguished Freshman Award, and a two-year Professorial Assistantship in the Entomology Department. Throughout her undergraduate career, she worked in the MSU insect museum. Her summers were spent researching the nesting biology of megachilid bees in the wilds of Michigan's Upper Peninsula. She received her B.S. with Honor in Entomology in 1986.

Deciding to study beetle systematics for her M.S., Krista entered Cornell University, where she secured an assistantship in the Cornell University Insect Collection. Although she had never heard of cebrionid beetles, a chance remark brought them to her attention as a thesis topic. Their unusual biology seemed too compelling to disregard. Krista completed her M.S. in 1990.

Since 1994, Krista has worked as the invertebrate taxonomist on The Nature Conservancy's Longleaf Pine Restoration Ecology Project on Eglin Air Force Base. Her duties include intensive sampling and identification of arthropods related to restoring native longleaf pine habitats. She has been a Research Associate of the Florida State Collection of Arthropods since 1994.

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May 1998

INTRODUCTION

The name *Selonodon* has had a confused nomenclatural history. Latreille (1834) proposed the genus *Selonodon* to include *S. bicolor* Fabricius, which had been placed in *Cebrio* by Fabricius (1801). LeConte (1853) used the name *Cebrio* for North American cebrionids when he described *C. confusus* and *C. simplex*. Chevrolat (1874) retained the name *Selonodon* in his revision of the Cebrionidae. Horn (1881) then included these North American species in *Cebrio*, claiming not to understand Chevrolat's use of *Selonodon*. Subsequent North American species were described as *Cebrio* (Fall & Cockerell, 1907; Schaeffer, 1916; Fall, 1928; Van Dyke, 1932, 1949; Knull, 1935; Werner, 1943). Arnett (1949) and MacNamara (1964) have discussed the correct use of the name *Selonodon*. True *Cebrio* occurs in western Europe and northern Africa (Dalla Torre, 1911, 1912).

Leach (1824) placed five new species of North American "cebrionids" in a new genus, *Boscia*. These species have remained enigmatic since their description, because they do not appear to be cebrionids (Lacordaire, 1857; Chevrolat, 1874; Arnett, 1949), although Duponchel (1849:659) found "Le *Cebrio bicolor* de Fabricius paraît être le même que le *B. piccus* [sic] de Leach." Leach did not include figures of *Boscia*, so without seeing type material, it is impossible to conclude much about the identities of these species. (Specimens of all the *Boscia* species were listed by Leach [1824] as belonging to the collection of L.A.G. Bosc d'Antic ["Mus. Bosc"]. See the species account for *S. bicolor* for remarks on the status of the Bosc collection.) Arnett (1949) designated *B. picea* as the genotype of *Boscia*. The name *Boscia* is preoccupied, so accepting that *B. picea* Leach = *Cebrio bicolor* Fabricius conveniently makes *Boscia* synonymous with *Selonodon*.

Not leaving well enough alone, Leach (1824) also described another genus, *Analestesa*, including *"Cebrio bicolor* Fabricius" and a new species, *A. testacea*. Horn (1883:288) stated tersely *"Analestesa testacea* Leach, is *Cebrio bicolor* Fab." without comment. According to Jacobson (1912), however, *A. testacea* is a synonym of *Cebriognathus desertorum* Chobaut. Leach gave the habitat for his *"C. bicolor"* as Barbary [Africa], so it is doubtful that Leach's *"C. bicolor"* is the species that Fabricius described from South Carolina (probably from near Charleston [Blake, 1952]). The type locality for *Analestesa testacea* is unknown, so it too remains enigmatic. *Cebriognathus* is restricted to North Africa and the Middle East (Paulus, 1983).

The most "recent" revision of what is currently considered *Selonodon* (Horn [1881]) includes three species: *Cebrio bicolor*, *C. mandibularis*, and *C. estriatus*. Horn concluded that *Anachilus mandibularis* LeConte was congeneric with *Cebrio bicolor* Fabricius, *Anachilus* thus becoming a synonym of *Selonodon*. The lack of recent study no doubt accounts for the abundance of *"Cebrio bicolor"* and *"Cebrio mandibularis"* in checklists and collections. These names have been applied to a variety of different species so that many species have gone unrecognized; in addition, the type specimen of *Cebrio bicolor* F. has not been located for comparison.

Arnett (1949) discussed the correct names for each genus in the family. MacNamara (1964:18) revealed that *Cebrio antennatus* Schaeffer and *C. pallidipennis* Van Dyke are homonyms of *Cebrio antennatus* Chevrolat and *C. pallidipennis* Chevrolat, renaming the former two species, *Selonodon josephi* and *S. arizonensis*, respectively.

MATERIALS AND METHODS

MATERIALS

The *Selonodon* specimens examined in this study were borrowed from the following institutional or personal collections:

ABS-Archbold Biological Station, Lake Placid, FL; **AMNH**-American Museum of Natural History, New York; **AUEM**-Auburn University Entomological Museum, Auburn, AL; **BMNH**-British Museum (Natural History), London; **CAS**-California Academy of Sciences, San Francisco; **CDFA**-California Dept. of Food and Agriculture, Sacramento; **CNC**-Biosystematics Research Centre, Agriculture Canada, Ottawa; **CUEC**-Clemson University Entomological Collection, Clemson, SC; **CUIC**-Cornell University Insect Collection, Ithaca, NY; **EGR**-E. G. Riley, College Station, TX; **FMNH**-Field Museum of Natural History, Chicago, IL; **FSCA**-Florida State Collection of Arthropods, Gainesville; **KS**-K. Stephan, Red Oak, OK; **LACM**-Los Angeles County Museum, Los Angeles; **LSUC**-Louisiana State University Collection, Baton Rouge; **MAI**-M.A. Ivie, Bozeman, MT; **MCZ**-Museum of Comparative Zoology, Harvard University, Cambridge, MA; **MEM**-Mississippi Entomological Collection, Mississippi State University, State College; **MSU**-Michigan State University, East Lansing; **OKSU**-Oklahoma State University, Stillwater; **OLM**-University of Mississippi, Oxford; **OSU**-Ohio State University, Columbus; **PES**-P. E. Skelley, Gainesville, FL; **RHT**-R. H. Turnbow, Fort Rucker, AL; **SMC**-S. McCleve, Douglas, AZ; **TAMU**-Texas A&M University, College Station; **UAK**-University of Arkansas, Fayetteville; **UAZ**-University of Arizona, Tuscon; **UGEM**-University of Georgia Entomological Museum, Athens; **USNM**-U.S. National Museum of Natural History, Washington, D.C.

Complete collection data and repository information are listed in the Appendix (* = holotypes).

METHODS

Genitalic dissections.– Male specimens were heated for 30-60 minutes in soapy distilled water or immersed in hot soapy distilled water for 6-9 minutes in an ultrasonic cleaner. Genitalia were removed from the relaxed specimens and placed in cold 10% KOH overnight. Dissections were then placed for a few minutes in dilute acetic acid and stored in glycerin in microvials. Females were dissected, partially following the technique of Becker (1956). Female specimens were heated 15-30 minutes in soapy distilled water. The entire abdomen was removed. Eggs were removed with forceps, both from the abdomen and from the forepart of the specimen, placed into distilled water, with 70% EtOH gradually added, and then stored in 70% EtOH. The abdomen was then placed into cold 10% KOH overnight. Dissections were placed for a few minutes in dilute acetic acid, and then rinsed for a few minutes in distilled water. The terga were cut away and discarded. The genitalia, tergum VIII, and sternum VIII were cut away from the rest of the sterna and placed for several minutes in a Chlorazol Black E suspension in 70% ethyl alcohol to stain, and stored in glycerin in microvials. Female genitalia were examined in distilled water, which inflates the membranous parts (Becker, 1956).

Measurements.– were made with a calibrated eyepiece micrometer mounted in a 20X ocular of a Wild M5A stereomicroscope. Sample sizes varied, but at least 30 males per species were measured when available. If sufficient material of a species was available, male specimens were not randomly chosen, but rather series of three or more specimens from each locale were measured. All females were measured.

Color.– Coloration of the pronotum, elytra and other adult body parts was determined using the *Methuen Handbook of Color* as an objective reference (Kornerup & Wanscher, 1978). Plate number, column letter, row, and color name are given in the species descriptions. Egg colors also follow Kornerup & Wanscher (1978): 4 or 5 eggs were placed on a small strip of white bond paper, which was held flat against the plate, with the book open flat and fluorescent lighting from above.

BIOLOGY

The 14 *Selonodon* female specimens dissected in this study each contained between 50 and 200 ellipsoidal eggs (mean=114, s=43). Number of eggs varied with the size of the female; within a species, larger females contained more eggs, instead of larger eggs. An average egg was approximately 1.5 mm long and 1 mm wide. Egg color varied between species, ranging from whitish to deep orange. Whether egg color varies within a species as the eggs mature is unknown.

Cebrionid larvae are elateriform. They can be distinguished from the Elateridae, especially the Aplastinae (which is phenetically similar), on the basis of the elongate prothorax, which conceals most of the stipes and mentum, and the "cervical eversible membrane," located between the head and prothorax (Hyslop, 1923; Bøving & Craighead, 1931:pl. 79). A larva ". . . can throw its head right back, at the same time puffing out this membrane in a most peculiar manner" (Blair, 1912:lxxiii). The function of this structure, if any, is unknown.

Larvae live in the soil. Lesne (1908) and Blair (1912) both discuss *Cebrio* larvae as root pests of garden plants in Europe. *Selonodon* larvae are presumed to feed on plant roots, and both larvae and adults of *S. speratus* have been collected in the soil around oaks. The larval diet remains uncertain, however. In Florida, *S. mandibularis* has been collected (at lights and in malaise traps) in turkey oak *(Quercus laevis)* sandhills and sand pine scrub habitats. *S. "bicolor"* in Nashville, Tennessee achieved notice by being a pest of grass-plats, but this was due to the habits of adult emergence, rather than to larval damage (Lintner, 1886).

Adult cebrionids display a biology similar to that of the scarab beetle genus *Pleocoma* "rain beetles": they remain underground until a summer rain causes them to emerge for a mating flight. (See Ellertson & Richter [1959] for a thorough account of *Pleocoma* biology.) Fairly heavy rains seem to be required to cause emergence. At Archbold Biological Station, Highlands County, Florida, *S. mandibularis* usually appeared in malaise traps after an average of an inch of rain had fallen in two hours, especially after a dry spell of a few days (Table 1). Cebrionids have the reputation for being nocturnal (e.g., Arnett, 1968; Borror et al., 1989), but will emerge anytime of the day or night with the rainfall. If the rain occurs at night, males readily fly to black light.

The sex ratio of collected specimens is heavily male-biased. Erdmann (1888) reported that in five years of collecting *Cebrio* sp. in Catalonia, 400 males but only 7 females were taken. Werner (1969) collected 121 males and 2 females of *Scaptolenus fuscipennis* Fall in an afternoon after a torrential rainstorm at Parker Canyon Lake, Huachuca Mountains, Cochise Co., Arizona. Because females do not fly, they must be taken during emergence and thus are seldom collected. Whether or not approximately equal numbers of males and females occur in populations remains to be explored.

Selonodon is active from May until August throughout the southern and southwestern United States (see Geographic Summary). Although each species has a peak period of activity, emergence times can vary considerably from year to year. For example, from 1983 to 1986, *S. mandibularis* was usually collected at Archbold Biological Station (Highlands Co., Florida) during mid-June to mid-July (Table 1). But many specimens have been taken there in the early part of May (see Appendix). Co-occurrence with other species of *Selonodon* also seems to affect a species' phenology. Wherever two species are sympatric, they not only show different peaks of activity, but have been assigned to different species groups (Table 2), based on the results of the cladistic analysis in this study. Thus, sister species tend to be allopatric. In addition, *S. mandibularis* and *S. compositus,* each of whose ranges overlap those of two other species, display different peaks of activity in different parts of their ranges. As shown in Table 1, *S. mandibularis* and *S. archboldi* co-occur at Archbold Biological Station. *S. archboldi* is most active there between late May and early June, and *S. mandibularis* usually flies from mid-June to mid-July. North of Highlands Co., *S. mandibularis* becomes sympatric with *S. floridensis.* In Gainesville, Florida, *S. floridensis* emerges throughout July, and *S. mandibularis* peaks from late July to mid-August, almost one month later than in Highlands Co. (Table 2). *S. compositus,* which is sympatric with three different species throughout its range, exhibits a similar pattern.

Table 1. *Selonodon archboldi* and *S. mandibularis,* taken in malaise traps, Archbold Biological Station, Lake Placid, Highlands Co., Florida.

	RAINFALL				
DATE	START	STOP	INCHES	#SPECIMENS[a,b]	SPECIES
5/30/83	1200	1400	0.64	2	*archboldi*
6/20/83	1600		0.50	2	*archboldi*
6/23/83	1800	2300	1.51	1	*mandibularis*
6/30/83	1400		0.39	1	*mandibularis*
7/02/83	2300	2400	0.14	4	*mandibularis*
7/07/83	1600	1900	0.13	0	
7/08/83	1500	1800	2.05	30	*mandibularis*
7/09/83	1800	1900	0.71	0	
7/15/83	1800	1900	0.22	1	*mandibularis*
7/27/83	1600	2000	1.68	1	*mandibularis*
5/22/84	1700	2000	0.32	9	*archboldi*
5/26/84	1200	1400	1.15	1	*archboldi*
5/26/84	1200	1400	1.15	1	*mandibularis*
7/03/84	1700	2000	1.58	22	*mandibularis*
6/08/85	1530	1630	0.33	1	*archboldi*
6/10/85	1500		0.40	1	*archboldi*
6/21/85	1400		1.83	2	*mandibularis*
5/30/86	1600	2200	0.07	1	*archboldi*
6/07/86	1500		1.33	8	*archboldi*
6/08/86	1600	2100	0.57	0	
6/14/86	1600	1800	0.85	3	*archboldi*
6/22/86	1500	1800	1.04	3	*mandibularis*
6/29/86	1600	1800	1.41	5	*mandibularis*
7/03/86	1900	2400	0.49	9	*mandibularis*
7/07/86	1300		0.59	2	*mandibularis*
7/08/86	1500		0.35	1	*mandibularis*

[a]Specimen data courtesy M. Deyrup, Archbold Biological Station.

[b]Specimens deposited in the Archbold Biological Station Reference Collection, Lake Placid, FL, the Cornell University Insect Collection, Ithaca, NY, and the Florida State Collection of Arthropods, Gainesville, FL.

Table 2. Phenologies of sympatric species of *Selonodon.*

AREA OF SYMPATRY	SPECIES	SPECIES GROUP	PEAK OF ACTIVITY
Highlands Co., Florida	*S. archboldi*	*estriatus*	mid-May to early June
	S. mandibularis	*speratus*	mid-June to mid-July
Gainesville, Florida	*S. mandibularis*	*speratus*	late July to mid-August
	S. floridensis	*bicolor*	early to late July
eastern Texas	*S. depressifrons*	*depressifrons*	mid-May to mid-June
	S. estriatus	*estriatus*	early June to early July
	S. sagittiformis	unplaced	early July to mid-August
western Texas	*S. fulvus*	*compositus*	early to late May
	S. compositus	*compositus*	late May to mid-June
western Oklahoma	*S. compositus*	*compositus*	early to mid-June
	S. convexifrons	*convexifrons*	early to mid-July
Arizona	*S. compositus*	*compositus*	mid-July
	S. abnormis	*convexifrons*	early July
Mobile, Alabama	*S. medialis*	*speratus*	mid-May to mid-June
	S. mississippiensis	*bicolor*	late June
southeastern Mississippi	*S. medialis*	*speratus*	mid-May
	S. mississippiensis	*bicolor*	mid-June to mid-July

GENUS *SELONODON* LATREILLE

SELONODON Latreille, 1834:163.

Boscia Leach, 1824:37 (nec Leach, 1814; nec Schweigger, 1819; nec Férussac, 1822).

Cebrio auctorum.

Anachilus LeConte, 1861:175.

Seledodon Chevrolat, 1874:534 (misspelling of *Selonodon* Latreille, 1834).

Selenedon Chevrolat, 1874:534 (misspelling of *Selonodon* Latreille, 1834).

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Solenodon Chevrolat, 1874:535 (misspelling of *Selonodon* Latreille, 1834).

Type species. *Cebrio bicolor* Fabricius, by monotypy.

Diagnosis. Adult male. Distinguished from other Cebrionidae by the following combination of characters: labrum short, broad, trapezoidal; antennae serrate, antennomere III usually longer than II; elytra not markedly gibbous at base; pronotum quadrate, nearly as wide as long; pubescence on head and prothorax short and relatively sparse; median lobe and parameres of aedeagus fused at base.

Description. Adult. Head quadrate, about as wide as long. Frons flat or convex; with or without inverted V-shaped costa between eyes. Clypeolabral suture straight or curved. Frontal carina absent. Mouthparts hypognathous. Labrum broad or narrow, often somewhat semicircular; usually deeply punctate, with long pubescence; excavation variable. Mandibles broad, angular, not capable of closure beneath labrum; apices acute; inner surfaces with or without notch or tooth; outer surfaces deeply punctate with long pubescence. Maxillary and labial palpi relatively short. Pubescence relatively short, sparse.

Antennae serrate, 11-segmented. Antennomere I elongate, slender; II usually short, somewhat globose; III short to long, subconical; XI abruptly tapered apically.

Pronotum wider than long, quadrate. Apex of pronotum weakly arcuate to arcuate. Pubescence relatively short. Lateral carina usually absent (present in *S. compositus).* Hind angles short. Pronotosternal sutures marginate along hypomeral border, curved. Prosternum narrowly marginate along procoxal cavity; narrow to broad; transverse, impressed line across upper half; anterior angle broad, elongate. Prosternal process very narrow to very broad. Elytra rounded apically; striae well developed.

Legs slender. Tibiae with 2 stout apical spurs, inner spur longer than outer spur; prothoracic tibia dilated apically into blunt "tibial scoop". Tarsi short or elongate; tarsomeres I and V each longer than tarsomeres II-IV; tarsomeres II-IV especially densely pilose ventrally; II longer than III, III slightly longer than IV. Tarsal claws simple. A pair of empodial setae present between tarsal claws.

Adult male. Antennomeres IV-XI each longer than III; IV-VII each slightly broader than VIII-X; antenna exceeding apex of hind angle of pronotum by 1-5 segments. Sides of pronotum more or less straight or slightly convergent from base to apex. Elytra covering abdominal tergum VII; left elytron approximately 7-16 mm long. Aedeagus with parameres long and moderately slender; apex usually broadly rounded (widened in *convexifrons* group). Median lobe of aedeagus slender to stout, longer than parameres, apex broadly to acutely rounded; median lobe and parameres fused at their base. Chitin rod present or absent. Basal piece free.

Adult female. Usually larger than male. Antennomeres IV-XI small; antennae short of hind angle of pronotum by 6-7 segments. Sides of pronotum more or less straight to slightly divergent from base to apex. Pronotal and elytral punctures smaller and sparser than in males. Last two abdominal segments extending beyond elytra; elytral costae very prominent; left elytron approximately 9.5-17 mm long. Wings fully developed. Bursa copulatrix sac-like, membranous, glabrous. Apex of ovipositor valve acute to quadrate.

Etymology. Latreille (1834) did not give the derivation of the name *Selonodon.* Probably it is derived from the Greek *selene* [sic], moon, and *odontos,* tooth, which would refer to the large, crescent-shaped mandibles of the adults. Gender: masculine.

Diagnostic Characters

Secondary sexual characters. Cebrionids display sexual dimorphism, so the sexes are easy to distinguish. Similar to other flightless females in the Elateroidea, cebrionid females are larger than males, their antennae and tarsi are shortened, and their elytra do not cover the last abdominal segments. Female cebrionids do have fully developed wings (Champion, 1896; Werner, 1969), although they are not known to fly. Because females are seldom collected and few are known, species group and species diagnoses are given for males only. The females examined in this study were generally similar to males in the characters of the head and thorax useful for diagnosing species. Only those characters which differ from those of the males are given in the descriptions of females. Males of a species are presumed to exhibit all diagnostic characters of the species group, unless stated otherwise. To confirm an identification, check specimen(s) first against the species group description, then against the species description.

Head. The head provides important characters for separating species groups, especially in the shapes of the mandibles and frons. Mandibles must be spread wide apart in order to expose features of the base. Lengths and shapes of the antennomeres are often diagnostic for species. Total length of the antennae relative to the hind angles of the pronotum is fairly constant within species groups.

Prothorax. The shapes of the prosternum and the prosternal process were found to be important characters. Although the width of the prosternal process exhibits some intraspecific variation, it is a helpful

diagnostic character. Terms used to describe the prosternal process apply only to the area visible between the coxae.

Elytra. Color and puncture size and density help to distinguish some species. Within the genus, elytra range from pale testaceous to almost piceous.

Color. Color of the prothorax and elytra may vary considerably within a species, depending on how many teneral specimens are represented. Ranges of colors are provided for certain species.

Punctation. Both puncture size and density on the head, pronotum and elytra vary among species groups. Punctation was arbitrarily considered "very dense" if punctures were separated from each other by less than 1 puncture diameter; "dense" if separated by approximately 1 puncture diameter; "moderately dense" if separated by greater than 1 but less than 2 puncture diameters; and "sparse" if separated by 2 puncture diameters or greater.

Male genitalia. The external genitalia (aedeagus) are of the tri-lobed type, a median lobe with a paramere on either side. A pair of Y-shaped internal struts extend from the base of the median lobe laterally along the sides of the parameres. The median lobe and parameres are fused at their base, which is referred to as the "fused area of aedeagus" in the species descriptions. The basal piece is free from the rest of the aedeagus. In general, the aedeagus defines species groups, as well as diagnosing individual species. The shape of the median lobe tends to be diagnostic at the species level.

Species Groups of *Selonodon* Latreille

Note: Valid names are in bold italic.

SPERATUS GROUP
- ***S. speratus*** (Fall)
  - *Cebrio antennatus* Schaeffer, **n.syn.**
  - *Cebrio atokanus* Werner, **n.syn.**
  - *Selonodon josephi* MacNamara, **n.syn.** (repla. name for *C. antennatus* Schaeffer)
- ***S. parvus*** Galley, **n.sp.**
- ***S. medialis*** Galley, **n.sp.**
- ***S. mandibularis*** (LeConte)

COMPOSITUS GROUP
- ***S. compositus*** (Fall)
  - *Cebrio emarginatus* Schaeffer, **n.syn.**
  - *Cebrio knausi* Van Dyke, **n.syn.**
  - *Cebrio bruesi* Werner, **n.syn.**
- ***S. fulvus*** Galley, **n.sp.**

CONVEXIFRONS GROUP
- ***S. convexifrons*** (Knull)
- ***S. abnormis*** (Werner)
  - *Cebrio pallidipennis* Van Dyke, **n.syn.**
  - *Selonodon arizonensis* MacNamara, **n.syn.** (repla. name for *C. pallidipennis* Van Dyke)

ESTRIATUS GROUP
- ***S. estriatus*** (Horn)
- ***S. archboldi*** Galley, **n.sp.**

DEPRESSIFRONS GROUP
- ***S. depressifrons*** Galley, **n.sp.**
- ***S. papillatus*** Galley, **n.sp.**
- ***S. obscurus*** Galley, **n.sp.**

BICOLOR GROUP
- ***S. bicolor*** (Fabricius)
- ***S. gracilis*** Galley, **n.sp.**
- ***S. appalachiensis*** Galley, **n.sp.**
- ***S. perplexus*** Galley, **n.sp.**
- ***S. floridensis*** Galley, **n.sp.**
- ***S. santarosae*** Galley, **n.sp.**
- ***S. simplex*** (LeConte)
  - *Cebrio confusus* LeConte, **n.syn.**
- ***S. ferrugineus*** Galley, **n.sp.**
- ***S. similis*** Galley, **n.sp.**
- ***S. mississippiensis*** Galley, **n.sp.**

UNPLACED SPECIES
- ***S. sagittiformis*** Galley, **n.sp.**
- ***S. orestes*** Galley, **n.sp.**

Key to Adult Males of *Selonodon* Latreille

Although many species can be readily identified using characters of the head and thorax, considerable intraspecific variation exists in these characters. In addition, these characters are more useful for identification within some species groups than within others. Single specimens may also be problematic to identify: not every specimen may exhibit every diagnostic character state, so examination of a series of a species is more likely to result in an authoritative identification. Coloration separates some species, but preserving specimens in alcohol or heating them in soapy water for dissection can cause considerable color changes from those given in the descriptions, particularly for light-colored species. Although as many other characters as possible are given for species diagnosis, examination of the male external genitalia may still be necessary for accurate identification. Checking features of the prosternum, body size, punctation, and geographic distribution is especially helpful in confirming species identifications.

1. Frons projected as protuberances or broadly convex; mandibles relatively slender at base and short, leaving little or no gap beneath labrum (e.g., Figs. 17, 26); elytral punctures often hemispherical, imparting a somewhat granular appearance (southwestern United States) 2

1'. Frons flat or only slightly convex or depressed; mandibles usually broad at base and long, leaving gap beneath labrum (e.g., Figs. 1, 11, 33, 55); elytral punctures discrete, point-like impressions (southeastern United States) 5

2(1). Frons protruding near base of antenna, frontal margin concave medially; labrum small and narrow; antennomeres IV-X broadly triangular to strongly serrate (Figs. 24, 27); antenna exceeding apex of hind angle of pronotum by 2 segments (*convexifrons* group) 3

2'. Frons broadly convex; shallow depression between eyes; labrum broad; antenna serrate, elongate, exceeding apex of hind angle of pronotum by 4-5 segments (Figs. 18, 21) (*compositus* group) 4

3(2). Pronotum and elytra dull brown; antennomeres IV-X usually broadly triangular (Fig. 24); frontal protuberances small (western Oklahoma to eastern New Mexico) . . . . . *convexifrons* (Knull)

3'. Pronotum and elytra pale testaceous; antennomeres IV-X strongly serrate (Fig. 27); frontal protuberances large (southwestern Texas to southern Utah) . . . . . *abnormis* (Werner)

4(2'). Pronotum and elytra dull brown; antennomere III elongate, IV-X weakly serrate (Fig. 18); labrum with deep, V-shaped excavation; prosternal process very broad (Fig. 19) (western Oklahoma to southern Utah) . . . . . *compositus* (Fall)

4'. Pronotum and elytra golden brown; antennomere III short, IV-X serrate (Fig. 21); labrum with broad, shallow excavation; prosternal process moderately broad (northern Texas to eastern New Mexico) . . . . . *fulvus* Galley, n.sp.

5(1'). Prosternal process extremely narrow (e.g., Fig. 13) 6

5'. Prosternal process moderately narrow to broad (e.g., Figs. 3, 38, 71) 9

6(5). Mandibles very long and slender, leaving large gap beneath labrum when in repose (Fig. 11); anterior half of pronotum and posterior half of elytra dark brown, posterior half of pronotum and anterior half of elytra rust brown (central Florida) . . . . . *mandibularis* (LeConte)

6'. Not exactly fitting above description 7

7(6'). Antennomere II short, III subconical (Figs. 9, 31); pronotum and elytra light to dark brown 8

7'. Antennomeres II and III long and cylindrical (Fig. 34); mandible slender (Fig. 33); pronotum and elytra very dark brown, almost black; aedeagus as in Fig. 35 (central Florida) . . . . . *archboldi* Galley, n.sp.

8(7). Antennomeres IV-X weakly serrate (Fig. 31); pronotum and elytra dark brown; aedeagus as in Fig. 32 (western Lousiana to eastern Texas) . . . . . *estriatus* (Horn)

8'. Antennomeres IV-X broadly triangular (Fig. 9); pronotum and elytra light brown to rust brown; aedeagus as in Fig. 10 (southwestern Alabama to southeastern Louisiana) . . . . . *medialis* Galley, n.sp. (part)

9(5'). Elytral punctures very large and round, approximately 0.05-0.06 mm in diameter; prosternal process moderately narrow (e.g., Fig. 3); median lobe of aedeagus constricted near its base (Figs. 4, 8, 10) (*speratus* group [part]) 10

9'. Elytral punctures moderately large, approximately 0.03-0.05 mm in diameter; prosternal process broad; median lobe of aedeagus not constricted near its base 12

10(9). Antennomeres IV-X serrate (Figs. 2, 7); pronotum and elytra brown to dark brown 11

10'. Antennomeres IV-X broadly triangular (Fig. 9); pronotum and elytra light brown to rust brown; apex of median lobe of aedeagus elongate, narrow, and acutely rounded (Fig. 10) (southwestern Alabama to southeastern Louisiana) . . . . . *medialis* Galley, n.sp. (part)

11(10). Apex of median lobe of aedeagus rather short (Fig. 8) (Oklahoma) . . . . . *parvus* Galley, n.sp.
11'. Apex of median lobe of aedeagus somewhat elongate (Fig. 4) (western Arkansas to eastern Oklahoma) . . . . . *speratus* (Fall)
12(9'). Clypeolabral suture curved; pronotal pubescence long and dense; prothoracic tarsomeres II-IV short; endophallus of aedeagus inflated as a robust, balloon-like sac (*bicolor* group) 13
12'. Clypeolabral suture straight or only slightly curved; pronotal pubescence sparse; prothoracic tarsomeres II-IV short or elongate; endophallus of aedeagus not inflated as above 22
13(12). Clypeolabral suture strongly curved 14
13'. Clypeolabral suture only moderately curved 16
14(13). Pronotum and elytra dark brown; antenna exceeding apex of hind angle of pronotum by approximately 1 segment; fused area of aedeagus short to moderately elongate 15
14'. Pronotum and elytra rust brown; antenna exceeding apex of hind angle of pronotum by 1-2 segments; fused area of aedeagus elongate (Fig. 61) (northwestern Florida) . . . . . *santarosae* Galley, n.sp.
15(14). Median lobe of aedeagus moderately stout, somewhat widened medially (Fig. 57); meso- and metathoracic tarsomeres II-IV moderately short (central Florida) . . . . . *floridensis* Galley, n.sp.
15'. Median lobe of aedeagus more or less slender (Fig. 63); meso- and metathoracic tarsomeres II-IV very short (southern Georgia to northern Florida) . . . . . *simplex* (LeConte)
16(13'). Prosternal process broad (e.g., Fig. 71); pronotum and elytra brown to very dark brown 17
16'. Prosternal process moderately narrow; pronotum and elytra light brown to rust brown; aedeagus as in Fig. 66 (southern Georgia to northern Florida) . . . . . *ferrugineus* Galley, n.sp.
17(16). Apex of median lobe of aedeagus acutely rounded 18
17'. Apex of median lobe of aedeagus blunt, very broadly rounded (Fig. 51) (southern Blue Ridge Mountains) . . . . . *appalachiensis* Galley, n.sp.
18(17). Antenna exceeding apex of hind angle of pronotum by 1-2 segments 19
18'. Antenna exceeding apex of hind angle of pronotum by at least 3 segments (Fig. 52); aedeagus as in Fig. 53 (northeastern Alabama to northwestern Georgia) . . . . . *perplexus* Galley, n.sp.
19(18). Fused area of aedeagus short; median lobe of aedeagus without chitin rod 20
19'. Fused area of aedeagus elongate (Fig. 72); median lobe of aedeagus with or without short chitin rod (western Alabama to eastern Mississippi) . . . . . *mississippiensis* Galley, n.sp.
20(19). Fused area of aedeagus very short; median lobe of aedeagus slender, very elongate (Fig. 49); entire head densely to very densely punctate, punctures large, approximately 0.05 mm in diameter (Tennessee) . . . . . *gracilis* Galley, n.sp.
20'. Fused area of aedeagus moderately elongate 21
21(20'). Median lobe of aedeagus moderately elongate and moderately stout (Figs. 46, 47); antenna exceeding apex of hind angle of pronotum by at least 2 segments (Fig. 45) (southeastern North Carolina to northeastern South Carolina) . . . . . *bicolor* (Fabricius)
21'. Median lobe of aedeagus very elongate and slender (Fig. 69); antenna exceeding apex of hind angle of pronotum by 1 segment (Fig. 68) (northern Florida) . . . . . *similis* Galley, n.sp.
22(12'). Frons usually with shallow depression just above clypeolabral suture; labrum very broad; clypeolabral suture very pronounced; apex of median lobe of aedeagus somewhat constricted (Figs. 39, 41) (*depressifrons* group [part]) 23
22'. Not exactly fitting above description 24
23(22). Median lobe of aedeagus more or less evenly broad medially, apex gradually constricted (Fig. 39) (western Louisiana to eastern Texas) . . . . . *depressifrons* Galley, n.sp.
23'. Median lobe of aedeagus somewhat widened medially, apex rather nipple-like (Fig. 41) (western Tennessee) . . . . . *papillatus* Galley, n.sp.
24(22'). Antennomeres IV-X serrate; apex of median lobe of aedeagus acutely rounded 25
24'. Antennomeres IV-X weakly serrate (Fig. 76); apex of median lobe of aedeagus arrow-shaped (Fig. 77) (eastern Texas) . . . . . *sagittiformis* Galley, n.sp.
25(24). Mandible slender at base (e.g., Fig. 33); aedeagus as in Fig. 43 (southeastern Alabama) . . . . . *obscurus* Galley, n.sp.
25'. Mandible broad at base (e.g., Fig. 55); median lobe of aedeagus slender, elongate (Fig. 80); fused area of aedeagus short (Tennessee) . . . . . *orestes* Galley, n.sp.

SPECIES DESCRIPTIONS

SPERATUS GROUP

Species included. Four species from the southeastern U.S. are assigned to this group: *S. speratus* (Fall); *S. parvus* Galley, n.sp.; *S. medialis* Galley, n.sp.; *S. mandibularis* (LeConte).

Diagnosis. Male. Small to moderately large species, left elytron approximately 7.5-13 mm long. HEAD: Mandible usually very broad at base (as in Fig. 1) (very slender in *S. mandibularis* [Fig. 11]); inner surface usually with small, V-shaped notch near base (smooth in *S. mandibularis).* Labrum broad. Clypeolabral suture straight to somewhat curved; often faint or absent. Frons flat. Antenna exceeding apex of hind angle of pronotum by 3-4 segments. Pubescence sparse. THORAX: Pronotum densely punctate, punctures usually moderately large to large, approximately 0.03-0.05 mm in diameter. Front angle of prosternum narrow, elongate, tapering to apex, apex acutely rounded (as in Fig. 3). Foretarsomeres II-IV elongate, slender. Elytra densely punctate, punctures usually large, approximately 0.05-0.06 mm in diameter (approximately 0.03 mm in *S. mandibularis).* AEDEAGUS: Median lobe constricted near its base, tapered to apex. Parameres slender. Chitin rod present.

Distribution. Eastern Oklahoma, southern Louisiana, southern Mississippi, southern Alabama, central Florida (Fig. 16).

Selonodon speratus (Fall)

Figs. 1-6

Cebrio speratus Fall, 1928:146. Holotype, male (MCZ), label data: "Hope/Ark[ansas]./[VI]-18-[19]26", "Type speratus", "M.C.Z. Type 24339", "H.C. Fall Collection". Paratypes, 3 males examined: same locality data as holotype (1,FMNH; 2,MCZ). Additional paratypes from Hope, Arkansas and Winnfield, Louisiana not examined (repositories unknown).

Selonodon speratus, MacNamara, 1964:19.

Cebrio antennatus Schaeffer, 1916:107 (nec Chevrolat, 1874). Type, male (USNM), label data: "Type", "ex coll C. Schaeffer", "Ark[ansas]/Brooklyn Museum Coll. 1929", "Cebrio antennatus [folded]", "Cebrio antennatus Shfr det Schaeffer Lectotype", "Cotype No 42631, USNM", "Lectotype". Although the type of *C. antennatus* is labeled as a lectotype, Schaeffer (1916) did not mention a cotype series. **New Synonymy.**

Cebrio atokanus Werner, 1943:35. Holotype, male (MCZ), label data: "Atoka [Oklahoma], Ind[ian]. T[erritory]./June 13 [19]15/ Wickham", "Roland Hayward Coll.", "HOLOTYPE Cebrio atokanus Werner", "M.C.Z. Type 26075". **New Synonymy.**

Selonodon josephi MacNamara, 1964:18 (replacement name for *Cebrio antennatus* Schaeffer, 1916).

Diagnosis. Male. Moderately large body size; elytra dark brown; median lobe of aedeagus moderately stout, apex moderately elongate (Fig. 4).

Description. Male. Head: Labrum usually with broad, shallow excavation; clypeolabral suture distinct, straight; individuals with or without inverted V-shaped suture between eyes; densely to very densely punctate, punctures small, approximately 0.03 mm in diameter. Antenna (Fig. 2): Antennomere II short; III short; IV-XI serrate; exceeding apex of hind angle of pronotum by at least 3 segments. Prothorax: Apex of pronotum weakly arcuate, sides more or less straight from base to apex; densely punctate, punctures large, approximately 0.05-0.07 mm in diameter; pubescence moderately long; prosternum narrow; prosternal process moderately narrow (Fig. 3); tibial scoop moderately large. Elytra: Densely punctate, punctures very large, approximately 0.06 mm in diameter; left elytron length: 9.1-12.5 mm (mean=10.5 mm, N=109, s=0.5). Aedeagus (Fig. 4): Median lobe moderately stout, somewhat elongate; apex acutely rounded; fused area relatively short. Color: Pronotum and elytra dark brown (6F8-7F8).

Female. Agrees with male in characters of head and prothorax. Antenna short of hind angle of pronotum by 4 segments (Fig. 5). Pronotum sparsely punctate, punctures small, approximately 0.02-0.03 mm in diameter. Elytral punctures small, approximately 0.03 mm in diameter. Left elytron length: 11.4-12.0 mm (mean=11.7mm, N=3, s=0.3). Genitalia similar to Fig. 59. Apex of ovipositor valves quadrate (Fig. 6). Egg color brownish orange (6C8).

Distribution. Southeastern corner of Missouri, eastern Oklahoma, western Arkansas (Fig. 16).

Activity. June-July.

Material examined. More than 250 males and 3 females from Arkansas, Missouri, and Oklahoma (for complete data, see Appendix).

Selonodon parvus Galley, new sp.

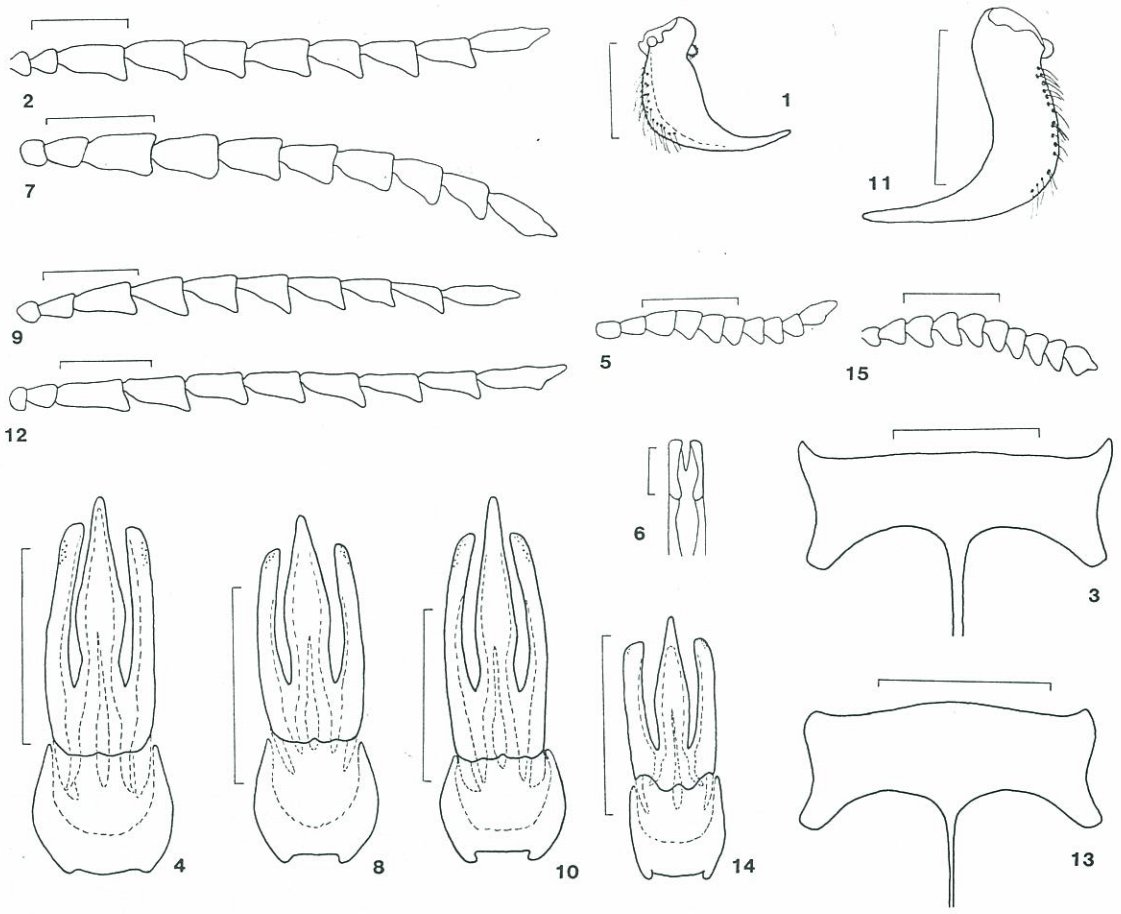
Figs. 7-8

Type material. Holotype, male (CNC), label data: "OKLAHOMA: Marshall Co.:/U[niversity of] O[klahoma] B[iological] S[tation], Lake Texoma (Willis)/16.VI.1968/leg. W. Suter, At light", "HOLOTYPE Selonodon parvus Galley 1989." Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 16 males. U.S.A.: **Oklahoma:** *Marshall Co.:* 06.vii.1969, at black light (2,FSCA); 2 mi. E Willis, 14.vi.1965 (2,FMNH); 2 mi. E Willis, Lake Texoma, vi.1965 (1,FMNH); Lake Texoma (Willis), Univ. Okla. Biol. Sta., 21.vi.1968, at light (1,CNC); 08.vi.1969, at light (3,FSCA); 11.vi.1969, at light (6,FSCA); 05.vii.1969 (1, FSCA).

Diagnosis. Male. Small body size; elytra dark brown; median lobe of aedeagus somewhat stout, apex short (Fig. 8).

Description. Male. Head: Labrum with shallow excavation; clypeolabral suture distinct, fairly straight; with or without inverted V-shaped costa between eyes; densely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter; pubescence sparse. Antenna (Fig. 7): Antenno-



Figs. 1-15. *Speratus* group: **1-6.** *Selonodon speratus.* 1-4, male. 1. Left mandible. 2. Antenna, segments II-XI. 3. Prosternum. 4. Aedeagus, dorsal. 5-6, female. 5. Antenna, segments II-XI. 6. Ovipositor valve. **7-8.** *Selonodon parvus,* male. 7. Antenna, segments II-XI. 8. Aedeagus, dorsal. **9-10.** *Selonodon medialis,* male. 9. Antenna, segments II-XI. 10. Aedeagus, dorsal. **11-15.** *Selonodon mandibularis.* 11-14, male. 11. Right mandible. 12. Antenna, segments II-XI. 13. Prosternum. 14. Aedeagus, dorsal. 15. Antenna, segments II-XI, female. Scale bar = 1 mm.

mere II short; III moderately long; IV-XI serrate to broadly triangular; exceeding apex of hind angle of pronotum by 3 segments. Prothorax: Apex of pronotum weakly arcuate, sides more or less straight from base to apex; densely to very densely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter; pubescence sparse; prosternum narrow; prosternal process usually moderately narrow (similar to Fig. 3); tibial scoop moderately large. Elytra: Densely punctate, punctures large, approximately 0.05 mm in diameter; left elytron length: 9.2-10.4 mm (mean=9.5 mm, N=18, s=0.7). Aedeagus (Fig. 8): Median lobe short, stout; apex rather short and stout, acutely rounded; fused area short. Color: Pronotum and elytra dark brown (7F8).

Female unknown.

Etymology. From the Latin *parvus,* little, referring to the small size of this species.

Distribution. Known only from Lake Texoma, Marshall Co. in southern Oklahoma (Fig. 16).

Activity. Early to late June.

Additional material examined. Male. U.S.A.: **Oklahoma:** Marshall Co.: Lake Texoma, 21.vi.1965 (1,TAMU).

Selonodon medialis Galley, new sp.

Figs. 9-10

Type material. Holotype, male (CAS), label data: "Mobile, Ala[bama]./V-27-[19]08/H.P. Löding", "Van Dyke Collection", "4533", "HOLOTYPE Selonodon medialis Galley 1989." Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 25 males. U.S.A.: **Alabama:** *Mobile Co.:* Grand Bay, vii.1908 (1,CAS); Magazine Point, no other data (2,FMNH); Mobile: iv.1914 (1,CAS); 19.v.1909 (1,CAS); 09.vi.1912 (2,CAS); 30.v.1956, at light (2,FSCA); v.1926 (1,MCZ); 07.vi.1914 (1,MSU); no other data (1,OSU); 08.vii.1949 (1,USNM); 26.vi.1949 (1,USNM); [no

day] vii.1951 (1,USNM); [no date] sum. 1953 (1,USNM); [no day or month] 1960 (1,USNM); swamp forest, W side Mobile Bay, 14.vi.1959, ant nest, beech TH (1,CNC); Spring Hill: [no day].vi.1909 (1,CAS); 15.vi.1921 (1,MCZ). **Mississippi:** *Forrest Co.:* Hattiesburg, 8.v.1955 (5,FMNH).

Diagnosis. Male. Moderately small body size; prosternal process narrow to very narrow (similar to Fig. 13); median lobe of aedeagus slender, apex elongate (Fig. 10).

Description. Male. Head: Labrum with or without small, shallow emargination; clypeolabral suture usually distinct, more or less straight; densely punctate, punctures large, approximately 0.05 mm in diameter; pubescence moderately long, sparse. Antenna (Fig. 9): Antennomere II short; III long, subconical; V-XI serrate; exceeding apex of hind angle of pronotum by 3 segments. Prothorax: Apex of pronotum weakly arcuate; sides usually straight from base to apex; densely punctate, punctures large, approximately 0.05 mm in diameter; pubescence somewhat dense; prosternum narrow; prosternal process moderately narrow to very narrow (similar to Figs. 3, 13); tibial scoop moderately large. Elytra: Densely punctate, punctures very large, approximately 0.05-0.06 mm in diameter; left elytron length: 8.4-11.7 mm (mean=10.2 mm, N=121, s=0.4). Aedeagus (Fig. 10): Median lobe elongate, somewhat slender; apex elongate, acutely rounded; fused area moderately elongate. Color: Pronotum and elytra rust brown to dark brown (6D8, 6E8, 6F8).

Female (description based on 1 specimen, missing antennae). Head and prothorax generally as in male. Prosternal process very narrow along entire length. Pronotum sparsely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter. Elytra sparsely punctate, punctures large, approximately 0.05 mm in diameter. Left elytron length: 12.3 mm. Genitalia similar to Fig. 59. Apex of ovipositor valve quadrate (similar to Fig. 6). Egg color apricot (5B6) to orange (5B8).

Etymology. From the Latin *medialis,* in the middle, referring to this species' geographic distribution midway between *S. speratus* and *S. mandibularis.*

Distribution. Southern Louisiana, southern Mississippi, and southern Alabama (Fig. 16).

Activity. Mid-May to mid-June.

Additional material examined. More than 100 males and 2 females from Alabama, Louisiana, and Mississippi (for complete data, see Appendix).

Selonodon mandibularis (LeConte)

Figs. 11-15

Anachilus mandibularis LeConte, 1863:86. Type, male (MCZ), label data: orange dot, "Anachilus mandibularis Lec", "Type 2635", "C. mandibularis Lec".

Cebrio mandibularis, Horn, 1881:82.

Selonodon mandibularis, MacNamara, 1964:19.

Diagnosis. Male. Mandible very long and slender (Fig. 11); clypeolabral suture often faint or absent; pronotum and elytra light brown and rust brown.

Description. Male. Head: Labrum with or without shallow excavation; clypeolabral suture often faint or absent; when present, more or less straight; mandible very long, slender (Fig. 11); very densely punctate, punctures large, approximately 0.03-0.05 mm in diameter. Antenna (Fig. 12): Antennomere II short; III moderately short; IV-XI moderately serrate; exceeding apex of hind angle of pronotum by 4 segments. Prothorax: Apex of pronotum arcuate; sides slightly rounded from base to apex; pronotum very densely punctate, punctures small, approximately 0.03 mm in diameter; pubescence moderately long; prosternum narrow; prosternal process very narrow (Fig. 13); tibial scoop very large. Elytra: Very densely punctate, punctures small, approximately 0.03 mm in diameter; left elytron length: 7.8-11.3 mm (mean=9.6 mm, N=179, s=0.8). Aedeagus (Fig. 14): Aedeagus appears disproportionately small relative to body size; median lobe slender, short; apex acute; fused area short. Color: Posterior half of pronotum, anterior half of elytra and appendages light brown (6D8); anterior half of pronotum and posterior half of elytra rust brown (6E8).

Female (1 specimen). Head and prothorax generally as in male. Labrum lacks excavation. Clypeolabral suture distinct. Mandible long, of normal breadth. Antenna (Fig. 15) short of hind angle of pronotum by approximately 7 segments. Prosternal process narrow along entire length. Elytra moderately densely punctate, punctures small, approximately 0.03 mm in diameter. Left elytron length: 12.5 mm. Genitalia similar to Fig. 59. Apex of ovipositor valve acute. Egg color reddish golden (6C7).

Distribution. Central Florida; north to Alachua Co. (one record from Leon Co.), south to Highlands Co. (Fig. 16).

Activity. Archbold Biological Station, Highlands Co. peak: late June to mid-July; Gainesville peak: mid-July to early August.

Material examined. More than 400 males and 1 female from Florida (for complete data, see Appendix).

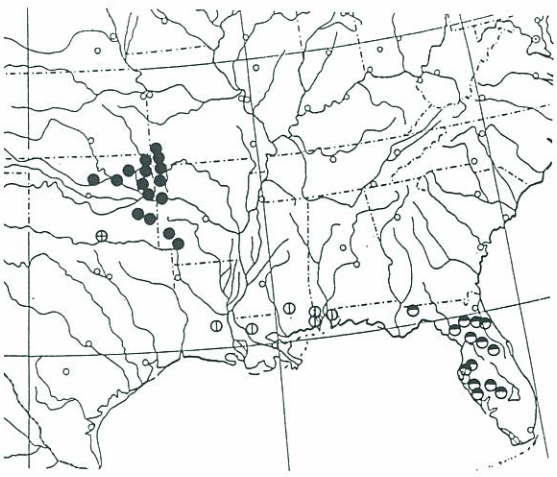


Fig. 16. Geographical distribution of the *speratus* group: *S. speratus* (dark circle); *S. parvus* (circle with cross); *S. medialis* (circle with vertical bar); *S. mandibularis* (half-filled circle).

COMPOSITUS GROUP

Species included. Two species from the southwestern U.S. are assigned to this group: *S. compositus* (Fall); *S. fulvus* Galley, n.sp.

Diagnosis. Male. Slender, elongate species, left elytron approximately 8-14.5 mm long. HEAD: Mandible moderately slender with triangular tooth on inner surface near base (Fig. 17). Labrum broad. Clypeolabral suture straight. Frons broadly convex between bases of antennae, shallowly depressed between eyes. Antenna exceeding apex of hind angle of pronotum by 4-5 segments. Punctation variable. Pubescence sparse. THORAX: Pronotal punctation variable. Anterior angle of prosternum moderately broad, apex broadly rounded (as in Fig. 19). Foretibial scoop small; foretarsomeres II-IV elongate, slender. Pubescence sparse. Elytral punctation variable. AEDEAGUS: Parameres variable. Chitin rod present.

Distribution. Western Oklahoma, western Texas, New Mexico, Arizona, southern Utah (Fig. 23).

Selonodon compositus (Fall)

Figs. 17-20

Cebrio compositus Fall, in Fall & Cockerell, 1907:233. Holotype, male (MCZ), label data: "Santa Fe, N[ew]. M[exico]", "June", "compositus TYPE", "M.C.Z. Type 24338", "H.C. Fall collection".

Selonodon compositus, MacNamara, 1964:19.

Cebrio emarginatus Schaeffer, 1916:108. Holotype, male (USNM), label data: "Type", "N[ew]. Mex[ico]", "Chas Schaeffer collection", "Cebrio emarginatus [folded]", "det. Schaeffer Holotype", "Type No 54817 USNM", "emarginatus type Schaef". **New Synonymy.**

Cebrio knausi Van Dyke, 1932:464. Holotype, male (CAS), label data: "St. George, Ut[ah]./2800 ft/May 22-June 12, [19]' 19/W. Knaus", "Holotype Cebrio knausi Van Dyke". Paratype, male (CAS): same locality and date as holotype. **New Synonymy.**

Cebrio bruesi Werner, 1943:36. Holotype, male (MCZ), label data: "Ganado/Arizona/VII-24-[19]35", "Gift of C.T. Brues", "HOLOTYPE Cebrio bruesi Werner", "MCZ type 26076". Paratype, male (MCZ): same locality and date as holotype. **New Synonymy.**

Selonodon brusei [sic], MacNamara, 1964:19 (misspelling of *bruesi* Werner, 1943).

Diagnosis. Male. Labrum with deep, triangular excavation; antennomere III very long, IV-XI weakly serrate (Fig. 18); elytra light to dark brown, surface appearing granular, punctures hemispherical.

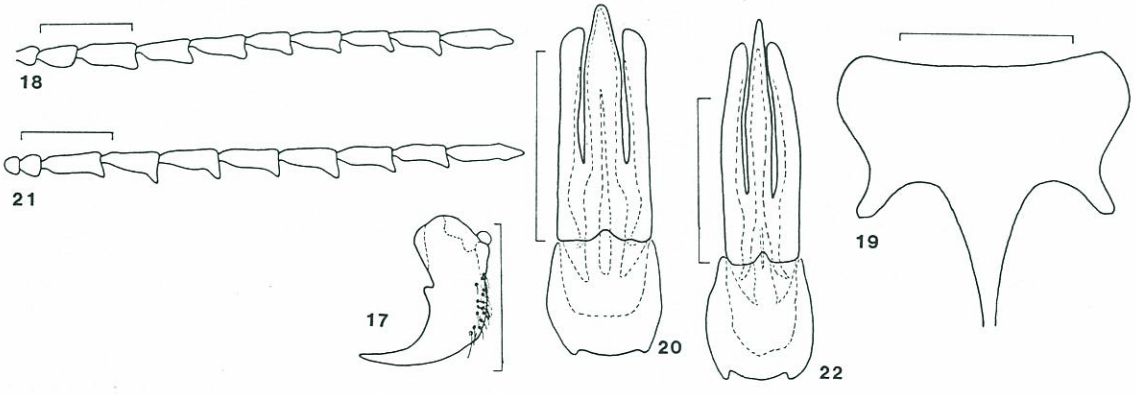
Description. Male. Head: Labrum with broad, deep, triangular excavation; densely punctate, punctures small, approximately 0.03 mm in diameter. Antenna (Fig. 18): Antennomere II short; III very long; IV-XI weakly serrate; exceeding apex of hind angle of pronotum by at least 4 segments. Prothorax: Apex of pronotum weakly arcuate; sides ranging from more or less straight from base to apex to convergent toward apex; densely punctate, punctures small, approximately 0.03 mm in diameter; prosternum broad; prosternal process very broad, tapering (Fig. 19). Elytra: Punctures hemispherical; left elytron length: 9.9-14.3 mm (mean=11.7 mm, N=68, s=1.3). Aedeagus (Fig. 20): Median lobe moderately stout, relatively short, widened medially, tapered to apex; apex broadly rounded; parameres somewhat stout, slightly widened apically; fused area relatively elongate. Color: Pronotum and elytra ranging from light brown (6D8) to brownish grey (6F8).

Female. (1 specimen, missing right and left antennomeres III-XI and most tarsomeres.) Head and prothorax generally as in male. Elytra somewhat granular. Left elytron length: 9.0 mm. Genitalia similar to Fig. 59. Apex of ovipositor valve acute. Egg color apricot (5B6).

Distribution. Western Oklahoma, northwestern Texas, New Mexico, Arizona, southernmost Utah (Fig. 23).

Activity. Oklahoma: early to mid-June; Arizona: mid-July.

Material examined. One hundred males from Arizona, New Mexico, Oklahoma, Texas, and Utah; one female from New Mexico (for complete data, see Appendix).



Figs. 17-22. *Compositus* group: **17-20.** *Selonodon compositus,* male. 17. Right mandible. 18. Antenna, segments II-XI. 19. Prosternum. 20. Aedeagus, dorsal. **21-22.** *Selonodon fulvus,* male. 21. Antenna, segments II-XI. 22. Aedeagus, dorsal. Scale bar = 1 mm.

Selonodon fulvus Galley, new sp.

Figs. 21-22

Type material. Holotype, male (USNM), label data: "Big Spring, Tex[as]./24-28-V-1948/G.W. Chowns", "HOLOTYPE Selonodon fulvus Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 8 males. U.S.A.: **New Mexico:** *Quay Co.:* no other data (1,AMNH). **Texas:** *Erath Co.:* Stephenville, 17.vi.1981 (1,TAMU). *Lamb Co.:* Littlefield, 28.v.1972 (1, USNM). *Lubbock Co.:* Lubbock, 01-09.v.1956 (2,TAMU). *Martin Co.:* Stanton, 15.vi.1972 (1,TAMU). *Taylor Co.:* Abilene, 01.vi.1940 (1,CAS; 1,FSCA).

Diagnosis. Male. Labrum with broad, U-shaped, shallow excavation; antennomere III short (Fig. 21); appendages, pronotum and elytra fulvus (dark golden brown).

Description. Male. Head: Labrum with very broad, shallow excavation; sparsely to densely punctate, punctures small, approximately 0.02-0.03 mm in diameter. Antenna (Fig. 21): Antennomere II short; III short; IV-XI serrate; exceeding apex of hind angle of pronotum by 4-5 segments. Prothorax: Apex of pronotum weakly arcuate; sides more or less convergent toward apex; sparsely punctate, punctures very small, approximately 0.02 mm in diameter; prosternum moderately broad; prosternal process moderately broad, tapering to very narrow (similar to Fig. 28). Elytra: Sparsely punctate, punctures very small; left elytron length: 7.9-9.8 mm (mean=8.6 mm, N=35, s=0.5). Aedeagus (Fig. 22): Median lobe slender, relatively elongate, tapering to apex; apex acute; apex of parameres broadly rounded; fused area moderately short. Color: Appendages, pronotum and elytra dark golden brown, 5D8 (fulvus).

Female unknown.

Etymology. From the Latin *fulvus,* tawny, referring to the golden brown color of the pronotum, elytra, and appendages of this species.

Distribution. Eastern New Mexico and western Texas (Fig. 23).

Activity. Early May to late June.

Additional material examined. More than 60 males from New Mexico and Texas (for complete data, see Appendix).

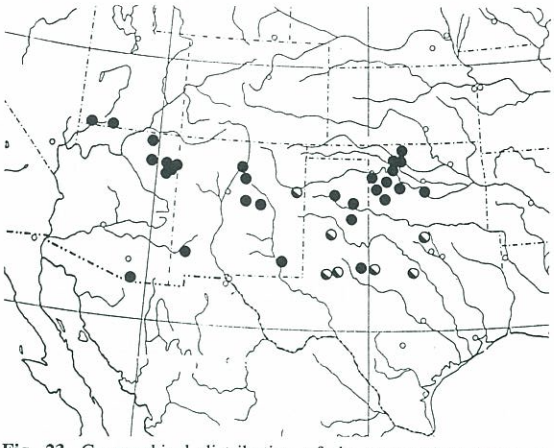


Fig. 23. Geographical distribution of the *compositus* group: *S. compositus* (dark circle); *S. fulvus* (half-filled circle).

CONVEXIFRONS GROUP

Species included. Two species from the southwestern U.S. are assigned to this group: *S. convexifrons* (Knull); *S. abnormis* (Werner).

Diagnosis. Male. Small species, left elytron approximately 7-10 mm long. HEAD: Mandible short, slender, inner surface smooth (Fig. 26). Labrum narrow. Clypeolabral suture straight. Antenna exceeding apex of hind angle of pronotum by 2 segments. Frons projected as protuberances near bases of antennae. Head very densely punctate, punctures very large, 0.05-0.06 mm in diameter. Pubescence short, sparse. THORAX: Apex of pronotum arcuate, sides more or less arcuate from base to apex. Punctation variable. Pubescence short, sparse. Anterior angle of prosternum evenly broad to apex, apex broadly rounded (as in Fig. 28). Foretibial scoop small. Length of foretarsomeres II-IV variable. Elytra moderately densely punctate, punctures more or less hemispherical. AEDEAGUS: Parameres somewhat stout, widened apically. Chitin rod present.

Distribution. Western Oklahoma, western Texas, New Mexico, Arizona, southern Utah (Fig. 30).

Selonodon convexifrons (Knull)

Figs. 24-25

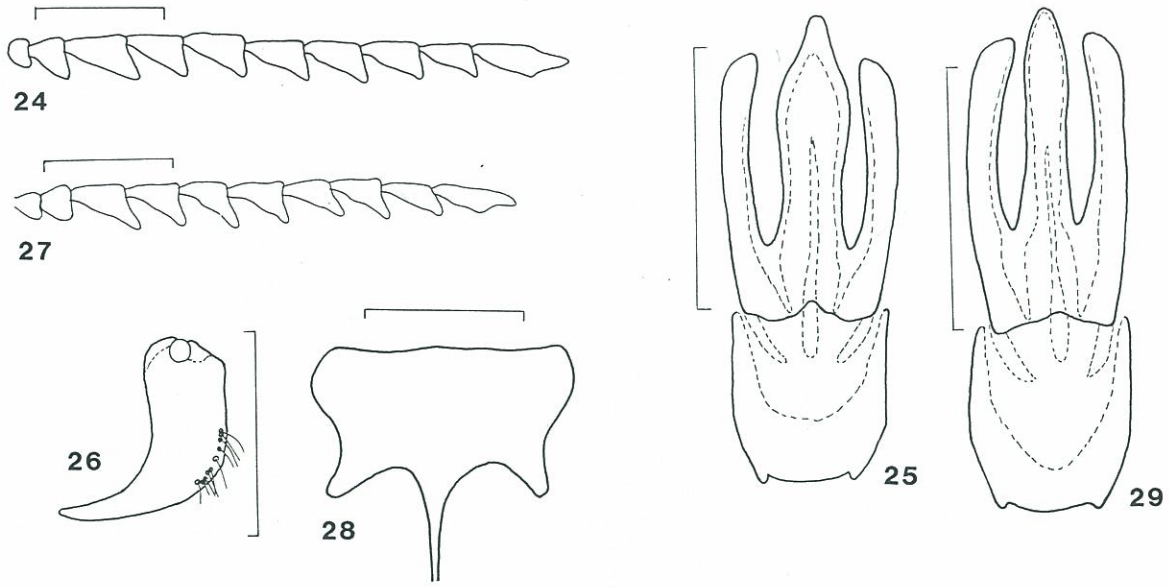
Cebrio convexifrons Knull, 1935:189. Holotype, male (FMNH), label data: "Cleo Spr[ings]./Okla[homa]. VII-7-[19]34", "J. Stankavich", "HOLOTYPE Cebrio convexifrons Knull", "J.N. Knull Collection", "Selonodon convexifrons Knull det. J. Knull". Paratypes, 7 males examined: same locality and date as holotype (2,FMNH; 1,MSU; 1,OSU); "Cherokee, Okla[homa]. /VII-3-[19]34/J. Stankavich" (1,FMNH); "Vinson, Okla[homa]. /July 9, 1934/ J. Stankavich " (2, OKSU). Additional paratypes, if any, not examined (repositories unknown).

Selonodon convexifrons, MacNamara, 1964:19.

Diagnosis. Male. Frons projected as small protuberances near bases of antennae; antenna broadly triangular to rather strongly serrate (Fig. 24); elytra hazel brown, surface granular with dull appearance.

Description. Male. Head: Labrum with small, shallow, triangular excavation; frons projecting as small protuberances near bases of antennae, concave between frontal protuberances. Antenna (Fig. 24): Antennomere II short; III broad, triangular; IV-XI rather strongly serrate. Prothorax: Pronotum very densely punctate, punctures large, approximately 0.05 mm in diameter. Prosternal process very broad, tapering (similar to Fig. 28); tarsomeres II-IV very short. Left elytron length: 6.9-9.0 mm (mean=8.0 mm, N=35, s =0.6). Aedeagus (Fig. 25): Median lobe very stout, relatively elongate, widened apically; apex nipple-like; fused area short. Color: Pronotum brownish grey (6F8); elytra hazel brown (6E8).

Female unknown.



Figs. 24-29. *Convexifrons* group: **24-25.** *S. convexifrons*, male. 24. Antenna, segments II-XI. 25. Aedeagus, dorsal. **26-29.** *Selonodon abnormis*, male. 26. Right mandible. 27. Antenna, segments II-XI. 28. Prosternum. 29. Aedeagus, dorsal. Scale bar = 1 mm.

Distribution. Western Oklahoma, northwestern Texas and eastern New Mexico (Fig. 30).

Activity. Oklahoma: early to mid-July.

Material examined. Forty males from New Mexico, Oklahoma, and Texas (for complete data, see Appendix).

Selonodon abnormis (Werner)

Figs. 26-29

Cebrio abnormis Werner, 1943:34. Holotype, male (MCZ), label data: "Tuba City/Arizona/VII-19-[19]35", "Gift of C.T. Brues", "HOLOTYPE Cebrio abnormis Werner", "M.C.Z. Type 26074".

Selonodon abnormis, MacNamara, 1964:19.

Cebrio pallidipennis Van Dyke, 1949:52 (nec Chevrolat, 1874). Holotype, male (CAS), label data: "Tuba City/VII-4-[19]37/ Ariz[ona]/R.P. Allen", "Pres. by R.P. Allen Collector", "Holotype No. 6014 Cebrio pallidipennis Van Dyke". PARATYPES, 5 males: same locality data as holotype, dates VII-4-[19]37 (4,CAS) and VII-3-[19]37 (1,CAS). **New Synonymy.**

Selonodon arizonensis MacNamara, 1964:18 (replacement name for *Cebrio pallidipennis* Van Dyke, 1949).

Diagnosis. Male. Frons projected as large protuberances near bases of antennae; antenna strongly serrate (Fig. 27); pronotum and elytra usually pale testaceous.

Description. Male. Head: Labrum with very broad, shallow excavation; frons projecting as large protuberances near bases of antennae, concave between protuberances. Antenna (Fig. 27): Antennomere II short; III moderately short, triangular; IV-XI strongly serrate. Prothorax: Pronotum moderately to densely punctate, puncture size variable, ranging from approximately 0.02-0.05 mm in diameter; sides of pronotum arcuate from base to apex; prosternum very broad; prosternal process broad between coxae, tapering (Fig. 28); tarsomeres II-IV moderately short, slender. Left elytron length: 7.5-10.0 mm (mean=8.9 mm, N=40, s=0.5). Aedeagus (Fig. 29): Median lobe slender, relatively short, somewhat widened apically; apex broadly rounded; fused area relatively elongate. Color: Pronotum and elytra ranging from grayish orange (pale testaceous) (5B3, 5B4, 5B5) to dark brown (6F7).

Female unknown.

Distribution. Southernmost Utah, Arizona, New Mexico, westernmost Texas (Fig. 30). Three males are known from Samalayuca, Mexico, the first Mexican records for *Selonodon.*

Activity. Arizona: Late June to early July.

Material examined. Fifty-five males from Arizona, New Mexico, Texas, and Utah (for complete data, see Appendix). In addition, three males from MEXICO: **Chihuahua:** Samalayuca, 24.vi.1947 (3,AMNH).

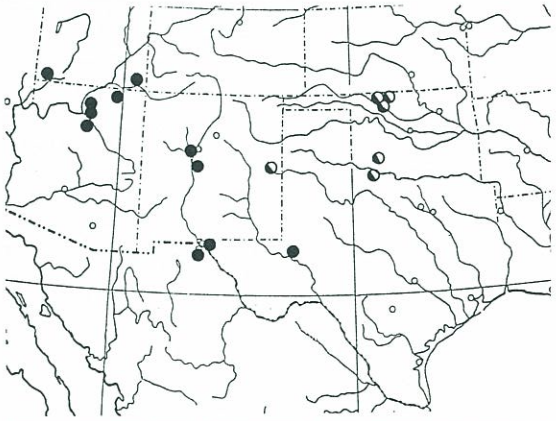


Fig. 30. Geographical distribution of the *convexifrons* group: *S. abnormis* (dark circle); *S. convexifrons* (half-filled circle).

ESTRIATUS GROUP

Species included. Two species are assigned to this group: *S. estriatus* (Horn); *S. archboldi* Galley, n.sp.
Diagnosis. Male. Small to moderately large species, left elytron 7.8-11.8 mm. Mandible variable. Antenna variable. Pronotum variable. Prosternal process very narrow. Aedeagus variable. Chitin rod absent.
Distribution. Eastern Texas and central Florida (Fig. 36).

Selonodon estriatus (Horn)

Figs. 31-32

Cebrio estriatus Horn, 1881:83. Holotype, male (MCZ), label data: "Tex[as]", "HoloTYPE 3411", "C[ebrio]. estriatus Horn".
Selonodon estriatus, MacNamara, 1964:19.

Diagnosis. Male. Antenna weakly serrate (Fig. 31); prosternal process more or less narrow; median lobe of aedeagus evenly broad (Fig. 32); small body size (left elytron approximately 7.5-10 mm long).

Description. Male. Head: Labrum broad, excavation variable; clypeolabral suture distinct, slightly curved; mandible broad; frons flat; densely to very densely punctate, punctures small, approximately 0.02-0.03 mm in diameter; pubescence sparse. Antenna (Fig. 31): Antennomere II short; III moderately long; IV-XI weakly serrate; exceeding apex of hind angle of pronotum by 3 segments. Prothorax: Apex of pronotum rounded; sides more or less straight from base to apex; densely punctate, punctures usually small, approximately 0.03 mm in diameter; prosternum moderately broad; anterior angle broad; prosternal process moderately broad, tapering to narrow; tibial scoop small; tarsomeres II-IV short. Elytra: Densely punctate, punctures small, approximately 0.03 mm in diameter; left elytron length: 7.8-10.0 mm (mean=9.1 mm, N=20, s=0.7). Aedeagus (Fig. 32): Median lobe stout, moderately elongate, evenly broad along entire length; apex acutely rounded; chitin rod absent; fused area moderately elongate. Color: Pronotum and elytra brown to dark brown (7E7-7F8).

Female unknown.

Distribution. Eastern Texas to eastern Louisiana (Fig. 36).

Activity. Early June to early July.

Material examined. Twenty-three males from Louisiana and Texas (for complete data, see Appendix).

Selonodon archboldi Galley, new sp.

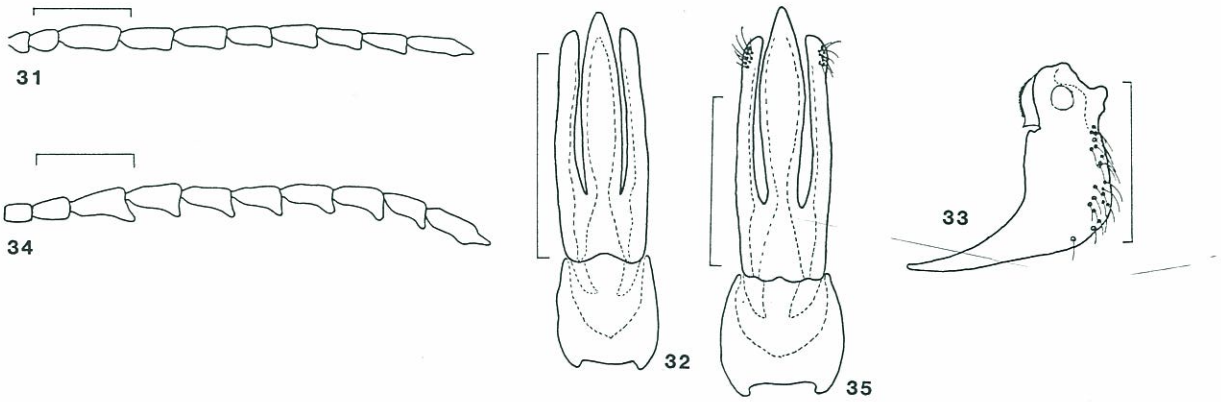
Figs. 33-35

Type material. Holotype, male (CUIC), label data: "Archbold Biol[ogical]. Sta[tion]./Lk. Placid/Highlands Co. FL[ORID]A./2 June 1986/M. Deyrup", "Window trap / Trails 1 & 2 / SSo", "HOLOTYPE Selonodon archboldi Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 23 males. U.S.A.: **Florida:** *Highlands Co.:* Lake Placid, Archbold Biol. Sta.: 28.v.1984, malaise trap, trail 1, Sso (1,CUIC); 31.v.1983, malaise trap near dying sand pine (1,CUIC); 12.vi.1985, malaise trap, trail 1, Sso (1,CUIC); 02.vi.1986, window trap, trails 1 & 2, Sso (1,CUIC); 31.v.1983, malaise trap, E side trail 1, Sso (1,CUIC); 23.v.1984, malaise trap, trail 2, Sso (2,CUIC); 31.v.-02.vi.1986, malaise trap, trail 2 (1,FSCA); 08-10.vi.1985, malaise trap, trail 1 (1,FSCA); 21.vi.1983, malaise trap, trail 1 (2,FSCA); 12-16.vi.1986, malaise trap, trail 1 (3,FSCA); 05-09.vi.1986, malaise trap, trail 1 (8,FSCA). Sebring, 03.v.1961, black light trap (1,FSCA).

Diagnosis. Male. Mandible moderately slender, angular (Fig. 33); antennomere II long and cylindrical (Fig. 34); prosternal process very narrow; pronotum and elytra very dark brown, almost black.

Description. Male. Head: Labrum broad, margin rounded, usually lacking excavation; clypeolabral suture distinct, slightly curved; mandible large, moderately slender, angular (Fig. 33); frons slightly convex; small, shallow depression between eyes; very densely punctate, punctures moderately large, approximately 0.03-0.04 mm in diameter; pubescence sparse. Antenna (Fig. 34): Antennomere II long, cylindrical; III long, subconical to subcylindrical; IV-XI serrate; exceeding apex of hind angle of pronotum by at least 3 segments. Prothorax: Apex of pronotum weakly arcuate;



Figs. 31-35. *Estriatus* group: **31-32.** *Selonodon estriatus,* male. 31. Antenna, segments II-XI. 32. Aedeagus, dorsal. **33-35.** *Selonodon archboldi,* male. 33. Right mandible. 34. Antenna, segments II-XI. 35. Aedeagus, dorsal. Scale bar = 1 mm.

sides slightly rounded from base to apex; densely punctate, punctures moderately large, approximately 0.03-0.04 mm in diameter; prosternum narrow; anterior angle broad, tapering to apex; prosternal process very narrow (similar to Fig. 13); tibial scoop very large; tarsomeres II-IV somewhat elongate. Elytra: Densely punctate, surface uneven; punctures small, approximately 0.03 mm in diameter; left elytron length: 9.4-11.4 mm (mean=10.4 mm, N=40, s=0.5). Aedeagus (Fig. 35): Median lobe stout, elongate, widening to apex; apex obtusely rounded; parameres slender, apex slightly widened; chitin rod absent; fused area somewhat short. Color: Pronotum and elytra very dark brown, almost black (no color match).

Female unknown.

Etymology. Species name refers to the Archbold Biological Station in Lake Placid, Florida where this species has been most frequently collected.

Distribution. Known only from two locales in Highlands Co., Florida (Fig. 36).

Activity. Late May to early June.

Additional material examined. Males. U.S.A.: **Florida:** *Highlands Co.:* Lake Placid, Archbold Biol. Sta.: 26.v.1981, UV light (6,ABS); 13.vi.1987, black light trap (12,MEM).

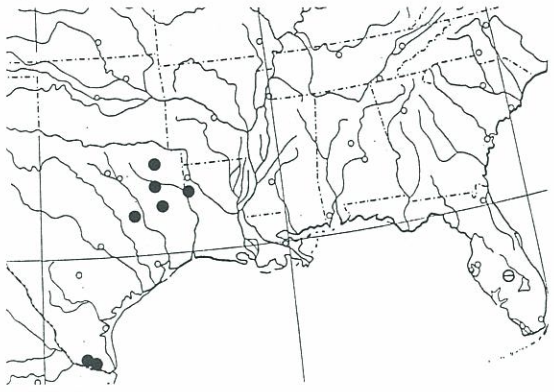


Fig. 36. Geographical distribution of the *estriatus* group: *S. estriatus* (dark circle); *S. archboldi* (circle with horizontal bar).

DEPRESSIFRONS GROUP

Species included. Three species are assigned to this group: *S. depressifrons* Galley, n.sp; *S. papillatus* Galley, n.sp.; *S. obscurus* Galley, n.sp.

Diagnosis. Male. Moderately large species, left elytron approximately 9-13 mm long. HEAD: Labrum broad to very broad. Mandible variable; inner surface with small notch near base; hyaline process present at base. Clypeolabral suture distinct, slightly curved. Frons variable. Head densely punctate, puncture size variable. Antenna exceeding apex of hind angle of pronotum by 3 segments. Pubescence sparse. THORAX: Apex of pronotum weakly arcuate, sides slightly divergent toward apex. Pronotum densely punctate, puncture size variable. Pubescence moderately sparse. Anterior angle of prosternum variable. Foretibial scoop moderately large; foretarsomeres II-IV short to somewhat elongate. Elytral punctation moderately dense, punctures small, approximately 0.03 mm in diameter (moderately large in *S. obscurus).* AEDEAGUS: Median lobe variable. Chitin rod absent.

Distribution. Eastern Texas, western Tennessee, Alabama (Fig. 44).

Selonodon depressifrons Galley, new sp.

Figs. 37-39

Type material. Holotype, male (TAMU), label data: "Nacogdoches/5-10-[19]32 Tex[as]", "1300", "HOLOTYPE Selonodon depressifrons Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Right mesothoracic leg missing.

Paratypes, 24 males. U.S.A.: **Texas:** *Austin Co.:* Austin St. Pk. nr. Sealy, 14.v.1958 (2,CUIC). *Cherokee Co.:* Tex. Exp. Sta., 01.vi.1952 (10,TAMU). *Colorado Co.:* Columbus, 28.v.1918 (1,CUIC). *Harris Co.:* Humble, 31.v.1918 (1,CUIC). *Liberty Co.:* Liberty, 05.vi.1934 (1,TAMU). *Nacogdoches Co.:* Nacogdoches, 10.v.1932 (9,TAMU).

Diagnosis. Male. Broad, shallow depression between eyes usually present; median lobe of aedeagus short, more or less evenly broad medially, apex very gradually constricted (Fig. 39).

Description. Male. Head: Labrum very broad; excavation (if present) variable; broad, shallow depression between eyes present or absent; clypeolabral suture very pronounced, slightly curved; mandible broad, angular. Antenna (Fig. 37): Antennomere II short; III long; IV-XI serrate. Prothorax: Prosternum moderately narrow; prosternal process moderately broad, tapering slightly (Fig. 38). Left elytron length: 9.7-12.8 mm (mean=11.2 mm, N=48, s=0.7). Aedeagus (Fig. 39): Median lobe stout, short, usually narrowed slightly at base, more or less evenly broad medially, tapered to apex; apex very gradually constricted, acutely rounded; fused area elongate. Color: Pronotum and elytra agate brown (7E8) to dark brown (7F8).

Female unknown.

Etymology. From the Latin *depressus,* pressed down, and *frons,* brow, referring to the depressed areas on the (male) head.

Distribution. Eastern Texas and western Louisiana (Fig. 44).

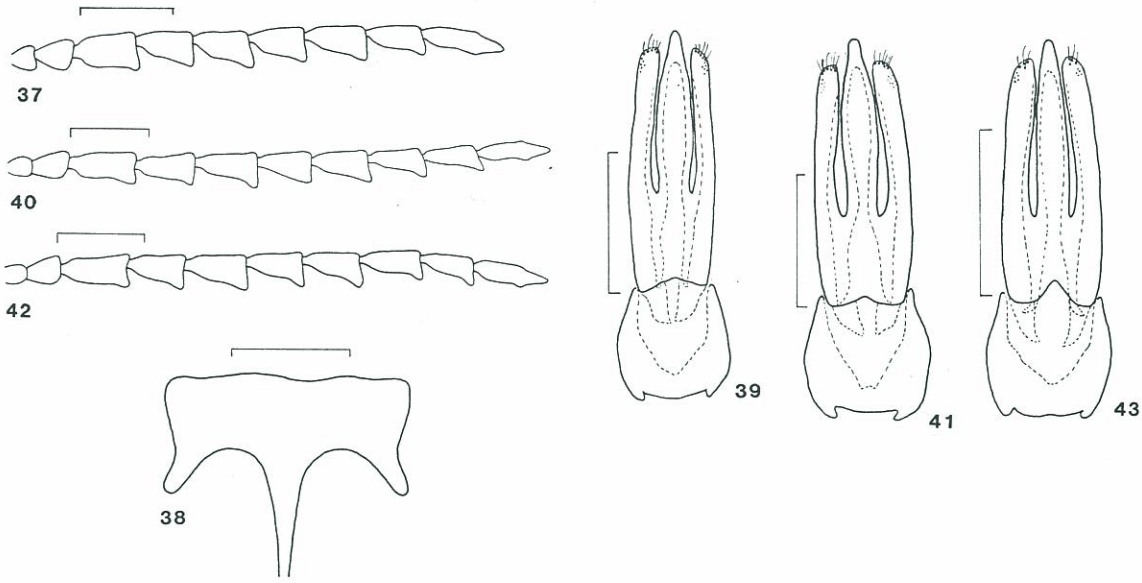
Activity. Mid-May to mid-June.

Additional material examined. Forty-three males from Louisiana and Texas (for complete data, see Appendix).

Selonodon papillatus Galley, new sp.

Figs. 40-41

Type material. Holotype, male (FSCA), label data: "Jackson, Tenn[essee]./VI-20-1955/Light trap", "HOLOTYPE Selonodon papillatus Galley 1989". Genitalia in glycerin-



Figs. 37-43. *Depressifrons* group: **37-39.** *Selonodon depressifrons,* male. 37. Antenna, segments II-XI. 38. Prosternum. 39. Aedeagus, dorsal. **40-41.** *Selonodon papillatus,* male. 40. Antenna, segments II-XI. 41. Aedeagus, dorsal. **42-43.** *Selonodon obscurus,* male. 42. Antenna, segments II-XI. 43. Aedeagus, dorsal. Scale bar = 1 mm.

filled microvial below specimen. Condition: Missing right antennomeres VIII-XI.

Paratype, 1 male. U.S.A.: **Tennessee:** *Shelby Co.:* Memphis, 14.vii.1948 (1,CUIC).

Diagnosis. Male. Similar to *S. depressifrons.* Median lobe of aedeagus elongate, broadened in middle, apex constricted, somewhat nipple-like (Fig. 41).

Description. Head: Labrum with or without shallow excavation. Antenna (Fig. 40): II short; III long; IV-XI serrate. Prothorax: Prosternum moderately narrow; prosternal process broad, tapering slightly (similar to Fig. 38). Left elytron length: 12.2-12.3 mm (N=2, s=0.1). Aedeagus (Fig. 41): Median lobe of aedeagus stout, elongate, widened medially; tapering to apex; apex constricted, somewhat nipple-like, acutely rounded; fused area of aedeagus elongate.

Etymology. From the Latin *papillatus,* budlike, referring to the nipple-like apex of the median lobe of the aedeagus.

Distribution. Known from two counties in western Tennessee (Fig. 44).

Activity. June-July.

Selonodon obscurus Galley, new sp.

Figs. 42-43

Type material. Holotype, male (USNM [via AUEM]), label data: "Houston Co., ALA[BAMA]/UEA Site- 2 mi S. /of Columbia/26 JULY 1975/K.L. Hays", "XERIC PINE/LIGHT TRAP", "HOLOTYPE Selonodon obscurus Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Diagnosis. Male. Mandible moderately slender, angular (similar to Fig. 33); median lobe of aedeagus evenly broad (Fig. 43).

Description. Male. Head: Labrum broad, with broad, very shallow excavation; clypeolabral suture distinct, slightly curved; mandible moderately slender (similar to Fig. 33); frons flat; densely to very densely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter; pubescence moderately long, sparse. Antenna (Fig. 42): Antennomere II short, somewhat cylindrical; III moderately long; IV-XI serrate; exceeding apex of hind angle of pronotum by at least 3 segments. Prothorax: Apex of pronotum more or less arcuate; sides slightly rounded from base to apex; very densely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter; prosternum moderately broad; anterior angle moderately broad, somewhat elongate, tapering to apex; prosternal process moderately broad, tapering slightly; tibial scoop moderately large; tarsomeres II-IV somewhat elongate. Elytra: Surface densely punctate, punctures moderately large, approximately

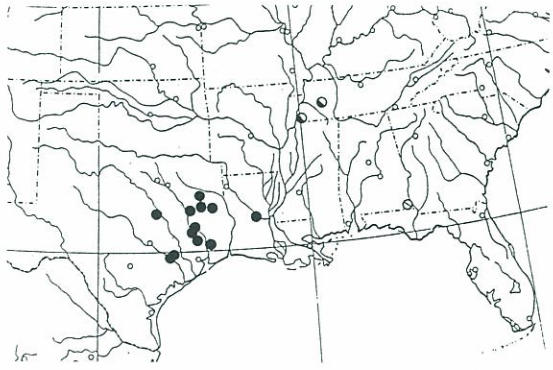


Fig. 44. Geographical distribution of the *depressifrons* group: *S. depressifrons* (dark circle); *S. papillatus* (half-filled circle); *S. obscurus* (circle with diagonal bar).

0.03-0.05 mm in diameter; left elytron length: 11.0 mm (N=1). Aedeagus (Fig. 43): Median lobe moderately elongate, evenly broad along entire length; apex acutely rounded; chitin rod absent; fused area moderately elongate. Color: Pronotum and elytra dark brown (7F8).

Female unknown.

Etymology. From the Latin *obscurus,* obscure, referring to the fact that this species is known only from a few specimens.

Distribution. Known only from Houston Co. and Dale Co. in southeastern Alabama (Fig. 44).

Activity. June to July.

Additional material examined. Males. U.S.A.: **Alabama:** *Dale Co.:* Enterprise, 15-19.vi.1992 (1, RHT); 21-26.vi.1992 (9,RHT); Ft. Rucker Mil. Res., 28.vi.-01.vii-1994 (1,RHT).

BICOLOR GROUP

Species included. Ten species from the southeastern U.S. are assigned to this group: *S. bicolor* (Fabricius); *S. gracilis* Galley, n.sp.; *S. appalachiensis* Galley, n.sp.; *S. perplexus* Galley, n.sp.; *S. floridensis* Galley, n.sp.; *S. santarosae* Galley, n.sp.; *S. simplex* (LeConte); *S. ferrugineus* Galley, n.sp; *S. similis* Galley, n.sp.; *S. mississippiensis* Galley, n.sp.

Diagnosis. Moderately large to large species, left elytron approximately 11-16 mm long. HEAD: Mandible broad, rounded (as in Fig. 55); inner surface with small notch near base; hyaline process present at base. Labrum broad. Clypeolabral suture curved to strongly curved. Frons flat. Vertex very densely punctate, punctures large, approximately 0.05 mm in diameter. Antenna exceeding apex of hind angle of pronotum by 1-4 segments. Pubescence long, often moderately dense. THORAX: Apex of pronotum weakly arcuate; sides slightly convergent toward apex. Pronotum very densely punctate, punctures large, approximately 0.05 mm in diameter. Pubescence long, dense. Anterior angle of prosternum variable. Tibial scoop moderately large. Foretarsomeres II-IV short. Elytra densely to very densely punctate, area between punctures often uneven. AEDEAGUS: Endophallus everted as a robust, balloon-like sac. Chitin rod absent (short chitin rod present in *S. mississippiensis).*

Distribution. North Carolina, south to Florida, west to Mississippi (Figs. 54, 64, 75).

Selonodon bicolor (Fabricius)

Figs. 45-47

Cebrio bicolor Fabricius, 1801:14.3. Type not located in the Museum National d'Histoire Naturelle, Paris (in the collection of Bosc d'Antic?). Fabricius (1801:14) cited *Cebrio bicolor* as "Habitat in Carolina. Muf. D. Bofc." Zimsen (1964) felt that some Fabrician types in the Bosc Collection were lost or destroyed, but Blake (1951, 1952) and Hayek (1973) determined that part of the Bosc Coleoptera is still in existence.

Selonodon bicolor, Latreille, 1834:163.

Selenedon bicolor, Chevrolat, 1874:534 (misspelling of *Selonodon* Latreille, 1834).

Solenodon bicolor, Chevrolat, 1874:535 (misspelling of *Selonodon* Latreille, 1834).

Diagnosis. Male. Moderately large body size; pronotum and elytra rust brown to brown; median lobe of aedeagus as in Figs. 46-47.

Description. Male. Head: Labrum with or without shallow, V-shaped excavation; clypeolabral suture moderately curved; with or without shallow depression between eyes. Antenna (Fig. 45): Antennomere II short; III moderately long; IV-XI serrate; exceeding apex of hind angle of pronotum by 2-3 segments. Prothorax: Prosternum moderately narrow; anterior angle usually moderately narrow, apex rounded; prosternal process moderately narrow to moderately broad (similar to Fig. 71). Elytra: Densely punctate, punctures moderately large, often round, approximately 0.03-0.05 mm in diameter; left elytron length: 11.2-14.4 mm (mean=12.3 mm, N=63, s=0.7). Aedeagus (Figs. 46-47): Median lobe moderately stout, moderately elongate; shape variable, ranging from narrow to broad at base, gradually narrowing apically; apex more or less acutely rounded; fused area moderately elongate. Color: Pronotum and elytra rust brown (6E8) to brownish grey (6F8).

Female unknown.

Distribution. North Carolina, South Carolina, and easternmost Georgia (Fig. 54).

Activity. Mid-June to mid-July.

Material examined. More than 100 males from Georgia, North Carolina, and South Carolina (for complete data, see Appendix).

Selonodon gracilis Galley, new sp.

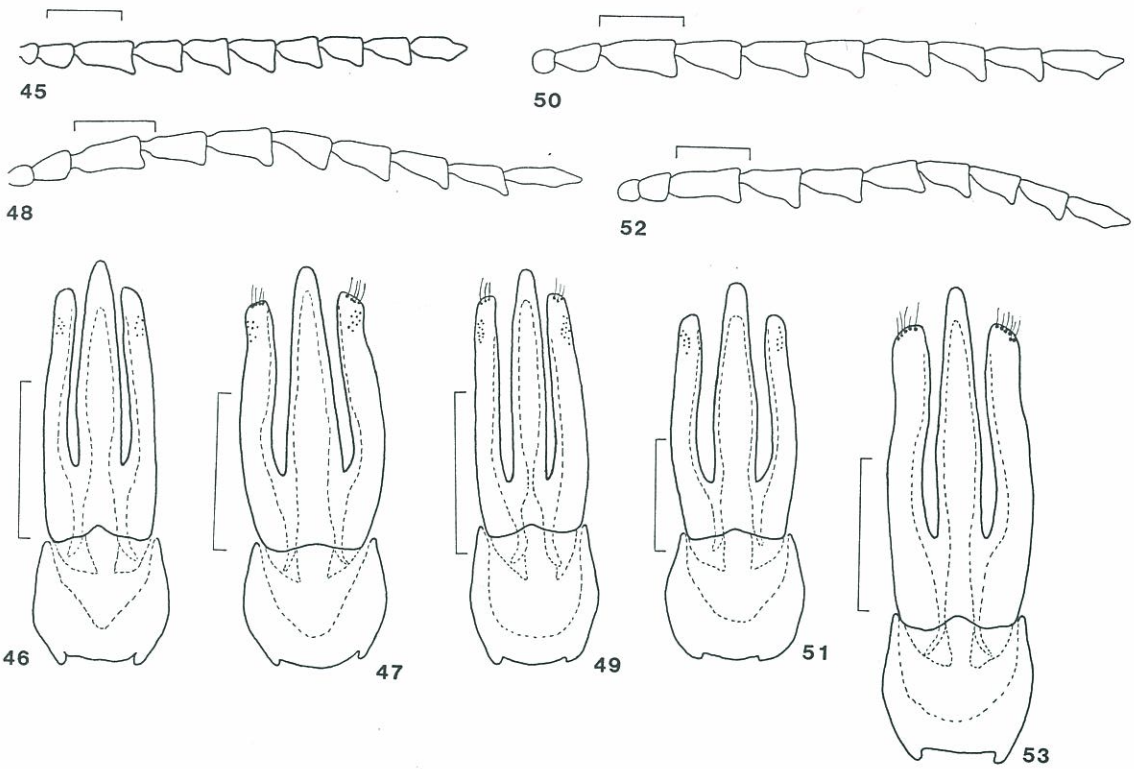
Figs. 48-49

Type material. *Selonodon gracilis* Galley, n.sp. Holotype, male (FSCA), label data: "Columbia/Tenn[essee]. VI 29 1955/B.K. Dozier", "Light", "HOLOTYPE Selonodon gracilis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 2 males. U.S.A.: **Alabama:** *Lauderdale Co.:* Wilson Dam FQ, 08.vii.1941 (2,FSCA).

Diagnosis. Male. Large body size; median lobe of aedeagus very slender and elongate, apex slightly constricted (Fig. 49); fused area of aedeagus very short.

Description. Male. Head: Labrum very broad, with small, shallow, V-shaped excavation; clypeolabral suture moderately curved; mandible broad; frons flat; with or without broad depression between eyes; densely punctate, punctures large, approximately 0.05 mm in diameter; pubescence moderately sparse. Antenna (Fig. 48): Antennomere II short; III moderately long; IV-XI serrate; exceeding apex of hind angle of pronotum by 3 segments. Prothorax: Apex of pronotum weakly arcuate; sides more or less straight from



Figs. 45-53. *Bicolor* group (part): **45-47.** *Selonodon bicolor,* male. 45. Antenna, segments II-XI. 46-47. Aedeagus, dorsal. **48-49.** *Selonodon gracilis,* male. 48. Antenna, segments II-XI. 49. Aedeagus, dorsal. **50-51.** *Selonodon appalachiensis,* male. 50. Antenna, segments II-XI. 51. Aedeagus, dorsal. **52-53.** *Selonodon perplexus,* male. 52. Antenna, segments II-XI. 53. Aedeagus, dorsal. Scale bar = 1 mm.

base to apex; densely punctate, punctures large, approximately 0.05 mm in diameter; prosternum broad; anterior angle moderately narrow, elongate, tapering to apex, apex acutely rounded; prosternal process broad to very broad along entire length; tibial scoop moderately large; tarsomeres II-IV moderately short. Elytra: Moderately densely punctate, punctures small, approximately 0.03 mm in diameter; left elytron length: 12.0-13.7 mm (mean=13.1 mm, N=5, s=0.5). Aedeagus (Fig. 49): Median lobe of aedeagus slender, very elongate, more or less evenly broad along entire length; apex slightly constricted, somewhat rounded; chitin rod absent; fused area of aedeagus very short. Color: Pronotum and elytra dark brown (7E7-7F7).

Female unknown.

Etymology. From the Latin *gracilis,* slender, referring to the slender, elongate median lobe of the aedeagus.

Distribution. Northernmost Alabama, central Tennessee (Fig. 54).

Activity. The type series was collected between late June and early July.

Additional material examined. Males. U.S.A.: **Tennessee:** *Davidson Co.:* Nashville (2,USNM).

Selonodon appalachiensis Galley, new sp.

Figs. 50-51

Type material. Holotype, male (FMNH), label data: "Stephens Co., G[eorgi]a./VII-20-64 /L.A. Cambre", "J.N. Knull Collection", "HOLOTYPE Selonodon appalachiensis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 25 males. U.S.A.: **Georgia:** *Rabun Co.:* 08.vii.1928 (2,AMNH; 1,CUIC); 07.vi.1965 (7,OSU). *Stephens Co.:* 20.vii.1964 (5,FMNH). **North Carolina:** *Transylvania Co.:* Cedar Mtn., 30.vii.1960 (1,MCZ). **South Carolina:** *Pickens Co.:* Clemson College: 07.vi.1932 (1, CNC); 13.vii.1931 (1,CNC); 05.vii.1931 (1,CNC); 30.vi. 1931 (1,FMNH); 10.vii.1931 (2,FMNH); 13.vii.1931 (1, FMNH); 14.vii.1931 (2,FMNH).

Diagnosis. Male. Very large body size; labrum lacking excavation, often with a tiny, thickened area at the center of the outer margin; apex of median lobe of aedeagus very broadly rounded (Fig. 51).

Description. Male. Head: Labrum lacking excavation, often with a tiny ridge or thickened area at the center of the outer margin; clypeolabral suture moderately curved, nearly V-shaped; pubescence long, moderately sparse. Antenna (Fig. 50): Antennomere II short, III long, IV-XI serrate, exceeding apex of hind angle of pronotum by 2-3 segments. Prothorax: Prosternum moderately narrow; anterior angle moderately narrow, somewhat elongate, apex rounded; prosternal process moderately broad (similar to Fig. 71). Elytra: Densely punctate, punctures large, approximately 0.05 mm in diameter; left elytron length: 12.6-15.6 mm (mean=14.2, N=68, s=0.6). Aedeagus (Fig. 51): Median lobe stout, elongate, slightly widened near base, tapering to

apex; apex broad, very bluntly rounded; paramere relatively slender; fused area short. Color: Pronotum and elytra dark brown to very dark brown (7F7 to darker than 7F5).

Female unknown.

Etymology. Named for the Appalachian Mountains, referring to this species' distribution in the southern Blue Ridge Mountains.

Distribution. Southwestern corner of North Carolina, northeastern corner of Georgia, northwestern corner of South Carolina (Fig. 54).

Activity. July to early August.

Additional material examined. Fifty males from Georgia, North Carolina, and South Carolina (for complete data, see Appendix).

Selonodon perplexus Galley, new sp.

Figs. 52-53

Type material. Holotype, male (CNC), label data: "ALA-[BAMA].: Shelby Co.;/Helena/VI:24:55/ leg. H.R. Steeves Jr.", "at light", "CNHM 1962/H.R. Steeves, Jr./Gen. Coleop. Colln./Acc. Z-13, 050", "HOLOTYPE Selonodon perplexus Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Left antennomeres VIII-XI and right metathoracic tarsomeres IV-V missing.

Paratypes, 34 males. U.S.A.: **Alabama:** *DeKalb Co.:* 02. viii.1969, trap light (2,AUEM). *Elmore Co.:* Lightwood Community: 06.vii.1973, light trap in woods (3,AUEM); 07.vii.1973, light trap in woods (7,AUEM). *Shelby Co.:* nr. Helena (1,FMNH); Helena: same label data as holotype (1, CNC); 16.vi.1950 (1,FMNH); 24.vi.1955 (2,FMNH). *Tallapoosa Co.:* Camp Hill, 02.vii.1979 (10,AUEM). **Georgia:** *Dade Co.:* Cloudland Canyon St. Pk., 16.viii.1982 (7, FSCA).

Diagnosis. Male. Large body size; antenna elongate, exceeding apex of hind angle of pronotum by 3-4 segments (Fig. 52); median lobe of aedeagus elongate, slender (Fig. 53); paramere somewhat widened toward apex.

Description. Male. Head: Labrum with broad, shallow excavation; clypeolabral suture moderately curved; shallow depression between eyes. Pubescence moderately sparse. Antenna (Fig. 52): Antennomere II short; III moderately long; IV-XI elongate, serrate; exceeding apex of hind angle of pronotum by 3-4 segments. Prothorax: Prosternum moderately narrow; anterior angle moderately narrow, elongate, apex rounded; prosternal process broad to very broad, tapering slightly. Elytra: Densely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter; length of left elytron: 12.5-15.5 mm (mean=13.9 mm, N=40, s=0.7). Aedeagus (Fig. 53): Median lobe elongate, slender, narrowed slightly basally, widened medially, tapering to apex; apex more or less acutely rounded; paramere narrowed basally, somewhat widened apically; fused area short. Color: Pronotum and elytra dark brown to very dark brown (no color match).

Female unknown.

Etymology. From the Latin *perplexus,* confused, referring to the fact that males of this species can be easily confused with other *Selonodon* species of similar appearance.

Distribution. Central and northern Alabama to northern Georgia (Fig. 54).

Activity. July.

Additional material examined. Twenty males from Alabama and Georgia (for complete data, see Appendix).

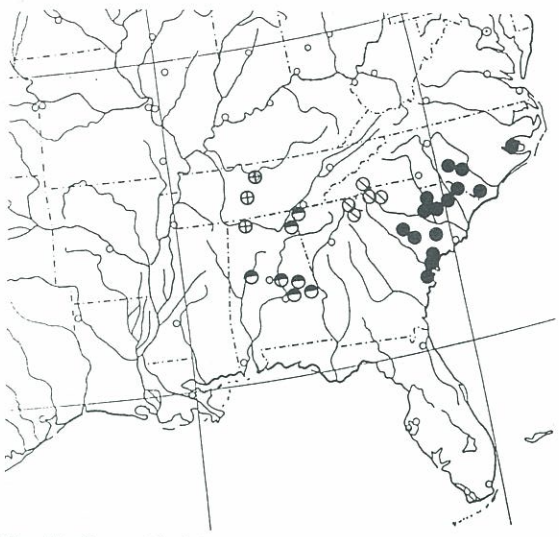


Fig. 54. Geographical distribution of the *bicolor* group (part): *S. bicolor* (dark circle); *S. gracilis* (circle with cross); *S. appalachiensis* (circle with diagonal bar); *S. perplexus* (half-filled circle).

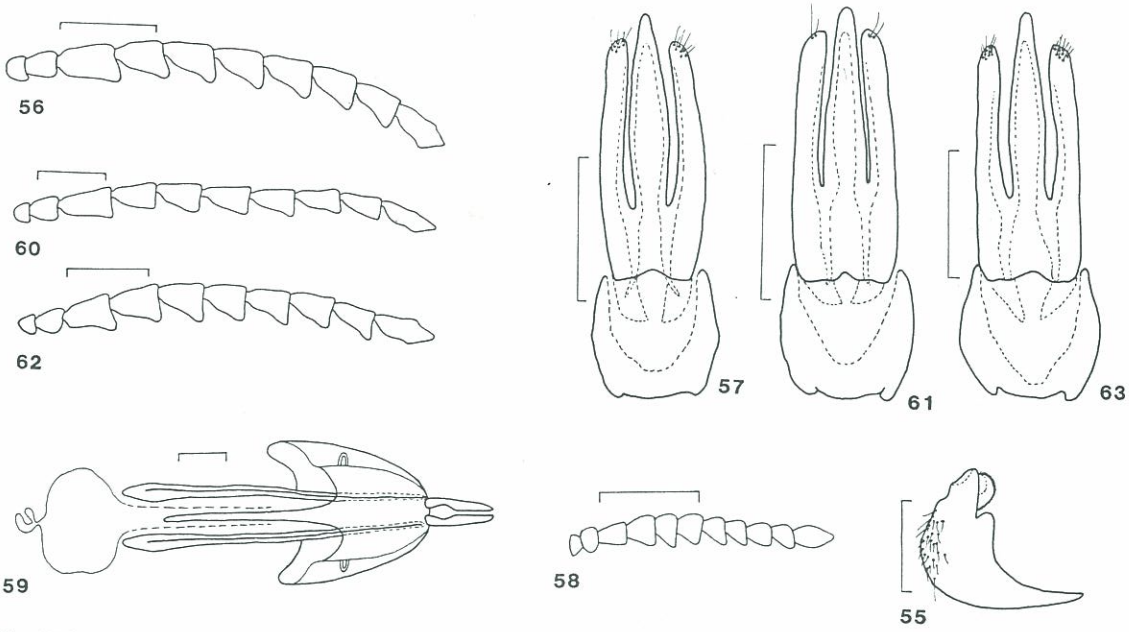
Selonodon floridensis Galley, new sp.

Figs. 55-59

Type material. Holotype, male (FMNH), label data: "Oneco, Fl[orid]a./Manatee Co./Paula Dillman", "J.N. Knull Collection", "HOLOTYPE Selonodon floridensis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Left mesothoracic tarsomeres IV-V missing.

Allotype, female (FSCA), label data: "CLERMONT, FL[ORID]A./ LAKE Co.", "W.P.Henderson/coll. 2-V-[19]69", "ALLOTYPE/ Selonodon floridensis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Right metathoracic tarsomere V missing.

Paratypes, 104 males. U.S.A.: **Florida**: *Alachua Co.:* Gainesville: [no day].vi.1953 (10,FMNH; 23,FSCA); 28. vi.1956, black light trap (1,FSCA); 07.vii.1960, at light (1,FSCA); 29.vii.1977 (1,FSCA); 26.vii.1961, black light trap (1,FSCA); 17.vii.1974, flying just before a rain began (1,FSCA); 07.vii.1956, at light (3,FSCA); Gainesville, Beville Hts.: 26.vi.1980, black light trap (1,FSCA); 02. vii.1980, black light trap (4,FSCA); 04.vii.1980, black light trap (10,FSCA); 05.vii.1980, black light trap (1,FSCA); Gainesville, Doyle Conner bldg.: 17.vii.1972, black light trap (1,FSCA); 19.vii.1972, black light trap (6,FSCA); 20. vii.1985, black light trap (1,FSCA); 25.vii.1972, black light trap (1,FSCA); 31.vii.1972, black light trap (11,FSCA); 06. viii.1972, black light trap (2,FSCA); Gainesville, Pine Hills Estates: 17.vii.1969 (2,FSCA); 5 mi. S Micanopy: 29-31.v. 1978, insect flight traps (2,FSCA). *Lake Co.:* Clermont, 02.



Figs. 55-63. *Bicolor* group (part): **55-59.** *Selonodon floridensis.* 55-57, male. 55. Left mandible. 56. Antenna, segments II-XI. 57. Aedeagus, dorsal. 58-59, female. 58. Antenna, segments II-XI. 59. Genitalia. **60-61.** *Selonodon santarosae,* male. 60. Antenna, segments II-XI. 61. Aedeagus, dorsal. **62-63.** *Selonodon simplex,* male. 62. Antenna, segments II-XI. 63. Aedeagus, dorsal. Scale bar = 1 mm.

v.1969 (1,FSCA). *Manatee Co.:* Oneco [no date] (4,FMNH; 9,FSCA). *Polk Co.:* Lakeland, 30.v.1942 (1,CNC; 4, FMNH).

Diagnosis. Male. Moderately large body size; outer margin of labrum often rounded (rather than quadrate); clypeolabral suture strongly curved; prosternal process broad, tapering; median lobe of aedeagus slightly broadened medially, tapered to apex (Fig. 57).

Description. Male. Head: Labrum often with very rounded outer margin; small, shallow excavation sometimes present; clypeolabral suture strongly curved. Antenna (Fig. 56): Antennomere II short; III moderately long; IV-XI serrate; exceeding apex of hind angle of pronotum by 1-2 segments. Prothorax: Prosternum moderately narrow; anterior angle moderately broad, apex rounded; prosternal process moderately broad, tapering slightly. Elytra: Densely punctate, punctures small, approximately 0.03 mm in diameter; left elytron length: 10.7-14.4 mm (mean=11.9 mm, N=149, s=0.7). Aedeagus (Fig. 57): Median lobe slender to stout, moderately elongate; shape variable, ranging from more or less evenly broad to widened slightly medially, tapering to apex; apex acutely rounded; fused area moderately elongate. Color: Pronotum and elytra dark brown (7F8 to 7F4).

Female. Agrees with male in characters of head and prothorax. Antenna (Fig. 58) short of hind angle of pronotum by at least 7 segments. Elytra sparsely punctate, punctures small, usually approximately 0.03-0.04 mm in diameter. Left elytron length: 12.6-14.7 mm (mean=13.9 mm, N=3, s=1.1). Genitalia as shown in Fig. 59. Apex of ovipositor valve acute. Egg color golden yellow (5B7) to light brown (6D8).

Etymology. Named for the state of Florida, where this species appears to be precinctive.

Distribution. Central Florida, north to Alachua Co., south to Manatee Co. (Fig. 64).

Activity. Late May to late July.

Additional material examined. More than 140 males and 2 females from central Florida (for complete data, see Appendix).

Selonodon santarosae Galley, new sp.

Figs. 60-61

Type material. Holotype, male (FSCA), label data: "FLORIDA: Escambia Co./Pensacola 6-VII-1960/T.W. Boyd; blacklight", "HOLOTYPE Selonodon santarosae Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 113 males. U.S.A.: **Florida:** *Escambia Co.:* Pensacola, same label data as holotype (6,FSCA). *Okaloosa Co.:* 1.5 mi. S Munson, Sweetwater Creek, 14.vi.1974 (1, UGEM). *Santa Rosa Co.:* 4.5 mi. NW Holt, 15.vi.1974 (5, CNC; 101,UGEM).

Diagnosis. Male. Mandibles relatively slender at base; pronotum and elytra light brown to rust brown; prosternal process moderately narrow; fused area of aedeagus relatively elongate (Fig. 61).

Description. Male. Head: Labrum lacking excavation, outer margin more or less straight; clypeolabral suture strongly curved; round depression between eyes. Antenna (Fig. 60): Antennomere II short; III moderately long, weakly subconical; IV-XI serrate; exceeding apex of hind angle of pronotum by 1-2 segments. Prothorax: Prosternum moderately narrow; anterior angle moderately broad, apex rounded; prosternal process moderately narrow (similar to Fig. 3). Elytra: Densely punctate, punctures moderately large and

round, approximately 0.03-0.05 mm in diameter; left elytron length: 10.0-12.8 mm (mean=11.3 mm, N=119, s=0.6). Aedeagus (Fig. 61): Median lobe stout, short; shape variable, ranging from narrow to stout at base, gradually tapering to apex; apex more or less acutely rounded; fused area relatively elongate; paramere relatively stout and evenly straight along entire length. Color: Pronotum and elytra light brown (6D8) to rust brown (6E8).

Female unknown.

Etymology. Named for Santa Rosa Co., Florida, where this species has been collected in abundance.

Distribution. Known from three counties in northwest Florida (Fig. 64).

Activity. Mid-June to mid-July.

Additional material examined. Males. U.S.A.: **Florida:** *Escambia Co.:* Pensacola, 21.vi.1943, flying to lite [sic] (1,USNM). *Okaloosa Co.:* FAMU Biol. Sta., Blackwater R., 09.vi.1972, black light (7,RHT).

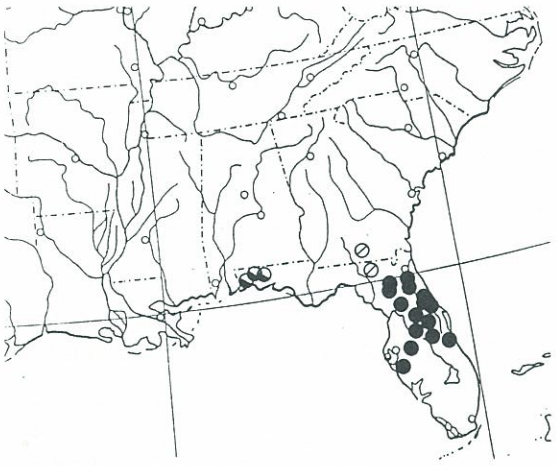


Fig. 64. Geographical distribution of the *bicolor* group (part): *S. floridensis* (dark circle); *S. santarosae* (half-filled circle); *S. simplex* (circle with diagonal bar).

Selonodon simplex (LeConte)

Figs. 62-63

Cebrio simplex LeConte, 1853:503. Holotype, male (MCZ), label data: orange dot, "S. simplex/G[eorgi]a. Lec[onte]", "Type 2632", "bicolor?". Genitalia in glycerin-filled microvial below specimen.

Selenodon simplex, Chevrolat, 1874:535 (misspelling of *Selonodon* Latreille, 1834).

Cebrio confusus LeConte, 1853:504. Holotype, male (MCZ), label data: orange dot, "S. confusus/ "G[eorgi]a. Lec[onte]", "Type 2631", "bicolor?". Genitalia in glycerin-filled microvial below specimen. **New Synonymy.**

Selenodon confusus, Chevrolat, 1874:536 (misspelling of *Selonodon* Latreille, 1834).

Diagnosis. Large body size; clypeolabral suture strongly curved; meso- and metathoracic tarsomeres II-IV very short; antenna short (Fig. 62); median lobe of aedeagus slender, as in Fig. 63.

Description. Male. Head: Outer margin of labrum straight to slightly rounded, lacking excavation; clypeolabral suture strongly curved. Antenna (Fig. 62): Antennomere II short; III moderately long; IV-XI serrate; exceeding apex of hind angle of pronotum by 1 segment. Prothorax: Prosternum moderately broad; anterior angle broad, apex rounded; prosternal process more or less moderately broad along entire length. Elytra: Densely punctate, punctures large, approximately 0.05 mm in diameter; left elytron length: 11.7-13.6 mm (mean=12.7 mm, N=34, s=0.5). Aedeagus (Fig. 63): Median lobe slender, elongate, widened slightly medially, tapered to apex; apex acutely rounded; paramere slender; fused area moderately elongate. Color: Pronotum and elytra agate brown (7E8) to dark brown (6F7, 6F8).

Female unknown.

Distribution. Northernmost Florida, southernmost Georgia (Fig. 64).

Activity. June-July.

Material examined. Thirty-five males from Florida and Georgia (for complete data, see Appendix).

Selonodon ferrugineus Galley, new sp.

Figs. 65-67

Type Material. Holotype, male (CUIC), label data: "Spring Creek/Decatur Co G[eorgi]a/June 7-23, '[19]11/J.C. Bradley", "HOLOTYPE Selonodon ferrugineus Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Missing right prothoracic tarsomeres II-IV.

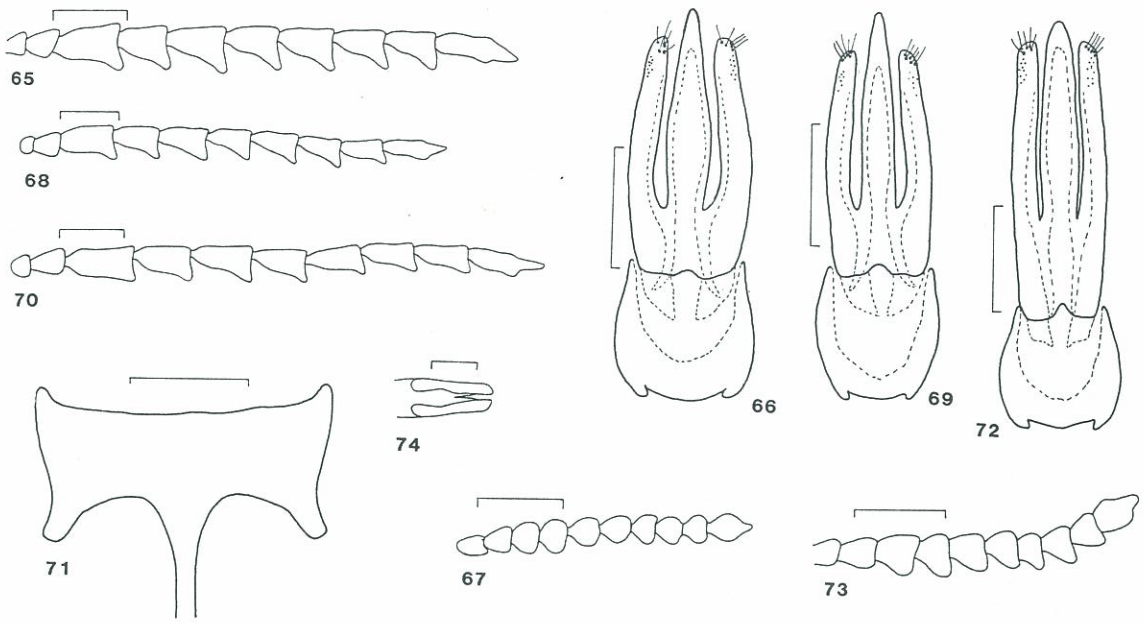
Allotype, female (FSCA), label data: "FL[ORID]A.: Liberty Co./Torreya State Park/25-Vi-1981/P.M. Choate, Jr.", "ALLOTYPE Selonodon ferrugineus Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 32 males. U.S.A.: **Florida:** *Gadsden Co.:* Quincy, 03.vi.1958, light (1,FMNH). *Liberty Co.:* Torreya St. Pk.: 13.vi.1962 (1,FSCA); 25.vi.1981 (15,FSCA); 05.vii. 1973, blacklight (3,FSCA). **Georgia:** *Baker Co.:* Newton, Emory Union Fld. Sta., 21-23.vii.1951 (3,CNC). *Decatur Co.:* Spring Creek: 16-29.vii.1912 (2,CAS); 07-23.vi.1911 (2,CUIC). *Dougherty Co.:* 28.vi.1963, black light trap (5, USNM).

Diagnosis. Male. Large body size; prosternal process moderately narrow to narrow; pronotum and elytra rusty brown; median lobe of aedeagus as in Fig. 66.

Description. Male. Head: Labrum variable, outer margin ranging from quadrate with no excavation to rounded with shallow excavation; clypeolabral suture only moderately curved; small, round, shallow depression between eyes often present. Antenna (Fig. 65): Antennomere II short; III short to moderately elongate; IV-XI serrate; exceeding apex of hind angle of prothorax by 1 segment or less. Prothorax: Prosternum moderately broad; anterior angle moderately broad, apex rounded; prosternal process moderately narrow to narrow, tapering slightly. Elytra: Densely to very densely punctate, punctures large, approximately 0.05 mm in diameter; left elytron length: 11.9-15.0 mm (mean=13.2 mm, N=123, s=0.7). Aedeagus (Fig. 66): Median lobe stout, elongate, narrowed basally, widened medially, tapering to apex; apex acutely rounded; paramere stout; fused area short. Color: Anterior 2/3 of pronotum eye brown (7F6), posterior 1/3 light brown (6D8); elytra rust brown (6E8).

Female (2 specimens). Agrees with male in characters



Figs. 65-74. *Bicolor* group (part): **65-67.** *Selonodon ferrugineus.* 65. Antenna, segments II-XI, male. 66. Aedeagus, dorsal, male. 67. Antenna, segments II-XI, female. **68-69.** *Selonodon similis,* male. 68. Antenna, segments II-XI. 69. Aedeagus, dorsal. **70-74.** *Selonodon mississippiensis.* 70-72, male. 70. Antenna, segments II-XI. 71. Prosternum. 72. Aedeagus, dorsal. 73-74, female. 73. Antenna, segments II-XI. 74. Ovipositor valve. Scale bar = 1 mm.

of head and prothorax. Outer margin of labrum straight, no excavation. Small, round, shallow depression between eyes. Antenna (Fig. 67) short of hind angle of pronotum by 7 segments. Left elytron length: 15.8-17.3 mm (mean=16.6 mm, N=2, s=1.1). Genitalia similar to Fig. 59. Apex of ovipositor valve acute. Egg color light brown (6D8).

Etymology. From the Latin *ferrugineus,* rust-colored, referring to the color of the pronotum and elytra of this species.

Distribution. Florida Panhandle, southwestern Georgia (Fig. 75).

Activity. Mid-June to mid-July.

Additional material examined. More than 130 males and one female from Florida and Georgia (for complete data, see Appendix).

Selonodon similis Galley, new sp.

Figs. 68-69

Type material. Holotype, male (USNM), label data: "FLORIDA, 17 mi. N./Tallahassee, Tall/Timbers Res[earch]. Sta[tion]./ 5-11 July, 1967/L. Collins", "HOLOTYPE Selonodon similis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Excellent.

Paratypes, 20 males. U.S.A.: **Florida:** *Leon Co.:* Tall Timbers Res. Sta., 17 mi. N. Tallahassee: 01-03.vi.1967 (1, USNM); 01-08.vi.1967 (5,USNM); 09-15.vii.1972 (1, USNM); 16-24.vi.1967 (4,USNM); 05-11.vii.1967 (9, USNM).

Diagnosis. Male. Large body size; median lobe of aedeagus elongate, slender (Fig. 69).

Description. Male. Head: Labrum usually with outer margin more or less straight (if present, excavation usually small, shallow); clypeolabral suture moderately curved. Antenna (Fig. 68): Antennomere II short; III moderately elongate; IV-XI serrate; exceeding apex of hind angle of pronotum by 2-3 segments. Prothorax: Prosternum moderately broad; anterior angle broad, apex rounded; prosternal process broad, tapering slightly. Elytra: Densely punctate, punctures large, approximately 0.05 mm in diameter; left elytron length: 11.2-14.7 mm (mean=12.8 mm, N=48, s=0.9). Aedeagus (Fig. 69): Median lobe slender, elongate; widened slightly medially, tapering to apex; apex acutely rounded; fused area short. Color: Prothorax and elytra brownish grey (6F8) to very dark brown (no color match).

Female unknown.

Etymology. From the Latin *similis,* like, referring to this species' superficial resemblance to other large, brown species of the *bicolor* group.

Distribution. Known only from Leon Co., Florida (Fig. 75).

Activity. Late June through July.

Additional material examined. Six males from Leon Co., Florida: 18.vi.1924 (1,USNM); Tall Timbers Res. Sta., 20 mi N. Tallahassee: 09-15.vii.1972 (1,FSCA); 01-08.vii.1972 (1,FSCA); 16-22.vii.1972 (3,FSCA).

Selonodon mississippiensis Galley, new sp.

Figs. 70-74

Type material. Holotype, male (CUIC), label data: "Lucedale, Miss[issippi]./6-16-1931/H. Dietrich", "HOLOTYPE Selonodon mississippiensis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Left

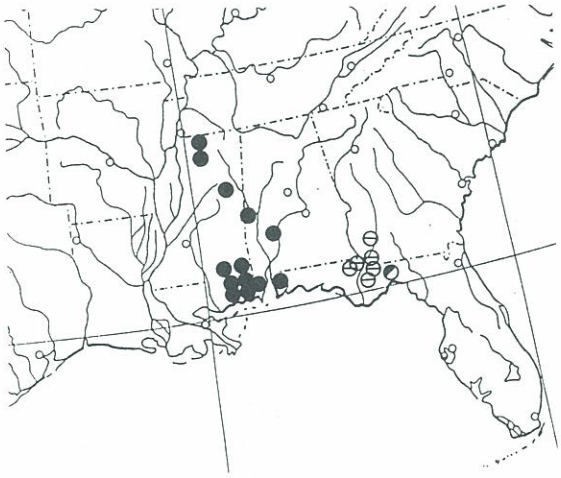


Fig. 75. Geographical distribution of the *bicolor* group (part): *S. ferrugineus* (circle with horizontal bar); *S. similis* (half-filled circle); *S. mississippiensis* (dark circle).

metathoracic tarsomeres IV-V missing.

Allotype, female (CUIC), label data: "Perkinston, Miss[issippi]./7-15-[19]29/J.P. Kislanko", "ALLOTYPE Selonodon mississippiensis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Right prothoracic tarsomere V missing; left elytron removed to show fully developed wing, pinned beneath locale label.

Paratypes, 27 males. U.S.A.: **Mississippi:** *George Co.:* Lucedale: 16.vi.1931 (2,CAS); [no month or day] 1931 (3, CAS); 16.v.1931 (15,CUIC); 25.v.1929 (1,CUIC); 31.v.1929 (1,CUIC). *Stone Co.:* Perkinston, 15.v.1929 (4,CUIC); Wiggins, 23.vi.1915 (1,CAS).

Diagnosis. Male. Large body size; antenna exceeding apex of hind angle of pronotum by 2 segments (Fig. 70); median lobe of aedeagus elongate (Fig. 72); fused area of aedeagus elongate; short chitin rod present.

Description. Male. Head: Labrum with variable excavation, ranging from very small and V-shaped to very broad and shallow; clypeolabral suture moderately curved. Antenna (Fig. 70): Antennomere II short; III moderately long; IV-XI serrate; exceeding apex of hind angle of pronotum by at least 2 segments. Prothorax: Lateral anterior edge of pronotum sometimes forming a blunt or sharp projection; prosternum moderately narrow; anterior angle moderately broad, somewhat elongate, apex rounded; prosternal process usually moderately broad along entire length, but occasionally tapering to moderately narrow (Fig. 71). Elytra: Densely to very densely punctate, punctures usually large, approximately 0.05 mm in diameter; left elytron length: 12.0-14.7 mm (mean=13.4 mm, N=40, s=1.0). Aedeagus (Fig. 72): Median lobe stout, elongate; shape variable, ranging from narrowed at base, tapering to apex to evenly broad along entire length; apex acutely to broadly rounded; fused area elongate; short chitin rod usually present. Color: Pronotum and elytra brown to dark brown (7E7 to 7F8).

Female (1 specimen). Head and prothorax generally as in male. Labrum with broad, shallow V-shaped excavation. Antenna (Fig. 73) short of hind angle of pronotum by 7-8 segments. Apex of pronotum strongly arcuate. Prosternal process broad. Left elytron length: 16.2 mm. Genitalia similar to Fig. 59. Apex of ovipositor valve widened (Fig. 74). Egg color ranging from burnt Sienna (7D8) to agate brown (7E8).

Etymology. Species named for the state of Mississippi where this species is widely distributed.

Distribution. Alabama and Mississippi (Fig. 75).

Activity. Mid-June to mid-July.

Additional material examined. More than 100 males and 1 female from Alabama and Mississippi (for complete data, see Appendix).

UNPLACED SPECIES

Selonodon sagittiformis Galley, new sp.

Figs. 76-78

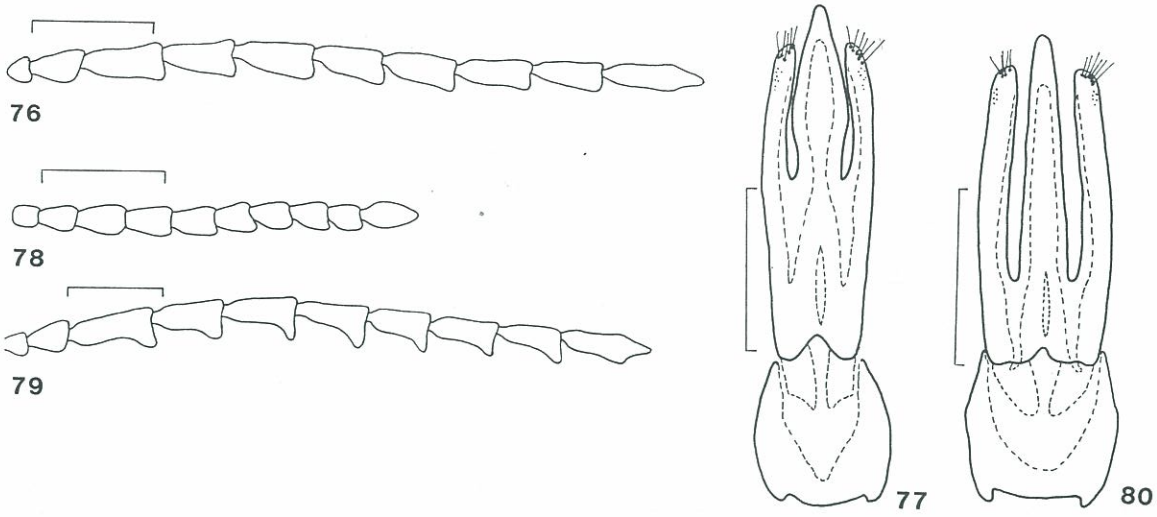
Type material. Holotype, male (USNM [via TAMU]), label data: "TEXAS: Salmon/Anderson Co./July 22-Aug 2, 1974/H.R. Burke", "Taken from / malaise trap", "HOLOTYPE Selonodon sagittiformis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Right antennomeres III-XI and right mesothoracic tarsomeres I-V missing.

Allotype, female (USNM [via TAMU]), label data: "TEXAS: Salmon/Anderson Co./VII-21-1974/H.R. Burke", "ALLOTYPE Selonodon sagittiformis Galley 1989". Genitalia in glycerin-filled microvial below specimen. Condition: Left metathoracic tarsomeres I-V missing.

Paratypes, 6 males. U.S.A.: **Texas:** *Anderson Co.:* Salmon: 01-08.vii.1974, malaise trap (2,TAMU); 22.vii.-02.viii.1974, malaise trap (1,TAMU). Tennessee Colony, 10.viii.1963, light (2,CNC). *Henderson Co.:* Payne Springs nr. Cedar Creek Lake, 03.vii.1966 (1,CUIC).

Diagnosis. Male. Antenna weakly serrate (Fig. 76); prosternum and prosternal process moderately broad; median lobe of aedeagus arrow-shaped (Fig. 77).

Description. Male. Head: Labrum very broad, excavation variable; clypeolabral suture distinct, more or less straight; frons slightly convex, with small, shallow depression; small, shallow depression between eyes; very densely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter; pubescence sparse. Antenna (Fig. 76): Antennomere II short, III moderately long, subconical; IV-XI weakly serrate; exceeding apex of hind angle of pronotum by 2 segments. Prothorax: Apex of pronotum rounded; sides more or less straight from base to apex; densely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter; pubescence short, sparse; prosternum moderately broad; anterior angle broad, broadly rounded; prosternal process usually moderately broad, tapering (similar to Fig. 38); tibial scoop moderately large; tarsomeres II-IV moderately elongate, slender. Elytra: Densely punctate, punctures moderately large, approximately 0.03-0.05 mm in diameter; surface appearing somewhat uneven; left elytron length: 8.2-9.6 mm (mean=9.1 mm, N=8, s=0.7). Aedeagus (Fig. 77): Median lobe very short, very stout; apex very broad and triangular (arrow-shaped); fused area very elongate; short chitin rod present. Color: Pronotum and elytra brown to dark brown (7E7-7F7).



Figs. 76-80. Unplaced species: **76-78.** *Selonodon sagittiformis.* 76-77, male. 76. Antenna, segments II-XI. 77. Aedeagus, dorsal. 78. Antenna, segments II-XI, female. **79-80.** *Selonodon orestes,* male. 79. Antenna, segments II-XI. 80. Aedeagus, dorsal. Scale bar = 1 mm.

Female (1 specimen). Generally agrees with male in characters of head and prothorax. Head moderately densely punctate, punctures small, approximately 0.03 mm in diameter. Antenna (Fig. 78) short of hind angle of pronotum by 6 segments. Sides of pronotum slightly divergent from base to apex. Elytra sparsely punctate, punctures small, approximately 0.03 mm in diameter. Left elytron length: 13.0 mm. External genitalia similar to Fig. 59. Apex of ovipositor valve acute. Egg color wheat (4B5).

Etymology. From the Latin *sagitta,* arrow, and *-formis,* shape, referring to the arrow-shaped median lobe of the aedeagus.

Distribution. Known from two counties in eastern Texas (Fig. 81).

Activity. Early July to mid-August.

Selonodon orestes Galley, new sp.

Figs. 79-80

Type material. Holotype, male (CUIC), label data: "Black Mt Tenn[essee]/Cumberland Co./M[a]y-Aug[ust] 1917 A.C. Gill", "Cornell U. No. 907 Sub. 55(?)", "HOLOTYPE Selonodon orestes Galley 1989". Genitalia in microvial filled with 70% ethanol below specimen. Condition: Excellent.

Paratypes, 4 males, same locality data as holotype (1, CAS; 3,CUIC).

Diagnosis. Male. Moderately large body size; median lobe of aedeagus slender, elongate (Fig. 80); short chitin rod present.

Description. Male. Head: Labrum very broad, with or without small, shallow excavation; mandible very broad, somewhat curved; clypeolabral suture distinct, somewhat curved; frons flat; vertex densely punctate, punctures small, approximately 0.03 mm in diameter; pubescence moderately sparse. Antenna (Fig. 79): Antennomere II short; III moderately elongate; IV-XI serrate; exceeding apex of hind angle of pronotum by 3 segments. Prothorax: Apex of pronotum weakly arcuate; sides straight from base to apex; densely punctate, punctures small, approximately 0.03 mm in diameter; pubescence moderately dense; prosternum moderately narrow; anterior angle moderately narrow, elongate, tapering to apex, apex acutely rounded; prosternal process moderately narrow along entire length; tibial scoop moderately large; tarsomeres II-IV short. Elytra: Sparsely punctate, punctures small, approximately 0.03 mm in diameter; left elytron length: 12.2-12.8 mm (mean=12.5 mm, N=5, s=0.3). Aedeagus (Fig. 80): Median lobe slender, elongate, gradually tapering to apex; apex more or less acutely rounded; paramere slender; fused area short; short chitin rod present. Color: Pronotum and elytra rust brown (6E8) to agate brown (7E8).

Female unknown.

Etymology. From the Greek *orestes,* mountaineer, referring to the locale where the type series was collected.

Distribution. Known from one locality in Cumberland Co., Tennessee, near the Crab Orchard Mountains (Fig. 81).

Fig. 81. Geographical distributions of *Selonodon* spp.: *S. sagittiformis* (dark circle); *S. orestes* (circle with horizontal bar).

PHYLOGENETIC ANALYSIS

Character Analysis

Twenty-two morphological characters of the adult stage were used in the cladistic analysis. The sister group of *Selonodon* is uncertain. Character state polarities were determined using species of the cebrionid genera *Cebrio* (Europe) and *Scaptolenus* (North America) for outgroup comparison (Table 3). In the preliminary analysis, characters with multiple states among the outgroup species were not considered further for the cladistic analysis. Character states and polarities are presented below. The character state matrix constitutes Table 4. Monophyly of *Selonodon* is supported by the broad, trapezoidal labrum (1) and the bases of the median lobe and parameres of the aedeagus fused (22) ("fused area of the aedeagus" [e.g., Figs. 4, 20, 25, 32, 39 and 46]).

The following characters were used in the cladistic analysis: (0) denotes the plesiomorphic state and (1), (2), (3), (4) denote progressively apomorphic states.

LABRUM

1) Shape: long and narrow (0); short, broad and trapezoidal (1). Although labrum shape was not categorized more specifically than "trapezoidal", it tends to be characteristic for each species group.
2) Median callosity: absent (0); present (1).

MANDIBLE

3) Length: long (0) (Figs. 1, 11, 17, 33, 55); short (1) (Fig. 26).
4) Retinacular tooth: absent (0); present (1) (Fig. 17).
5) Shape: Long, stout, crescent-shaped mandibles are diagnostic for the Cebrionidae (0). Shape, however, varies considerably between species groups (Figs. 1, 11, 17, 26, 33, 55). The mandible of the *speratus* group has the outer margin broadened (1) (Fig. 1), except in *S. mandibularis,* which has the inner surface reduced so that the mandible appears sickle-like (2) (Fig. 11). Transformation series ordered: 0→1→2.
6) Molar tooth: absent (0); present (1) (Figs. 33, 55).
7) Hyaline area: absent (0); present (1). This setose structure may be present on the molar tooth (Fig. 55) or at the basal part of the mandible (Fig. 1).

CLYPEUS and FRONS

8) Clypeolabral suture: distinct (0); faint to absent (1).
9) Clypeolabral suture: straight (0); curved (1); strongly curved (2). Transformation series ordered: 0 →1 →2.
10) Frons: flat (0); projected into protuberances (1); broadly convex (2); depressed (3). Transformation series unordered.

THORAX and LEGS

11) Prosternal width: narrow (0) (Figs. 3, 13); moderately broad (1) (Fig. 72); broad (2) (Figs. 19, 28). Stibick (1979) differentiated between the shortened prosternum of cebrionids and the truncate prosternum of the elaterid subfamily Aplastinae. Compared to elaterids, cebrionids have an extremely narrow prosternum. The width of the prosternum in *Selonodon* ranges from narrow to broad (but never as broad as in elaterids). Transformation series ordered: 0→1→2.
12) Anterior angle of pronotum: broad, short (0); narrow, elongate (1).
13) Anterior angle of prosternum: apex nearly acute (0) (Figs. 3, 13); apex rounded (1) (Figs. 19, 28); moderately triangular (2) (Figs. 38, 71). Transformation series unordered.
14) Prosternal process: broad, fairly straight (0); moderately broad, straight (1) (Fig. 71); broad basally, tapering to very narrow (2) (Figs. 19, 28); narrow (3) (Fig. 3); very narrow (4) (Fig. 13). The shape of the prosternal process is quite variable among *Selonodon* species but tends to be similar within species groups. Transformation series unordered.
15) Hind coxa: quadrate (0); triangular (1).

ELYTRA

16) Punctation: point-like (0); raised (1).
17) Punctation: average diameter 0.05-0.06 mm (0); average diameter less than 0.05 mm (1).

AEDEAGUS

18) Chitin rod: present (0) (e.g., Figs. 4, 20, 25); absent (1). Absence is regarded as an apomorphic loss.
19) Chitin rod (if present): long (0) (e.g., Figs. 4, 20, 25); short (1) (Figs. 72, 77, 80).
20) Median lobe: not constricted (0); constricted near the base (1) (Figs. 4, 8, 10, 14).
21) Endophallus: not everted (0); everted as a thick-looking, rounded sac ("balloon-like") (1). The endophallus is located on the ventral side of the median lobe of the aedeagus.
22) Parameres and median lobe: articulated (0); fused at the base (1) (e.g., Figs. 4, 20, 25, 32, 39 and 46). This fusion is a synapomorphy for *Selonodon.*

Table 3. Outgroup cebrionid taxa used in cladistic analysis of *Selonodon.*

TAXON	LOCALITIES
Cebrio gigas Fabricius	France; Spain; Yugoslavia; Sardinia; China
Cebrio sp.1	France
Cebrio sp.2	Tarifa, Spain
Scaptolenus fuscipennis Fall	Douglas, Arizona, U.S.A.
Scaptolenus lecontei Chevrolat	Jennings, Louisiana, U.S.A.
Scaptolenus ocreatus Horn	Kingsville, Texas, U.S.A.

Table 4. Character state matrix for *Selonodon* and outgroups. Inapplicable data coded as -. See *Character Analysis* for transformation series.

	CHARACTER NUMBER																					
TAXON	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Scaptolenus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cebrio	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Selonodon speratus	1	0	0	0	1	0	1	0	0	0	0	0	0	3	0	0	0	0	0	1	0	1
S. parvus	1	0	0	0	1	0	1	1	0	0	0	0	0	3	0	0	0	0	0	1	0	1
S. medialis	1	0	0	0	1	0	1	1	0	0	0	0	0	4	0	0	0	0	0	1	0	1
S. mandibularis	1	0	0	0	2	0	0	1	0	0	0	0	0	4	1	0	0	0	0	1	0	1
S. compositus	1	0	0	1	0	0	0	0	0	2	2	0	1	2	1	1	-	0	0	0	0	1
S. fulvus	1	0	0	1	0	0	0	0	0	2	2	0	1	2	1	1	-	0	0	0	0	1
S. convexifrons	1	0	1	0	0	0	0	0	0	1	2	0	1	2	1	1	-	0	0	0	0	1
S. abnormis	1	0	1	0	0	0	0	0	0	1	2	0	1	2	1	1	-	0	0	0	0	1
S. estriatus	1	0	0	0	0	1	1	0	0	0	1	0	2	4	1	0	1	1	-	0	0	1
S. archboldi	1	0	0	0	0	1	1	0	0	0	1	0	2	4	0	0	1	1	-	0	0	1
S. depressifrons	1	0	0	0	0	1	1	0	1	3	1	0	2	1	0	0	1	1	-	0	0	1
S. papillatus	1	0	0	0	0	1	1	0	1	3	1	0	2	1	0	0	1	1	-	0	0	1
S. obscurus	1	0	0	0	0	1	1	0	1	0	1	0	2	1	0	0	1	1	-	0	0	1
S. bicolor	1	1	0	0	0	1	1	0	1	0	1	0	2	1	0	0	1	1	-	0	1	1
S. gracilis	1	1	0	0	0	1	1	0	1	0	1	0	2	1	0	0	1	1	-	0	1	1
S. appalachiensis	1	1	0	0	0	1	1	0	1	0	1	1	2	1	0	0	1	1	-	0	1	1
S. perplexus	1	1	0	0	0	1	1	0	1	0	1	1	2	1	0	0	1	1	-	0	1	1
S. floridensis	1	0	0	0	0	1	1	0	2	0	1	0	2	1	0	0	1	1	-	0	1	1
S. santarosae	1	0	0	0	0	1	1	0	2	0	1	0	2	1	0	0	1	1	-	0	1	1
S. simplex	1	0	0	0	0	1	1	0	2	0	1	0	2	1	0	0	1	1	-	0	1	1
S. ferrugineus	1	0	0	0	0	1	1	0	1	0	1	0	2	1	0	0	1	1	-	0	1	1
S. similis	1	0	0	0	0	1	1	0	1	0	1	0	2	1	0	0	1	1	-	0	1	1
S. mississippiensis	1	0	0	0	0	1	1	0	1	0	1	0	2	1	0	0	1	0	1	0	1	1
S. sagittiformis	1	0	0	0	0	1	1	0	0	3	1	0	2	1	0	0	1	0	1	0	0	1
S. orestes	1	1	0	0	0	1	1	0	1	0	1	0	2	1	0	0	1	0	1	0	0	1

Cladistic Analysis

Hennig86 resulted in six cladograms, each with a length of 39 (C.I. = 0.79, R.I. = 0.92 [Farris, 1989]). The six cladograms differed only in the placements of *S. orestes, (S obscurus + (S. depressifrons + S. papillatus))*, and *S. mississippiensis*. The cladogram of Fig. 82, shown with its supporting characters, was chosen as the hypothesized estimation of species relationships within *Selonodon*. The alternative subcladograms, each shown with its supporting characters, are presented in Figs. 83-87. Placement of supporting characters was examined on each subcladogram, in order to assess whether "...one character is a better indicator of phylogeny than another" (Wheeler, 1986: 104). Placements differed principally for characters 18, 19, and 21. Character 21 (the everted endophallus of the aedeagus) was judged to be a more complex character than either character 18 (absence of a chitin rod in the aedeagus) or 19 (presence of a short chitin rod in the aedeagus). Those trees which displayed homoplasy in character 21 (Figs. 83-85) were rejected on the assumption that homoplasy was less likely in a complex character than in a loss character (18) or in a simple character (19) (Mayr, 1969). The remaining three trees (Figs. 82, 86-87) differed in the positions of *(S. obscurus + (S. depressifrons + S. papillatus))*, and *S. mississippiensis*. The subcladogram of Fig. 87 was rejected because no synapomorphy supports the sister relationship between the *depressifrons* group and the *bicolor* group. Until stronger synapomorphies linking *S. orestes* to the rest of the southeastern species are found, the cladogram of Fig. 82, rather than that of Fig. 86, was chosen as the preferred hypothesis of *Selonodon* relationships.

Six species groups and two unplaced species were designated based on the preferred cladogram. Characters that appear more than once on the cladogram are discussed below:

2) The median callosity on the labrum supports the clade of *(S. bicolor + S. gracilis + (S. appalachiensis + S. perplexus))*, but is also present in *S. orestes*.

7) The shape of the hyaline process on the mandible varies considerably within the genus (e.g., compare Figs. 33 and 55).

8) *S. mandibularis, S. medialis,* and *S. parvus* all have a clypeolabral suture that ranges from faint to absent. This character appears to have been reversed in *S. speratus*.

10) A convex frons is present in both the *compositus* group and *convexifrons* group. In the *compositus* group, it is a broadly convex ridge between the bases of the antennae (10.2). In the *convexifrons* group, it is in the form of protuberances near the antennal bases (10.1). A shallow depression in the frons (10.3), just above the labrum, is present in the *depressifrons* group and *S. sagittiformis*. The transformation series is unordered, and based on the cladogram transforms from 0→1↔2 and 0→3.

14) The prosternal process ranges from very broad to very narrow in *Selonodon*. All *Selonodon* species exhibited apomorphic states of this character. In the *bicolor* group and the *depressifrons* group, and *S. obscurus, S. sagittiformis,* and *S. orestes* the prosternal process is moderately broad and straight (14.1). The *compositus* group and *convexifrons* group have a prosternal process that is broad basally and tapered apically (14.2). *S. speratus* and *S. parvus* have a narrow prosternal process (14.3). *S. mandibularis, S. medialis, S. archboldi,* and *S. estriatus* all have a very narrow prosternal process (14.4).

15) The hind coxa is primitively quadrate, but is triangular in the *compositus* and *convexifrons* groups, *S. mandibularis,* and *S. estriatus*.

18) Absence of a chitin rod in the median lobe of the aedeagus is one basis for recognizing the *estriatus* group, the *depressifrons* group, and the *bicolor* group, excepting *S. mississippiensis*.

19) A short chitin rod in the median lobe is present in *S. sagittiformis, S. orestes,* and *S. mississippiensis* (Figs. 72, 77, 80). This character appears to have arisen independently in each of these species.

The following species groups were designated based on the preferred cladogram:

speratus group

Monophyly of the *speratus* group is supported by the faint clypeolabral suture (8) (reversed in *S. speratus)* and the constriction near the base of the median lobe of the aedeagus (20). Within this species group, *S. speratus* and *S. parvus* are sister species, based on the narrowness of the prosternal process (14.3). *S. medialis* is the sister species to *S. speratus* and *S. parvus,* sharing the very broad mandible (5.2) of these species. The mandible of *S. mandibularis* was assumed to be derived from this broad mandible by the reduction of the inner surface (5.3). *S. mandibularis*, which is morphologically divergent relative to the rest of the *speratus* group, is the sister species to *S. medialis* + *(S. speratus + S. parvus)*. Like *S. medialis, S. mandibularis* has a faint clypeolabral suture and a very narrow prosternal process.

compositus group and _convexifrons_ group

The *compositus* group is characterized by the retinacular tooth on the mandible (4) and the shape of the frons (10.2), which is a broadly convex ridge between the bases of the antennae. The *convexifrons* group has a short mandible (3) and a convex frons in the form of broad protuberances near the antennal bases (10.1). The *convexifrons* group and *compositus* group are united on the cladogram by the broad prosternum (11.2), the rounded apex of the prosternal anterior angle (13.1), the broad, tapering prosternal process (14.2), the triangular hind coxa (15) and the hemispherical elytral punctures (16).

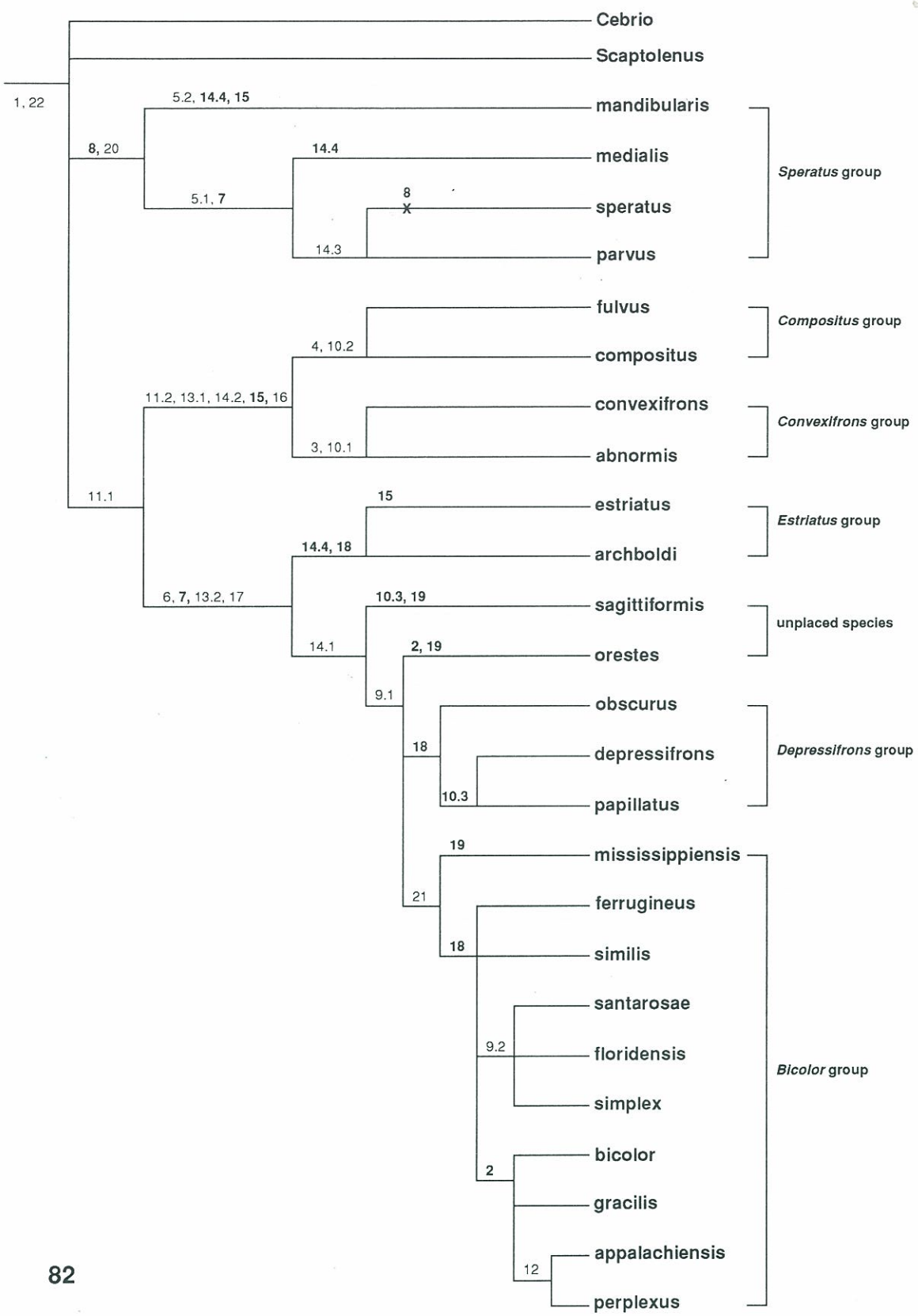
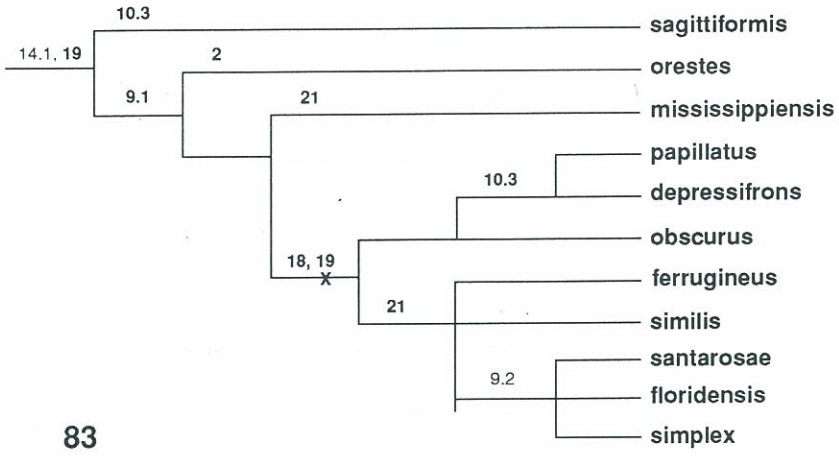


Fig. 82. Cladogram of *Selonodon* phylogeny with supporting characters. Characters in bold-face indicate homoplasy; **X** indicates reversal.



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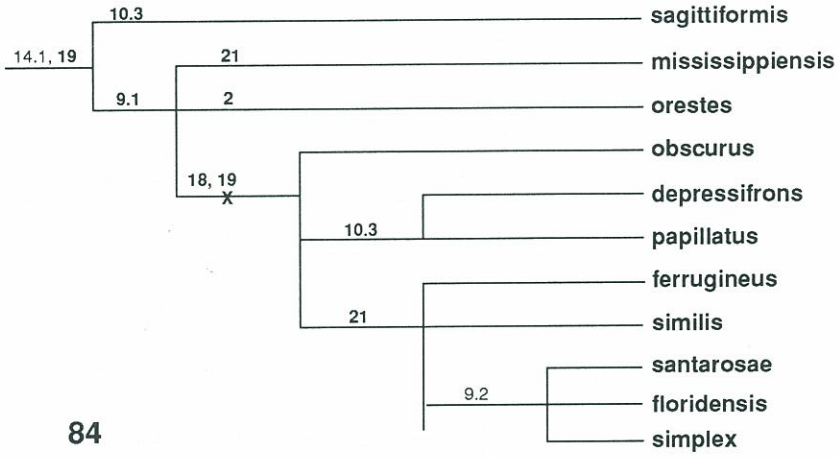

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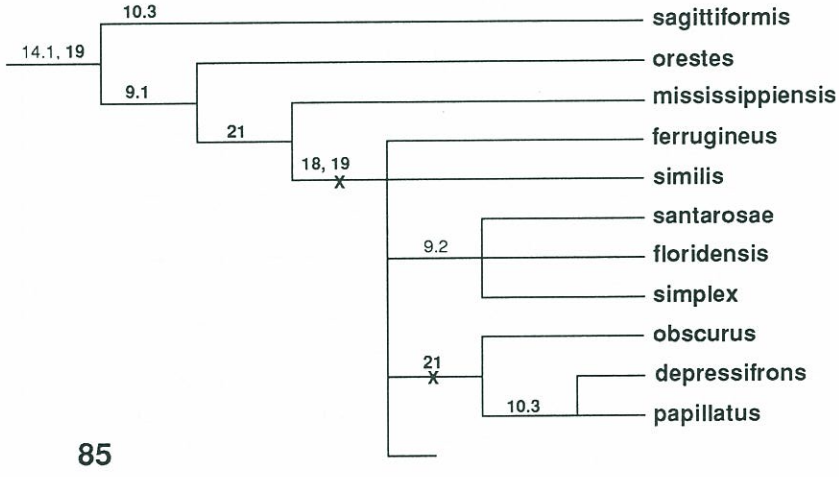
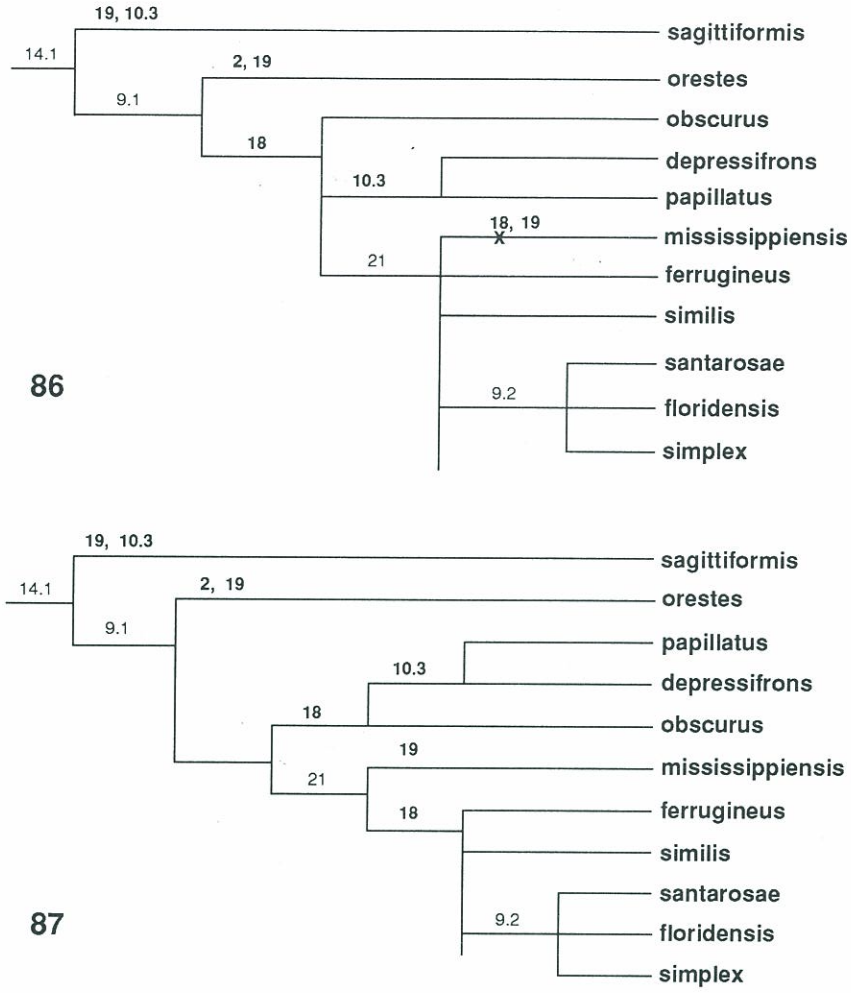


85

Figs. 83-85. Alternative subcladograms of *Selonodon* phylogeny with supporting characters. Characters in bold-face indicate homoplasy; **X** indicates reversal.



Figs. 86-87. Alternative subcladograms of *Selonodon* phylogeny with supporting characters. Characters in bold-face indicate homoplasy; **X** indicates reversal.

***estriatus* group**

Monophyly of the *estriatus* group is weakly supported by the very narrow prosternal process (14.4) and absence of the chitin rod (18). The very narrow prosternal process has apparently also arisen in the *speratus* group, and absence of a chitin rod occurs twice more on the cladogram. These species share no other apomorphies.

***depressifrons* group**

S. obscurus is grouped with *S. depressifrons* and *S. papillatus* based on the absence of the chitin rod in the median lobe of the aedeagus (18). *S. depressifrons* and *S. papillatus* share a shallow depression in the frons just above the labrum (10.3).

***bicolor* group**

The *bicolor* group is defined by the balloon-like endophallus (21). The relationships within this species group are partly unresolved. Each lower-level clade could be considered a species sub-group. The callosity in the median part of the labrum (2) joins *S. bicolor, S. gracilis, S. appalachiensis* and *S. perplexus. S. appalachiensis* and *S. perplexus* share an elongate anterior angle of the pronotum (12), unique within the genus. The relationship between *S. santarosae, S. floridensis,* and *S. simplex* is supported by a strongly curved clypeolabral suture (9.2). *S. mississippiensis* stands as the sister species to the rest of the *bicolor* group. Synapomorphies that would further resolve the relationships of species within sub-groups or sub-groups to each other were not observed.

Characters of the frons (10) and the male genitalia (20-21) were the basis for grouping species, but species similar in those respects generally held many other characters in common, including body size and

shape, labrum shape, mandible shape (3-7), antennal shape and length, prosternal shape (11-14), and tarsomere length. Thus, closely related species tend to look very much alike and appear very different from species outside the species group.

The unplaced species can neither be assigned to the species groups as defined above, nor be grouped together very well. Although *S. sagittiformis* has a depressed frons like some members of the *depressifrons* group, it was not grouped with those species on the cladogram. The shapes of its antennae and male genitalia are unique, and this species defies attempts to place it within the genus. These unplaced species could be highly derived members of the current species groups. Given the biology of *Selonodon*, which renders species highly elusive, and the restricted distributions of some species, it is likely that these species have as yet undiscovered relatives.

Geographic Summary

Distribution of *Selonodon* species groups across North America can be compared using the cladogram in Fig. 82 for a reference. Although closely related species are not sympatric, their ranges are often adjacent, so that each species group is limited to one region of the southern United States. The *speratus* group occurs from eastern Oklahoma southward to central Florida (Fig. 16). The *compositus* group occurs throughout the southwest (Fig. 23). The range of the *convexifrons* group overlaps that of the *compositus* group in the southwest, but is not known to occur as far eastward (Fig. 30). The *estriatus* group is known from *S. estriatus* in eastern Texas and *S. archboldi,* recorded only from Highlands Co. in central Florida (Fig. 36). The *depressifrons* group has three disjunct species, in eastern Texas, western Tennessee, and southeasternmost Alabama (Fig. 44). The *bicolor* group covers most of the southeast, from North Carolina, west through Tennessee and Mississippi and south through central Florida (Figs. 54, 64, 75).

Evolutionary Considerations

If the geographic distributions of *Selonodon* species across the southern United States are compared, it is apparent that from west to east, species range size generally shrinks, while species diversity in any particular region increases. The southwestern *compositus* group and *convexifrons* group each contain two widespread species (Figs. 23, 30). *S. compositus* has the largest known distribution of any *Selonodon* species, ranging from southern Utah and eastern Arizona through western Oklahoma. The *depressifrons* group contains three species (Fig. 44). The *speratus* group contains four species (Fig. 16). The southeastern *bicolor* group comprises ten species, most of which have restricted ranges (Figs. 54, 64, 75). The ranges of *S. abnormis* and *S. compositus* taken from museum specimens are at least twice as large as those known for any species occurring in the southeast.

Body size in *Selonodon* also follows a west-to-east gradient, with small western species and generally large eastern species, the *bicolor* group containing the largest known species in the genus. *Selonodon* is apparently exhibiting phyletic size increase (Newell, 1949). Southwood et al. (1974) suggest that increased body size is a correlate of increased K-selection. In addition to larger body size, K-selected species develop increased longevity and longer generation times, but experience lower fecundity (which decreases mortality and allows energy resources to be used more efficiently), lower mobility, and only relatively rarely colonize new areas (Crowson, 1981). In contrast, r-strategists are smaller, have high reproductive and mortality rates, and frequently colonize new areas. Southwood's feedback loop of K-selection (1977:348) shows the positive feedback between increased size and population parameters (such as longevity, range, fecundity) leading to increased survival expectancy. Species in stable habitats are likely to become K-selected. Increased size will lead K-selected species to adapt population parameters to their habitats; as they adapt precisely to permanent habitat types, they are subject to extinction when the environments of their habitats change (Southwood *et al.*, 1974). This seems to apply to *Selonodon:* large species occur in the temperate forests of the eastern United States, with higher amounts of rainfall occurring more regularly than in the scrub areas of the semi-arid southwest where smaller species are found.

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APPENDIX

ST.	COUNTY	LOCALE	DATE(S)	COLLECTING NOTES	REPOSITORY	
***Selonodon abnormis* (Werner)** - p. 14						
AZ	Coconino	2 mi. S Moenkapi	03.vii.1972		CDFA	28
AZ	Coconino	2 mi. S Moenkapi	04.vii.1972	sand dunes, at black light	CDFA	3
AZ	Coconino	Cameron	24.vi.1970		UAZ	1
AZ*	Coconino	Tuba City	19.vii.1935		MCZ	1
AZ	Coconino	Tuba City	04.vii.1937	[*pallidipennis* type]	CAS	1
AZ	Coconino	Tuba City	04.vii.1937		CAS	4
AZ	Coconino	Tuba City	03.vii.1937		CAS	1
AZ	Coconino	Tuba City	01.vii.1937		AMNH	1
AZ	Coconino	Tuba City	01.vii.1937		CAS	1
AZ	Coconino	Tuba City	04.vii.1937		CAS	2
AZ	Coconino	Tuba City	19.vii.1935		MCZ	1
AZ	Navajo	Kayenta	23.vii.1933	at light	CAS	1
AZ	Navajo	Monument Valley	27.vii.1975		USNM	1
NM	Dona Ana	Jornada Expt. Range	02.vi.1972	attracted to light	MAI	4
NM	Dona Ana	Jornada Expt. Range	02.vi.1972	attracted to light	USNM	1
NM	Eddy	23 mi. 3 mi. S Carlsbad	--.--.1977		UAK	1
NM	Socorro	La Joya Wildlife Pres.	25.vi.-02.vii.1975		CNC	2
NM	Socorro	La Joya Wildlife Pres.	25.vi.-02.vii.1975		MAI	4
NM	Valencia	Belen	25.vi.1959		USNM	1
TX	El Paso	Yaleta	06.vi.1950		CNC	1
UT	San Juan	5 mi. W Bluff, Bluff Dunes	24.vii.1978	at black light	CDFA	1
UT	Washington	Hurricane Dunes	15.vii.1975	at black light	CDFA	1
Mex	Chihuahua	Samalayuca	24.vi.1947		AMNH	3
***Selonodon appalachiensis* Galley** - pp. 19-20						
GA	Rabun		08.vii.1928		AMNH	2
GA	Rabun		08.vii.1928		CUIC	1
GA	Rabun		07.vi.1965		OSU	7
GA	Rabun	38 mi. SW Clayton, Black Mtn. Tower	11-15.vii.1964	light trap	CNC	1
GA	Rabun	38 mi. SW Clayton, Black Mtn. Tower	23.vii.1964	light trap	CNC	1
GA*	Stephens		20.vii.1964		FMNH	1
GA	Stephens		20.vii.1964		FMNH	5
NC	Macon	Coweeta Hydrologic Lab.	21-28.vii.1974	blacklight trap	RHT	1
NC	Macon	Coweeta Hydrologic Lab.	13-21.vii.1974	blacklight trap	RHT	2
NC	Transylvania	Brevard	21.vii.1904	light	USNM	3
NC	Transylvania	Cedar Mtn.	30.vii.1960	light	MCZ	1
SC	Greenville	Greenville	07.vii.1954		CNC	1
SC	Oconee	Westminster	30.viii.1983		CUEC	1
SC	Pickens	Clemson	11.vi.1939	trap light	CUEC	1
SC	Pickens	Clemson	23.vii.1956	in trap light	CUEC	1
SC	Pickens	Clemson	31.vii.1952		CUEC	1
SC	Pickens	Clemson	17.vii.1956	in trap light	CUEC	1
SC	Pickens	Clemson	07.vii.1938	trap light	CUEC	2
SC	Pickens	Clemson	07.vii.1956	in trap light	CUEC	3
SC	Pickens	Clemson	08.vii.1956	in trap light	CUEC	5
SC	Pickens	Clemson	09.vii.1956	in trap light	CUEC	6
SC	Pickens	Clemson	25.vi.1940	trap light	CUEC	6
SC	Pickens	Clemson	22.vii.1975	UV light	TAMU	1
SC	Pickens	Clemson	--.vii.1951		TAMU	2
SC	Pickens	Clemson	07-08.vii.1958	ultraviolet light	USNM	1
SC	Pickens	Clemson	03.viii.1975	UV light	TAMU	2
SC	Pickens	Clemson Col.	02.vi.1927		USNM	1
SC	Pickens	Clemson Col.	13.vii.1931		USNM	1
SC	Pickens	Clemson Col.	01.vi.1927		USNM	1
SC	Pickens	Clemson College	28.vii.1927		CUEC	1
SC	Pickens	Clemson College	10.vi.1927		CUEC	1
SC	Pickens	Clemson College	05.vii.1935		CUEC	1
SC	Pickens	Clemson College	29.vi.1939		CUEC	1

SC	Pickens	Clemson College	16.vii.1939		CUEC 1
SC	Pickens	Clemson College	07.vi.1932		CNC 1
SC	Pickens	Clemson College	30.vi.1931		FMNH 1
SC	Pickens	Clemson College	05.vii.1931		CNC 1
SC	Pickens	Clemson College	10.vii.1931		FMNH 2
SC	Pickens	Clemson College	13.vii.1931		CNC 1
SC	Pickens	Clemson College	13.vii.1931		FMNH 1
SC	Pickens	Clemson College	14.vii.1931		FMNH 2

Selonodon archboldi Galley - pp. 15-16

FL*	Highlands	Lake Placid, Archbold Biol. Sta.	02.vi.1986	window trap, trail 1-2	CUIC 1
FL	Highlands	Lake Placid, Archbold Biol. Sta.	28.v.1984	malaise trap, trail 1	CUIC 1
FL	Highlands	Lake Placid, Archbold Biol. Sta.	31.v.1983	malaise trap, near dying sand pine	CUIC 1
FL	Highlands	Lake Placid, Archbold Biol. Sta.	12.vi.1983	malaise trap, trail 1	CUIC 1
FL	Highlands	Lake Placid, Archbold Biol. Sta.	02.vi.1986	window trap, trail 1-2	CUIC 1
FL	Highlands	Lake Placid, Archbold Biol. Sta.	31.v.1983	malaise trap, E side trail 1	CUIC 1
FL	Highlands	Lake Placid, Archbold Biol. Sta.	23.v.1984	malaise trap, trail 2	CUIC 2
FL	Highlands	Lake Placid, Archbold Biol. Sta.	31.v.-02.vi.1986	malaise trap, trail 2	FSCA 1
FL	Highlands	Lake Placid, Archbold Biol. Sta.	08-10.vi.1985	malaise trap, trail 1	FSCA 1
FL	Highlands	Lake Placid, Archbold Biol. Sta.	21.vi.1983	malaise trap, trail 1	FSCA 2
FL	Highlands	Lake Placid, Archbold Biol. Sta.	12-16.vi.1986	malaise trap, trail 1	FSCA 3
FL	Highlands	Lake Placid, Archbold Biol. Sta.	05-09.vi.1986	malaise trap, trail 1	FSCA 8
FL	Highlands	Lake Placid, Archbold Biol. Sta.	26.v.1981	UV light	ABS 6
FL	Highlands	Lake Placid, Archbold Biol. Sta.	13.vi.1987	black light trap	MEM 12
FL	Highlands	Lake Placid, Archbold Biol. Sta.	03.v.1961	black light trap	FSCA 1
FL	Highlands	Sebring			

Selonodon bicolor (Fabricius) - p. 18

"Carolina"*					Paris? 1
NC	Beaufort	Beaufort			MCZ 1
NC	Bladen	Clarkton	07.vi.1911		USNM 2
NC	Columbus		19.vi.1952		CNC 7
NC	Columbus		16-19.vi.1952	light trap	CUEC 1
NC	Columbus		16-19.vi.1952	light trap	FSCA 4
NC	Columbus		19.vi.1952	light trap	UAZ 3
NC	Columbus		19.vi.1952	light trap	USNM 1
NC	Columbus		28.vii.1951		CNC 2
NC	Cumberland	Fort Bragg Mil. Res.	12.vi.1919		AMNH 2
NC	Moore	Southern Pines	15.vi.1906		CAS 1
NC	Moore	Southern Pines	12.vii.1912		FMNH 3
NC	Moore	Southern Pines	25.vi.1909		MCZ 1
NC	Moore	Southern Pines	07.vii.1909		MCZ 1
NC	Moore	Southern Pines	10.vi.1953	collected at light	UAZ 1
NC	Moore	Southern Pines	21.vi.1918		USNM 1
NC	Moore	Southern Pines	08.vii.1910		USNM 1
NC	Moore	Southern Pines	[date illegible]		USNM 1
SC		Meredith	01.vii.1926		CUEC 1
SC		Meredith	19.vi.1926		USNM 1
SC		Meredith	17.vi.1926		USNM 1
SC		Meredith	02.vi.1927		USNM 1
SC		Meredith	07.vi.1927		USNM 2
SC	Aiken	Aiken	29.ix.1979		CUEC 1
SC	Aiken	Beaulah Pond	08.vii.1952		FMNH 1
SC	Aiken	Jackson	24.v.1959		FMNH 1
SC	Aiken	Jackson	27.v.1959		FMNH 2
SC	Barnwell	Blackville	24.v.1938	trap light	CAS 1
SC	Barnwell	Blackville	21.vi.1938	trap light	CUEC 2
SC	Barnwell	Blackville	30.v.1938	trap light	CUEC 3
SC	Barnwell	Blackville	24.v.1938	trap light	CUEC 4
SC	Barnwell	Blackville, Edisto Expt. Sta.	23.v.1939	trap light	CUEC 1
SC	Barnwell	Blackville, Edisto Expt. Sta.	30.vi.1939	trap light	CUEC 1
SC	Barnwell	Blackville, Edisto Expt. Sta.	24.vi.1938	trap light	CUEC 2
SC	Barnwell	Blackville, Edisto Expt. Sta.	15.vi.1939	trap light	CUEC 4
SC	Barnwell	Blackville, Edisto Expt. Sta.	23.vi.1939	trap light	FMNH 1
SC	Barnwell	Blackville, Edisto Expt. Sta.	23.iv.1939	trap light	FMNH 1
SC	Barnwell	Edisto Exp. Sta., Blackwell	24.v.1938		USNM 6

SC	Beaufort		16.vi.1948	at light	CNC 2
SC	Beaufort		15.vi.1948	at light	CNC 2
SC	Beaufort		15.vi.1948	at light	FSCA 1
SC	Calhoun	Cameron	17.vi.1980	light trap	CUEC 1
SC	Chesterfield	Cheraw St. Forest [sic]	30.vii.1968	at light	BMNH 3
SC	Clarendon	Gable	--.--.1944		CUEC 3
SC	Dillon	Dillon, Little PeeDee St. Pk.	26.vii.1964		FSCA 1
SC	Dorchester	St. George	19.vi.1963		USNM 1
SC	Florence	Florence	18.vi.1931	trap light	CNC 1
SC	Florence	Florence	26.vi.1932		CNC 1
SC	Florence	Florence	-.vi.1933		CNC 3
SC	Florence	Florence	18.vi.1931	trap light	CUEC 5
SC	Florence	Florence	15.vi.1935	at light	USNM 1
SC	Florence	Florence	16.vii.1957	trap light	USNM 2
SC	Kershaw	Camden			MCZ 5
SC	Richland	Columbia	03.vi.1915	collected on Hops	USNM 2
SC	Sumter	8 mi. E Sumter	[illegible]1979		CNC 1

Selonodon compositus (Fall) - p. 12

AZ	Apache	Ganado	24.vii.1935	[*bruesi* type]	MCZ 1
AZ	Apache	Ganado	18.vii.1962	at light	SMC 1
AZ	Apache	Ganado	20.vii.1962	at light	SMC 1
AZ	Apache	Lupton	07.vii.1951		FMNH 3
AZ	Apache	Sanders	18.vii.1968		FMNH 1
AZ	Apache	Wide Ruin, 18 mi. N Chambers	22.vii.1950	6000 ft.	AMNH 1
AZ	Navajo				FMNH 3
AZ	Navajo	15 mi. NNW Kayenta	20.vii.1933	Alt. 6560 ft	CAS 2
AZ	Navajo	Keams Canyon	20.vii.1911		USNM 1
AZ	Santa Cruz	Nogales	17.vii.1964		USNM 2
NM				[*emarginatus* type]	USNM 1
NM	Eddy	Carlsbad	17.v.1950		CNC 2
NM	Grant	Silver City	--.viii.1913		MCZ 1
NM	Grant	Silver City	--.vii-1973		USNM 28
NM	Guadalupe	Vaughn	22.vii.1966		FMNH 1
NM	McKinley	Rameh [sic; =Ramah]	26.vii.1949		USNM 1
NM	Rio Arriba	Estanola [sic; = Espanola]	--.--.1925		USNM 1
NM	Santa Fe	Santa Fe	--.vi.19--		MCZ 1
NM*	Santa Fe	Santa Fe	--.vi.--		MCZ 1
NM	Torrance		--.--.1926	includes female	USNM 3
OK	Alfalfa	Cherokee, Salt Plains	13.vi.1930	stream	CAS 1
OK	Alfalfa	Great Salt Plains St. Pk, 8 mi. N Jet	08.vi.1968	black light,salt fork Arkansas R.	AMNH 1
OK	Beckham	Sayre	08.vi.1937		FMNH 1
OK	Beckham	Sayre	07.vi. 1937		FMNH 2
OK	Beckham	Sayre	06.vi.1965	at light	FMNH 2
OK	Beckham	Sayre	08.vi.1937		MSU 1
OK	Beckham	Sayre	08.vi.1937		OKSU 2
OK	Caddo	Hinton	13.vi.1937		MSU 1
OK	Caddo	Hinton	05.vi.1939		OKSU 1
OK	Caddo	Hinton	13.vi.1937		OKSU 3
OK	Cleveland	Norman	18.vi.1928		CAS 1
OK	Cleveland	Norman	13.vi.1957		OKSU 1
OK	Custer	Weatherford	24.v.1935		FMNH 1
OK	Dewey	Taloga	06.vi.19--		FMNH 1
OK	Kiowa	Lugert	11.vi.1937		FMNH 1
OK	Major	Cleo Springs	05.vi.1937		FMNH 2
OK	Payne	Lake C. Blackwell	12.vi.1972		OKSU 1
OK	Roger Mills	Cheyenne	07.vi.1937		OKSU 6
OK	Woods	Merrihon Ranch	25.vii.1963		OKSU 1
OK	Woodward	Range, 1 mi. NW Supply	09.vi.1961	plot #25 pit	OKSU 1
TX		Bethage	11.vi.19--		FMNH 1
TX	Armstrong	Palo Duro St. Pk.	04.vi.1954		FMNH 2
TX	Hall	Memphis	29.v.1932		TAMU 1
TX	Howard		--.v.1977	light trap	UAK 1
TX	Hutchinson	Stinnett	09.v.1989		TAMU 2
TX	Motley		26.v.1969		MEM 5

TX	Motley		26.v.1969		OLM 1
TX	Nolan	Sweetwater	06.vii.1937		TAMU 1
UT	Kane	Coral Pink Sand Dunes	02.vii.1972		CDFA 1
UT	Washington	St. George	22.v.-12.vi.1919	[*knausi* type]	CAS 1
UT	Washington	St. George	22.v.-12.vi.1919		CAS 1
UT	Washington	St. George	--.--.1936	sugarbeet seed fields	USNM 1

Selonodon convexifrons (Knull) - pp. 13-14

NM	Curry	St. Varin [sic; = Vrain]	27.vi.1929	Salsola pestifer	USNM 2
NM	Roosevelt	20 mi. W Portales		Russian thistle	USNM 2
OK	Alfalfa	Cherokee	03.vii.1934		FMNH 1
OK	Alfalfa	Cherokee	03.vii.1934		FMNH 1
OK	Blaine	Bridgeport, Canadian R., T15NR11Ws33	14.vii.1980		OKSU 1
OK	Ellis	6 mi. SE Arnett	06.vii.1967	SS no. 8	OKSU 1
OK	Ellis	6 mi. SE Arnett	18.vii.1968	random	OKSU 1
OK	Ellis	6 mi. SE Arnett	17.vii.1968	random	OKSU 1
OK	Ellis	6 mi. SE Arnett	05.vii.1967	random	OKSU 3
OK	Greer	Quartz Mountain St. Pk.	27.vii.1983	black light trap	OKSU 10
OK	Harmon	Vinson	09.vii.1934		OKSU 2
OK	Kiowa	Lugert	07.vii.1937		FMNH 3
OK	Kiowa	Lugert	07.vii.1937		MSU 1
OK	Kiowa	Lugert	07.vii.1937		OKSU 5
OK*	Major	Cleo Springs	07.vii.1934		FMNH 1
OK	Major	Cleo Springs	07.vii.1934		FMNH 2
OK	Major	Cleo Springs	07.vii.1934		MSU 1
OK	Major	Cleo Springs	07.vii.1934		OSU 1
OK	Major	Cleo Springs	07.vii.1934		FMNH 2
OK	Major	Cleo Springs	07.vii.1934		MSU 1
OK	Woods		14.vii.1930		CAS 1
OK	Woods		18.vii.1930		CAS 1
OK	Woodward		29.vi.1937		USNM 1
OK	Woodward	Range, 1 mi. NW Supply	27.vii.1961	plot #10 pit	OKSU 1
OK	Woodward	Woodward	19.vi.1960		OKSU 1
TX	Wilbarger	Red River	05.vii.1956		CUIC 1

Selonodon depressifrons Galley - p. 16

LA	Grant	2 mi. W Pollock, Stuart Lake	23.vii.1982		EGR 1
LA	Grant	2 mi. W Pollock, Stuart Lake	16.vii.1982		EGR 2
LA	Grant	2 mi. W Pollock, Stuart Lake	08.vii.1982		EGR 3
LA	Natchitoches	Kisatchie Nat. For.	18.vi.1988	mercury vapor & black light	LSUC 2
LA	Natchitoches	Kisatchie Nat. For.	18.vi.1988		LSUC 3
LA	Natchitoches	Kisatchie Nat. For., 2 mi. E Red Bluff cgd.	17-19.vi.1988		LSUC 1
LA	Natchitoches	Kisatchie Nat. For., 2 mi. E Red Bluff cgd.	17-18.vi.1988	mercury vapor & black light	LSUC 2
LA	Natchitoches	Kisatchie Nat. For., Kisatchie Bayou cgd.	27.vi.1987	mercury vapor & black light	LSUC 1
LA	Natchitoches	L. Bayou Pierre at Hwy. 118	14.vi.1984	mercury vapor & black light	LSUC 1
LA	Natchitoches	L. Bayou Pierre at Hwy. 118	14.vi.1984	black light	LSUC 9
LA	Rapides	Alexandria	15.v.1962		FMNH 2
LA	Rapides	Pineville	15.vi.1964	at light	LSUC 1
TX	Anderson	10 mi. SW Elkhart	28.v.1962		TAMU 2
TX	Austin	Austin St. Pk. nr. Sealy	14.v.1958		CUIC 3
TX	Brazos		17.x.1953		OKSU 1
TX	Cherokee	Texas Exp. Sta.	01.vi.1952		TAMU 10
TX	Colorado	Columbus	28.v.1918		CUIC 1
TX	Harris	Humble	31.v.1918		CUIC 1
TX	Liberty	Liberty	05.vi.1934		TAMU 1
TX	McLennan		06.vi.1934		TAMU 1
TX	McLennan		07.vi.1934		TAMU 2
TX	McLennan	Waco	10.vi.1935		TAMU 1
TX	Montgomery	Conroe	12.v.1936		USNM 1
TX	Montgomery	Conroe	22.iv.1938		USNM 1
TX	Montgomery	Conroe	--.v.1938		USNM 1
TX	Montgomery	The Woodlands	20-26.vi.1978		FSCA 1
TX	Nacogdoches	Nacogdoches	10.v.1932		TAMU 9
TX*	Nacogdoches	Nacogdoches	10.v.1932		TAMU 1
TX	Rusk	Henderson	08.vi.1906		USNM 2
TX	Smith	Troup	07.vi.1919		TAMU 1

Selonodon estriatus (Horn) - p. 15

LA	Caddo	Shreveport	10.v.1948		FMNH	1
LA	Caddo	Shreveport	15.vi.1984		LSUC	3
LA	De Soto	Logansport	07.vi.1906		USNM	1
TX*					MCZ	1
TX	Brazos	6 mi. E Bryan	28.v.1967		TAMU	2
TX	Brazos	College Station	24-29.v.1982		TAMU	1
TX	Cherokee	Alto	04.vi.1956		CNC	1
TX	Hidalgo	Bentsen Rio Grande St. Pk.	25.vi.1968	at UV light	FSCA	1
TX	Hidalgo	Santa Ana Nat. Wldlf. Res.	24.vi.1968		FSCA	1
TX	Jeff Davis	Davis Mtns., Tippits Ranch	--.vi.1931		USNM	1
TX	Leon	Marquez	04.vi.1956		CNC	1
TX	Morris		03.vii.1937		TAMU	4
TX	Morris	Daingerfield	06.vii.1937		TAMU	1
TX	Nacogdoches	Camp Whispering Pines nr. Garrison	13.vii.1985		EGR	2
TX	Smith	Tyler	01.v.1953		CNC	1
TX	Smith	Tyler	12.vi.1953		CNC	2

Selonodon ferrugineus Galley - pp. 22-23

FL	Gadsden	Quincy	03.vi.1958	light	FMNH	1
FL	Gadsden	Quincy	03.vi.1958	light	FSCA	1
FL	Gadsden	Quincy	19.vi.1961	black light trap	FSCA	10
FL	Gadsden	Quincy	10.vii.1961	black light trap	FSCA	2
FL	Gadsden	Quincy	--.vi.1948		FSCA	2
FL	Jackson	Florida Caverns St. Pk.	23.vii.1974	black light trap	FSCA	13
FL	Jackson	Florida Caverns St. Pk.	08.vii.1948	black light trap	UGEM	2
FL	Jackson	Marianna	17.vi.1954		MSU	1
FL	Jackson	Spring Lake	25.v.1975	artificial light 2954	MEM	1
FL	Liberty	Torreya St. Pk.	25.vi.1981		FSCA	1
FL	Liberty	Torreya St. Pk.	05.vii.1982		EGR	73
FL	Liberty	Torreya St. Pk.	05.vii.1982		LSUC	14
FL	Liberty	Torreya St. Pk.	05.vii.1982		MAI	1
FL	Liberty	Torreya St. Pk.	15.vii.1987	at light	PES	1
FL	Liberty	Torreya St. Pk.	13.vi.1962		FSCA	1
FL	Liberty	Torreya St. Pk.	25.vi.1981		FSCA	15
FL	Liberty	Torreya St. Pk.	05.vii.1973		FSCA	3
GA	Baker		16.vi.1941		UGEM	2
GA	Baker	Newton, Emery Union Field Sta.	10.vii.1952		MCZ	1
GA	Baker	Newton, Emery Union Field Sta.	21-23.vii.1951		MCZ	1
GA	Baker	Newton, Emery Union Field Sta.	21-23.vii.1951		CNC	3
GA*	Decatur	Spring Creek	07-23.vi.1911		CUIC	1
GA	Decatur	Spring Creek	15.vi.1946	female	UGEM	1
GA	Decatur	Spring Creek	16-29.vii.1912		CAS	2
GA	Decatur	Spring Creek	07-23.vi.1911		CUIC	2
GA	Dougherty		28.vi.1963	black light trap	USNM	5
GA	Tift	Tifton	27.vi.1896		MCZ	1
GA	Tift	Tifton	14.v.1896		MCZ	1
GA	Tift	Tifton	22.v.1896		MCZ	1
GA	Tift	Tifton	02.vi.1896		MCZ	2

Selonodon floridensis Galley - pp. 20-21

FL	Alachua		--.x.1960		FSCA	1
FL	Alachua		11.vi.1956		FSCA	1
FL	Alachua		11.vi.1956		UAZ	1
FL	Alachua	4 mi. SW Gainesville	26.vii.1975		FSCA	3
FL	Alachua	6 mi. SW Gainesville	05.vii.1975	black light trap	FSCA	37
FL	Alachua	6 mi. SW Gainesville	19.vii.1975	black light trap	FSCA	1
FL	Alachua	Austin Cary Forest	31.v.-03.vi.1976	#2-CO2 baited flight trap	FSCA	2
FL	Alachua	Austin Cary Forest	21.vi.1969	Ellisco light trap	FSCA	2
FL	Alachua	Gainesville	--.vi.1953		FSCA	23
FL	Alachua	Gainesville	--.vi.1953		FMNH	10
FL	Alachua	Gainesville	28.vi.1956	black light trap	FSCA	1
FL	Alachua	Gainesville	07.vii.1960	at light	FSCA	1
FL	Alachua	Gainesville	29.vii.1977		FSCA	1
FL	Alachua	Gainesville	26.vii.1961	black light trap	FSCA	1

Selonodon estriatus (Horn) - p. 15

LA	Caddo	Shreveport	10.v.1948		FMNH	1
LA	Caddo	Shreveport	15.vi.1984		LSUC	3
LA	De Soto	Logansport	07.vi.1906		USNM	1
TX*					MCZ	1
TX	Brazos	6 mi. E Bryan	28.v.1967		TAMU	2
TX	Brazos	College Station	24-29.v.1982		TAMU	1
TX	Cherokee	Alto	04.vi.1956		CNC	1
TX	Hidalgo	Bentsen Rio Grande St. Pk.	25.vi.1968	at UV light	FSCA	1
TX	Hidalgo	Santa Ana Nat. Wldlf. Res.	24.vi.1968		FSCA	1
TX	Jeff Davis	Davis Mtns., Tippits Ranch	--.vi.1931		USNM	1
TX	Leon	Marquez	04.vi.1956		CNC	1
TX	Morris		03.vii.1937		TAMU	4
TX	Morris	Daingerfield	06.vii.1937		TAMU	1
TX	Nacogdoches	Camp Whispering Pines nr. Garrison	13.vii.1985		EGR	2
TX	Smith	Tyler	01.v.1953		CNC	1
TX	Smith	Tyler	12.vi.1953		CNC	2

Selonodon ferrugineus Galley - pp. 22-23

FL	Gadsden	Quincy	03.vi.1958	light	FMNH	1
FL	Gadsden	Quincy	03.vi.1958	light	FSCA	1
FL	Gadsden	Quincy	19.vi.1961	black light trap	FSCA	10
FL	Gadsden	Quincy	10.vii.1961	black light trap	FSCA	2
FL	Gadsden	Quincy	--.vi.1948		FSCA	2
FL	Jackson	Florida Caverns St. Pk.	23.vii.1974	black light trap	FSCA	13
FL	Jackson	Florida Caverns St. Pk.	08.vii.1948	black light trap	UGEM	2
FL	Jackson	Marianna	17.vi.1954		MSU	1
FL	Jackson	Spring Lake	25.v.1975	artificial light 2954	MEM	1
FL	Liberty	Torreya St. Pk.	25.vi.1981		FSCA	1
FL	Liberty	Torreya St. Pk.	05.vii.1982		EGR	73
FL	Liberty	Torreya St. Pk.	05.vii.1982		LSUC	14
FL	Liberty	Torreya St. Pk.	05.vii.1982		MAI	1
FL	Liberty	Torreya St. Pk.	15.vii.1987	at light	PES	1
FL	Liberty	Torreya St. Pk.	13.vi.1962		FSCA	1
FL	Liberty	Torreya St. Pk.	25.vi.1981		FSCA	15
FL	Liberty	Torreya St. Pk.	05.vii.1973		FSCA	3
GA	Baker		16.vi.1941		UGEM	2
GA	Baker	Newton, Emery Union Field Sta.	10.vii.1952		MCZ	1
GA	Baker	Newton, Emery Union Field Sta.	21-23.vii.1951		MCZ	1
GA	Baker	Newton, Emery Union Field Sta.	21-23.vii.1951		CNC	3
GA*	Decatur	Spring Creek	07-23.vi.1911		CUIC	1
GA	Decatur	Spring Creek	15.vi.1946	female	UGEM	1
GA	Decatur	Spring Creek	16-29.vii.1912		CAS	2
GA	Decatur	Spring Creek	07-23.vi.1911		CUIC	2
GA	Dougherty		28.vi.1963	black light trap	USNM	5
GA	Tift	Tifton	27.vi.1896		MCZ	1
GA	Tift	Tifton	14.v.1896		MCZ	1
GA	Tift	Tifton	22.v.1896		MCZ	1
GA	Tift	Tifton	02.vi.1896		MCZ	2

Selonodon floridensis Galley - pp. 20-21

FL	Alachua		--.x.1960		FSCA	1
FL	Alachua		11.vi.1956		FSCA	1
FL	Alachua		11.vi.1956		UAZ	1
FL	Alachua	4 mi. SW Gainesville	26.vii.1975		FSCA	3
FL	Alachua	6 mi. SW Gainesville	05.vii.1975	black light trap	FSCA	37
FL	Alachua	6 mi. SW Gainesville	19.vii.1975	black light trap	FSCA	1
FL	Alachua	Austin Cary Forest	31.v.-03.vi.1976	#2-CO2 baited flight trap	FSCA	2
FL	Alachua	Austin Cary Forest	21.vi.1969	Ellisco light trap	FSCA	2
FL	Alachua	Gainesville	--.vi.1953		FSCA	23
FL	Alachua	Gainesville	--.vi.1953		FMNH	10
FL	Alachua	Gainesville	28.vi.1956	black light trap	FSCA	1
FL	Alachua	Gainesville	07.vii.1960	at light	FSCA	1
FL	Alachua	Gainesville	29.vii.1977		FSCA	1
FL	Alachua	Gainesville	26.vii.1961	black light trap	FSCA	1

FL	Alachua	Gainesville	17.vii.1974	flying just before a rain	FSCA 1
FL	Alachua	Gainesville	07.vii.1956	at light	FSCA 3
FL	Alachua	Gainesville	23.vii.1958		FSCA 2
FL	Alachua	Gainesville	07.viii.1961		FSCA 1
FL	Alachua	Gainesville	28.vi.1955		FSCA 1
FL	Alachua	Gainesville	20.vii.1930	female	FSCA 1
FL	Alachua	Gainesville	05.vii.1960	on ground; female	FSCA 1
FL	Alachua	Gainesville	07.vii.1956	black light trap	FSCA 1
FL	Alachua	Gainesville	26.iii.1936		FSCA 2
FL	Alachua	Gainesville	07.vii.1984		FSCA 2
FL	Alachua	Gainesville	11.vi.1982		FSCA 2
FL	Alachua	Gainesville	31.vii.1960	at light	FSCA 2
FL	Alachua	Gainesville	07.vii.1960	at light	FSCA 2
FL	Alachua	Gainesville	05.vi.1989		TAMU 1
FL	Alachua	Gainesville	24.v.1935		UAZ 1
FL	Alachua	Gainesville	18.vi.1956		UAZ 1
FL	Alachua	Gainesville			USNM 1
FL	Alachua	Gainesville, Beville Hts.	02.vii.1980	black light trap	FSCA 4
FL	Alachua	Gainesville, Beville Hts.	04.vii.1980	black light trap	FSCA 10
FL	Alachua	Gainesville, Beville Hts.	05.vii.1980	black light trap	FSCA 1
FL	Alachua	Gainesville, Beville Hts.	26.vi.1980	black light trap	FSCA 1
FL	Alachua	Gainesville, Beville Hts.	01.viii.1981	black light trap	FSCA 1
FL	Alachua	Gainesville, Doyle Conner bldg.	17.vii.1972	black light trap	FSCA 1
FL	Alachua	Gainesville, Doyle Conner bldg.	19.vii.1972	black light trap	FSCA 6
FL	Alachua	Gainesville, Doyle Conner bldg.	20.vii.1985	black light trap	FSCA 1
FL	Alachua	Gainesville, Doyle Conner bldg.	25.vii.1972	black light trap	FSCA 1
FL	Alachua	Gainesville, Doyle Conner bldg.	31.vii.1972	black light trap	FSCA 12
FL	Alachua	Gainesville, Doyle Conner bldg.	06.viii.1972	black light trap	FSCA 2
FL	Alachua	Gainesville, Doyle Conner bldg.	10-23.vii.1987	malaise trap	PES 1
FL	Alachua	Gainesville, Doyle Conner bldg.	23.vii.-04.viii.1987	malaise trap	PES 2
FL	Alachua	Gainesville, Pine Hills Estates	17.vii.1969		FSCA 2
FL	Alachua	Gainesville, Pine Hills Estates	18.vii.1969		FSCA 1
FL	Alachua	5 mi. S Micanopy	29-31.v.1978	insect flight traps	FSCA 2
FL	Brevard	Eau Gallie	28.iv.1942	female	CAS 1
FL	Brevard	Eau Gallie	28.iv.1942		CAS 1
FL	Brevard	Eau Gallie	10.iv.1942		CAS 1
FL	Brevard	Eau Gallie	30.iv.1942		CAS 1
FL	Brevard	Eau Gallie	08.v.1942		CUIC 1
FL	Brevard	Eau Gallie	--.v.1941		USNM 1
FL	Lake	Clermont	02.v.1969	includes female	FSCA 2
FL	Lake	6 mi. ENE Eustis	23.v.1985		OLM 1
FL	Lake	Lake Lucy	27.iv.1909		FMNH 1
FL	Lake	Lake Lucy	14.iv.1909		FMNH 1
FL*	Manatee	Oneco			FMNH 1
FL	Manatee	Oneco			FMNH 4
FL	Manatee	Oneco			FSCA 9
FL	Manatee	Oneco			USNM 1
FL	Marion	Ocala	13.vi.1962		FMNH 1
FL	Marion	Rainbow Springs	30.v.1982		FSCA 8
FL	Marion	T17S/R21E/sec. 4 (east central)	17.vi.1975	black light trap	FSCA 14
FL	Orange		-.viii.1905?		MCZ 1
FL	Orange				USNM 3
FL	Orange	Orlando			CAS 3
FL	Orange	Orlando	04.v.1920		USNM 1
FL	Orange	Orlando	26.iv.1920		USNM 1
FL	Orange	Orlando	04.v.1908		USNM 2
FL	Orange	Orlando	02.v.1920		USNM 5
FL	Osceola	Kissimmee			AMNH 2
FL	Osceola	Kissimmee	--.iv.1887		CAS 2
FL	Osceola	Kissimmee			CAS 2
FL	Osceola	Kissimmee	05.v.1936		FMNH 2
FL	Osceola	Kissimmee			USNM 2
FL	Pinellas	Clearwater			USNM 1
FL	Polk	Lakeland			USNM 2
FL	Polk	Lakeland	30.v.1942		CNC 1
FL	Polk	Lakeland	30.v.1942		FMNH 4

FL	Putnam	Crescent City			USNM 1
FL	Putnam	Georgetown	--.vi.1954		MCZ 1
FL	Putnam	Welaka	11-12.v.1955		CUIC 1
FL	Volusia	Cassadaga	24.v.1956		FSCA 1
FL	Volusia	DeLand	06.vi.1960		FSCA 1
FL	Volusia	Enterprise			CAS 1
FL	Volusia	Enterprise			USNM 1
FL	Volusia	Lake Helen			CAS 1

Selonodon fulvus Galley - p. 13

NM		"local"	27.vii.1962	at lights	USNM 7
NM	Curry	nr. Melrose	12.vi.1958	at light	USNM 1
NM	Quay				AMNH 1
TX*	Howard	Big Spring	24-28.v.1948		USNM 1
TX	Erath	Stephenville	17.vi.1981		TAMU 1
TX	Howard		--.v.1977	light trap	UAK 2
TX	Lamb	Littlefield	28.v.1972		USNM 1
TX	Lubbock	Lubbock	01-09.v.1956		TAMU 2
TX	Lubbock	nr. Lubbock	15.vi.1953	in light trap	USNM 3
TX	Martin	Stanton	15.vi.1972		TAMU 1
TX	Montague	2.5 mi. SW Forestburg	05.v.1951		CNC 1
TX	Montague	2.5 mi. SW Forestburg	08.v.1950		CNC 1
TX	Montague	2.5 mi. SW Forestburg	11.v.1951		FMNH 1
TX	Montague	2.5 mi. SW Forestburg	26.iv.1954		FMNH 1
TX	Montague	2.5 mi. SW Forestburg	21.v.1951		FMNH 1
TX	Montague	2.5 mi. SW Forestburg	28.iv.1951		FMNH 1
TX	Montague	2.5 mi. SW Forestburg	18-24.iv.1954		FMNH 1
TX	Montague	2.5 mi. SW Forestburg	31.v.1951		FMNH 1
TX	Montague	2.5 mi. SW Forestburg	23.v.1951		FMNH 1
TX	Montague	2.5 mi. SW Forestburg	29.v.1951		FMNH 1
TX	Montague	2.5 mi. SW Forestburg	24.v.1951		FMNH 13
TX	Montague	2.5 mi. SW Forestburg	17.v.1951		FMNH 2
TX	Montague	2.5 mi. SW Forestburg	05.v.1951		FMNH 2
TX	Montague	2.5 mi. SW Forestburg	08-14.v.1950		FMNH 3
TX	Montague	2.5 mi. SW Forestburg	--.v.-.vi.1950		FMNH 4
TX	Montague	2.5 mi. SW Forestburg	08.v.1950		FMNH 4
TX	Montague	2.5 mi. SW Forestburg	27.v.1951		FMNH 5
TX	Presidio	Presidio	25.v.1956	at light	USNM 4
TX	San Patricio	Sinton, Welder Wildlife Found.	02.v.1967		USNM 1
TX	San Patricio	Sinton, Welder Wildlife Found.	03.v.1967		USNM 3
TX	Taylor	Abilene	01.vi.1940		CAS 1
TX	Taylor	Abilene	01.vi.1940		FSCA 1

Selonodon gracilis Galley - pp. 18-19

AL	Lauderdale	Wilson Dam FQ	08.vii.1941		FSCA 2
TN	Davidson	Nashville			USNM 2
TN*	Maury	Columbia	29.vi.1955	at light	FSCA 1

Selonodon mandibularis (LeConte) - p. 11

*	[Gulf States]			[*mandibularis* type]	MCZ 1
FL	Alachua	4 mi. SW Gainesville	26.vii.1975		FSCA 15
FL	Alachua	6 mi. SW Gainesville	12.vii.1975	black light trap	FSCA 1
FL	Alachua	6 mi. SW Gainesville	19.vii.1975	UV light	FSCA 1
FL	Alachua	6 mi. SW Gainesville	05.vii.1975		FSCA 3
FL	Alachua	6 mi. SW Gainesville	08.viii.1975		FSCA 53
FL	Alachua	Gainesville	03.viii.1971	black light	CDFA 3
FL	Alachua	Gainesville	11.viii.1978		FSCA 1
FL	Alachua	Gainesville	31.vii.1961	black light trap	FSCA 12
FL	Alachua	Gainesville	26.vii.1961	black light trap	FSCA 18
FL	Alachua	Gainesville	05.viii.1962	black light trap	FSCA 9
FL	Alachua	Gainesville	09-11.viii.1968		MAI 3
FL	Alachua	Gainesville	--.viii-1976		USNM 3
FL	Alachua	Gainesville	--.vi-vii-1968		USNM 4
FL	Alachua	Gainesville, Doyle Conner bldg.	25.vii.1972	black light trap	FSCA 1
FL	Alachua	Gainesville, Doyle Conner bldg.	16.viii.1973	malaise trap	FSCA 1

FL	Alachua	Gainesville, Doyle Conner bldg.	06.viii.1972	black light trap	FSCA 18
FL	Alachua	Gainesville, Doyle Conner bldg.	19.vii.1972	black light trap	FSCA 2
FL	Alachua	Gainesville, Doyle Conner bldg.	31.vii.1972	black light trap	FSCA 6
FL	Alachua	Paynes Prairie, S end; US 441	04.viii.1973	black light trap	FSCA 13
FL	Columbia	Lake City			USNM 1
FL	Hardee	Fort Green	02.vii.1965	in Steiner trap	FSCA 1
FL	Highlands	Archbold Biol. Station	28.v.1984	malaise trap, trail 1, SSo	ABS 1
FL	Highlands	Archbold Biol. Station	15.vi.1984	in malaise trap, site of 16 May 1984 burn, SFi	ABS 1
FL	Highlands	Archbold Biol. Station	26.v.1981	UV light	ABS 1
FL	Highlands	Archbold Biol. Station	24.vi.1983	malaise trap, trail 1, Sso	ABS 1
FL	Highlands	Archbold Biol. Station	11.vii.1983	mailaise trap, W side trail 1 SSo	ABS 1
FL	Highlands	Archbold Biol. Station	03.vii.1983	malaise trap, W side trail 1, Sso	ABS 1
FL	Highlands	Archbold Biol. Station	30.vi.-01.vii.1983	malaise trap, E side trail 1, SSo	ABS 1
FL	Highlands	Archbold Biol. Station	17.vii.1983	malaise trap, trail 2, Sso	ABS 1
FL	Highlands	Archbold Biol. Station	04.vii.1984	malaise trap, trail 2, SSo	ABS 1
FL	Highlands	Archbold Biol. Station	12-19.vi.1955	at light	CNC 2
FL	Highlands	Archbold Biol. Station	09.v.1961		CUIC 10
FL	Highlands	Archbold Biol. Station	22.vi.1966		CUIC 2
FL	Highlands	Archbold Biol. Station	12-19.vi.1955	at light	FMNH 11
FL	Highlands	Archbold Biol. Station	06-07.vii.1986	malaise trap, trail 2	FSCA 1
FL	Highlands	Archbold Biol. Station	06-07.vii.1986	malaise trap, trail 1	FSCA 1
FL	Highlands	Archbold Biol. Station	27.v.1978	insect flight trap	FSCA 1
FL	Highlands	Archbold Biol. Station	23-24.vi.1979	insect flight trap	FSCA 1
FL	Highlands	Archbold Biol. Station	05.vi.1978	insect flight trap	FSCA 2
FL	Highlands	Archbold Biol. Station	26.v.1981	UV light	FSCA 2
FL	Highlands	Archbold Biol. Station	20-21.vi.1985	malaise trap, trail 2	FSCA 2
FL	Highlands	Archbold Biol. Station	28-30.vi.1986	malaise trap, trail 2	FSCA 3
FL	Highlands	Archbold Biol. Station	28-30.vi.1986	malaise trap, trail 1	FSCA 3
FL	Highlands	Archbold Biol. Station	21-23.vi.1986	malaise trap, trail 2	FSCA 3
FL	Highlands	Archbold Biol. Station	24.v.1978	insect flight trap	FSCA 4
FL	Highlands	Archbold Biol. Station	18.v.1978	insect flight trap	FSCA 4
FL	Highlands	Archbold Biol. Station	03-04.vii.1986	malaise trap, trail 2	FSCA 9
FL	Hillsborough		--.ix.1911		CAS 1
FL	Hillsborough		--.ix.1911		MCZ 1
FL	Hillsborough	Lutz	18.v.1916		LACM 3
FL	Hillsborough	Lutz	10.v.1916		LACM 1
FL	Hillsborough	Tampa	08.viii.1958		FSCA 1
FL	Lake	Lady Lake	14.vi.1984	light	FSCA 1
FL	Leon	Silver Lake, Apalachicola Nat. For.	29.vii.1956	at light	CNC 1
FL	Leon	Silver Lake, Apalachicola Nat. For.	29.vii.1956	at light	CUIC 1
FL	Levy	Chiefland	--.--.1941		USNM 3
FL	Manatee	Oneco			FMNH 3
FL	Manatee	Oneco			FSCA 11
FL	Marion	Rainbow Springs	30.v.1982		FSCA 34
FL	Marion	T17S/R21E/sec. 4 (east central)	17.vi.1975	black light trap	FSCA 72
FL	Orange	Orlando	21.viii.1932	light	FSCA 1
FL	Orange	Winter Park	26.vii.1944		FSCA 1
FL	Putnam	3 mi. S Melrose	08.vi.1985	in pool	FSCA 6
FL	Putnam	Crescent City	--.vi.1938		MCZ 1
FL	Putnam	Crescent City			USNM 7
FL	Putnam	Georgetown			MCZ 2
FL	Sarasota	Englewood	18.v.1944		CNC 1
FL	Sarasota	Englewood	18.v.1944		CUIC 16
FL	Seminole	Oviedo	20.v.1963	Ligustrum; female	FSCA 1

Selonodon medialis Galley - pp. 10-11

AL	Baldwin		08.vi.1947	female	FMNH 1
AL	Baldwin		28.vi.1950		FMNH 1
AL	Baldwin	Foley	19.vi.1931	lantern light	LSUC 9
AL	Mobile	Grand Bay	--.vii.1908		CAS 1
AL	Mobile	Magazine Point			FMNH 2
AL*	Mobile	Mobile	27.v.1908		CAS 1
AL	Mobile	Mobile	--.iv.1914		CAS 1
AL	Mobile	Mobile	19.v.1909		CAS 1

AL	Mobile	Mobile	09.vi.1912		CAS 2
AL	Mobile	Mobile	30.v.1956	at light	FSCA 2
AL	Mobile	Mobile	--.v.1926		MCZ 1
AL	Mobile	Mobile	07.vi.1914		MSU 1
AL	Mobile	Mobile			OSU 1
AL	Mobile	Mobile	08.vii.1949		USNM 1
AL	Mobile	Mobile	26.vi.1949		USNM 1
AL	Mobile	Mobile	--.vii.1951		USNM 1
AL	Mobile	Mobile	--.--.1953		USNM 1
AL	Mobile	Mobile	--.--.1960		USNM 1
AL	Mobile	Mobile	--.vii.1914		CAS 1
AL	Mobile	Mobile	27.v.1908		CAS 2
AL	Mobile	Mobile	15.vi.1927		MCZ 1
AL	Mobile	Mobile	--.vii.1961		MEM 1
AL	Mobile	Mobile			OSU 2
AL	Mobile	Mobile	02.vi.19--	includes female	USNM 2
AL	Mobile	Mobile, Magazine Point			MCZ 1
AL	Mobile	W side Mobile Bay	14.vi.1959	swamp forest, ant nest, beech	CNC 1
AL	Mobile	Spring Hill	--.vi.1909		CAS 1
AL	Mobile	Spring Hill	15.vi.1921		MCZ 1
AL	Mobile	Theodore	14.vi.1959	at light	CUIC 1
LA	E Baton Rouge	Baton Rouge	26.vi.1982		EGR 5
LA	E Baton Rouge	Baton Rouge	20.vii.1973		LSUC 1
LA	E Baton Rouge	Baton Rouge	31.v.1949		LSUC 1
LA	E Baton Rouge	Baton Rouge	01.v.1893		LSUC 1
LA	E Baton Rouge	Baton Rouge	16.vi.1947		LSUC 1
LA	E Baton Rouge	Baton Rouge	07.vi.1916		LSUC 1
LA	E Baton Rouge	Baton Rouge	27.v.1971		LSUC 3
LA	E Baton Rouge	Baton Rouge	07.vi.1916		USNM 1
LA	E Baton Rouge	Baton Rouge, Place Duplantier Apts.	18.vii.1984		EGR 2
LA	E Baton Rouge	Baton Rouge, Place Duplantier Apts.	23.vi.1984		EGR 3
LA	East Feliciana	Camp Avondale, 3 mi. E Clinton	03.viii.1984		EGR 1
LA	East Feliciana	Camp Avondale, 3 mi. E Clinton			LSUC 1
LA	East Feliciana	Camp Avondale, 3 mi. E Clinton	27.vii.1982		LSUC 2
LA	East Feliciana	Camp Avondale, 3 mi. E Clinton	07.vii.1983		LSUC 70
LA	Evangeline	Chicot St. Pk.	28.vi.-05.vii.1971	malaise trap	FSCA 1
LA	Evangeline	Chicot St. Pk.	06-14.vii.1971	malaise trap	FSCA 2
LA	Evangeline	Chicot St. Pk.	23.vi.1979		LSUC 1
LA	Livingston	Denham Springs	26.vi.1968		LSUC 1
LA	St. Tammany	4.2 mi. E Abita Springs, T6S R12E sec. 24	16.vi.1983		LSUC 1
LA	St. Tammany	4.2 mi. E Abita Springs, T6S R12E sec. 24	30.vi.1983		LSUC 1
LA	West Feliciana	Angola	11.vi.1968		LSUC 1
MS	Forrest/Lamar	Hattiesburg	15.viii.1944		AMNH 1
MS	Forrest	Hattiesburg	08.v.1955		FMNH 5

Selonodon mississippiensis Galley - pp. 23-24

AL	Baldwin		04.vi.1922		TAMU 2
AL	Baldwin	Gulf Shores St. Pk.	17.v.1985		EGR 1
AL	Mobile	Grand Bay	--.vii.1908		CAS 1
AL	Mobile	Mobile	--.iv.1914		CAS 1
AL	Mobile	Mobile	16.vi.1916		CAS 2
AL	Mobile	Mobile	30.vi.1962		FSCA 1
AL	Mobile	Mobile	12.vi.1927		MCZ 1
AL	Mobile	Mobile			MCZ 1
AL	Mobile	Mobile	04.vi.1914		MSU 1
AL	Mobile	Mobile			OSU 2
AL	Mobile	Mobile			USNM 1
AL	Mobile	Mobile, Magazine Pt.			FMNH 2
AL	Mobile	Russell			FMNH 1
AL	Sumter	Livingston	19.vi.1947		AMNH 2
AL	Wilcox	Pine Hill	24.vi.1938		USNM 1
MS	Calhoun	2.5 mi. NNE Vardaman	19.vii.1989	blacklight trap	MEM 2
MS	Carroll	Vaiden	03.vi.1916		MEM 1
MS	Clarke		24.vi.-06.vii.1942		USNM 1
MS	Forrest	Hwy. 49 Fruitland Pk. Camp Trak BSA	10.vii.1973		FSCA 3

MS	George	Lucedale	--.--.1931		MEM	15
MS	George	Lucedale	--.--.1931		CAS	3
MS*	George	Lucedale	16.vi.1931		CUIC	1
MS	George	Lucedale	16.vi.1931		CAS	2
MS	George	Lucedale	16.v.1931		CUIC	15
MS	George	Lucedale	25.v.1929		CUIC	1
MS	George	Lucedale	31.v.1929		CUIC	1
MS	Greene	4 mi. W State Line	27.vi.1984		OLM	1
MS	Harrison	Gulfport	29.vi.1966		FSCA	1
MS	Jackson	Ocean Springs	12.v.1957		FMNH	1
MS	Jackson	Ocean Springs	07.vi.1915	pecan	MEM	1
MS	Jackson	Ocean Springs	1-4.vii.1921		MEM	1
MS	Jackson	Ocean Springs	15.vi.1915	pecan	MEM	1
MS	Jackson	Ocean Springs	6-10.vii.1921		MEM	6
MS	Jones	Ellisville	03.vi.1919		MEM	1
MS	Jones	Ellisville	08.vi.1919		MEM	2
MS	Jones	Ellisville	06.vi.1919		MEM	3
MS	Lafayette		15-30.vi.1964		OLM	1
MS	Lafayette	Oxford	20.vii.1973		MEM	1
MS	Lafayette	Oxford	30.vii.1984		OLM	1
MS	Lafayette	Oxford	16.vii.1981		OLM	1
MS	Lafayette	Oxford	17.vii.1984		OLM	1
MS	Lafayette	Oxford	05.viii.1981		OLM	1
MS	Lafayette	Oxford	26.vii.1986		OLM	1
MS	Lafayette	Oxford	20.vii.1981		OLM	1
MS	Lamar	Lumberton		pine	MEM	1
MS	Lincoln	Brookhaven	--.ix-1920		MEM	1
MS	Lincoln	Brookhaven	13.vi.1936		USNM	1
MS	Marshall	Holly Springs	07.vii.1926	light	CAS	2
MS	Marshall	Holly Springs	07.vii.1926	light	MEM	3
MS	Monroe	T12S R7E sec. 16, Town Creek	12.vii.1990	flying at wood's edge during heavy thunderstorm	MEM	12
MS	Oktibbeha		12.vii.1975		MEM	1
MS	Oktibbeha	Mississippi State College	07.vi.1951		MEM	1
MS	Oktibbeha	Mississippi State College	19.vi.1951		MEM	1
MS	Oktibbeha	Mississippi State College	10.vi.1951		MEM	1
MS	Oktibbeha	Mississippi State Univ.	09.viii.1973		MEM	1
MS	Oktibbeha	Starkville	01.ix.1920		CAS	1
MS	Oktibbeha	Starkville	08.vii.1975	blacklight trap nr. edge deciduous woods	MEM	1
MS	Oktibbeha	Starkville	22.vi.1979	incandescent light	MEM	1
MS	Oktibbeha	Starkville	24.vii.1975	blacklight trap nr. edge deciduous woods	MEM	2
MS	Oktibbeha	Starkville	21.vii.1975	blacklight trap nr. edge deciduous woods	MEM	3
MS	Panola	4 mi. ENE Como	25.vi.1979	lighttrap 150 m. from cultivated cotton	MEM	1
MS	Pearl River	Picayune			USNM	1
MS	Pike	Summit	--.x.1915		MEM	1
MS	Pontotoc	1 mi. S Ecru	17.vii.1980	lighttrap nr. cultivated cotton	MEM	2
MS	Rankin	Pelahatchie	02.viii.1924		MEM	1
MS	Stone	Perkinston	15.v.1929		CUIC	4
MS	Stone	Perkinston	15.vii.1929	female	CUIC	1
MS	Stone	Wiggins	23.vi.1915		CAS	1
MS	Tishomingo	Tishomingo St. Pk.	12.viii.1978		MEM	2
MS	Wayne	Clara	25.vi.1906	at light	MEM	1
MS	Webster	Eupora	09.vi.1921	peach	MEM	1
MS	Webster	T20N R8E sec. 12, The Cove	22-28.vii.1988	malaise trap in mixed mesic forest ravine	MEM	2
MS	Webster	T20N R8E sec. 12, The Cove	29.vii-4.viii.1988	pitfall trap in mixed mesic forest ravine; includes female	MEM	2

Selonodon obscurus Galley - pp. 17-18

AL	Dale	Enterprise	15-19.vi.1992		RHT	1
AL	Dale	Enterprise	21-26.vi.1992		RHT	9

AL	Dale	Ft. Rucker Mil. Res.	28.vi.-01.vii.1994		RHT	1
AL*	Houston	UEA site, 2 mi. S. Columbia	26.vii.1975	xeric pine/light trap	USNM	1

Selonodon orestes Galley - p. 25

TN*	Cumberland	Black Mt.	v.-viii.1917		CUIC	1
TN	Cumberland	Black Mt.	v.-viii.1917		CUIC	3
TN	Cumberland	Black Mt.	v.-viii.1917		CAS	1

Selonodon papillatus Galley - pp. 16-17

TN*	Madison	Jackson	20.vi.1955	light trap	FSCA	1
TN	Shelby	Memphis	14.vii.1948		CUIC	1

Selonodon parvus Galley - pp. 9-10

OK*	Marshall	Univ. Okla. Biol. Sta., Lake Texoma	16.vi.1968	at light	CNC	1
OK	Marshall	Univ. Okla. Biol. Sta., Lake Texoma	21.vi.1968	at light	CNC	1
OK	Marshall	Univ. Okla. Biol. Sta., Lake Texoma	08.vi.1969	at light	FSCA	3
OK	Marshall	Univ. Okla. Biol. Sta., Lake Texoma	11.vi.1969	at light	FSCA	6
OK	Marshall	Univ. Okla. Biol. Sta., Lake Texoma	05.vii.1969		FSCA	1
OK	Marshall		06.vii.1969	at black light	FSCA	2
OK	Marshall	2 mi. E. Willis	14.vi.1965		FMNH	2
OK	Marshall	2 mi. E. Willis, Lake Texoma	vi.1965	at light	FMNH	1
OK	Marshall	Lake Texoma	21.vi.1965	at light	TAMU	1

Selonodon perplexus Galley - p. 20

AL	DeKalb		02.viii.1969	trap light	AUEM	2
AL	DeKalb	Crossville	16.vii.1958		AUEM	1
AL	DeKalb	Crossville, Sand Mtn. Substation	14.vii.1958		AUEM	5
AL	DeKalb	Lebanon	19.vii.1968		AUEM	1
AL	Elmore	Lightwood Community	06.vii.1973	light trap in woods	AUEM	3
AL	Elmore	Lightwood Community	07.vii.1973	light trap in woods	AUEM	7
AL	Lee	Auburn	01.v.1979		AUEM	1
AL	Lee	Auburn	06.vii.1975		AUEM	1
AL	Lee	Auburn	Fall, 1954		USNM	1
AL	Lee	Auburn	28.vi.1963		AUEM	1
AL*	Shelby	Helena	24.vi.1955	at light	CNC	1
AL	Shelby	Helena	24.vi.1955	at light	CNC	1
AL	Shelby	Helena	16.vi.1950		FMNH	1
AL	Shelby	Helena	24.vi.1955		FMNH	2
AL	Shelby	nr. Helena			FMNH	1
AL	Tallapoosa	Camp Hill	02.vii.1979		AUEM	10
AL	Tallapoosa	Smith Mtn. Tower	15.vii.1959	trap light	AUEM	1
AL	Tuscaloosa	Tuscaloosa	16.vii.1954	at light	FSCA	1
AL	Wilcox	Canton Bend	20.vi.1973	Manning trap	AUEM	1
GA	Dade	Cloudland Cyn. St. Pk.	16.viii.1982		FSCA	7
GA	Dade	Head River	03.vii.1936		UGEM	1
GA	Dade	Head River	03.viii.1937		UGEM	1
GA	Dade	Sitton's Gulch	06.vii.1936		UGEM	1
GA	Dekalb		18.vi.1937	at light	USNM	1
GA	Dekalb		08.vii.1937	at light	USNM	1
GA	Dekalb		17.vi.1937	at light	USNM	1

Selonodon sagittiformis Galley - pp. 24-25

TX*	Anderson	Salmon	22.vii.-2.viii.1974	malaise trap	USNM	1
TX	Anderson	Salmon	21.vii.1974	female	USNM	1
TX	Anderson	Salmon	01-08.vii.1974	malaise trap	TAMU	2
TX	Anderson	Salmon	22.vii.-02.viii.1974	malaise trap	TAMU	1
TX	Anderson	Tennessee Colony	10.viii.1963	light	CNC	2
TX	Henderson	Payne Springs, nr. Cedar Creek Lk.	03.vii.1966		CUIC	1

Selonodon santarosae Galley - pp. 21-22

FL	Escambia	Pensacola	06.vii.1960	blacklight	FSCA	1
FL	Escambia	Pensacola	06.vii.1960	blacklight	FSCA	6
FL	Escambia	Pensacola	21.vi.1943	flying to lite [sic]	USNM	1

FL	Okaloosa	1.5 mi. S Munson, Sweetwater Cr.	14.vi.1974		UGEM 1
FL	Okaloosa	FAMU Biol. Sta., Blackwater R.	09.vi.1972	black light	RHT 7
FL	Santa Rosa	4.5 mi. NW Holt	15.vi.1974		CNC 5
FL	Santa Rosa	4.5 mi. NW Holt	15.vi.1974		UGEM 101

Selonodon similis Galley - p. 23

FL*	Leon	Tall Timbers Res. Sta.	05-11.vii.1967		USNM 1
FL	Leon	Tall Timbers Res. Sta.	01-03.vi.1967		USNM 1
FL	Leon	Tall Timbers Res. Sta.	01-08.vii.1967		USNM 5
FL	Leon	Tall Timbers Res. Sta.	09-15.vii.1972		USNM 1
FL	Leon	Tall Timbers Res. Sta.	16-24.vi.1967		USNM 4
FL	Leon	Tall Timbers Res. Sta.	05-11.vii.1967		USNM 9
FL	Leon	Tall Timbers Res. Sta.	09-15.vii.1972		FSCA 1
FL	Leon	Tall Timbers Res. Sta.	01-08.vii.1972		FSCA 1
FL	Leon	Tall Timbers Res. Sta.	16-22.vii.1972		FSCA 3
FL	Leon		18.vi.1924		USNM 1

Selonodon simplex (LeConte) - p. 22

FL	Suwannee	Suwannee River St. Pk.	02-24.vi.1977	malaise trap	FSCA 2
FL	Suwannee	Suwannee River St. Pk.	24.vi.-14.vii.1977	malaise trap	FSCA 25
GA*	[Gulf States]				MCZ 1
GA	[Gulf States]			[*confusus* type]	MCZ 1
GA	Lowndes		08.vii.1962		FMNH 3
GA	Lowndes		09.vi.1963		FMNH 3
GA	Lowndes		08.vii.1962		FSCA 2

Selonodon speratus (Fall) - p. 9

AR				[*antennatus* type]	USNM 1
AR	Benton	Rogers	10.vii.1949	flying at dusk after rain	CNC 1
AR*	Hempstead	Hope	18.vi.1926		MCZ 1
AR	Hempstead	Hope	18.vi.1926		MCZ 2
AR	Hempstead	Hope	18.vi.1926		FMNH 1
AR	Hempstead	Hope	01.vi.1925	includes female	MCZ 4
AR	Hempstead	Hope	--.vii.1926		USNM 1
AR	Howard		10.vi.1936	female	USNM 1
AR	Lawrence				CAS 2
AR	Lawrence	nr. Imboden	08.vii.1925		USNM 4
AR	Nevada	Bluff City seed orchard	08-09.vii.1976	blacklight trap	UAK 1
AR	Polk	8.7 mi. SE inters 88 & 272 on 88	31.vii.1973	pitfall traps	UAK 1
AR	Sebastian	Ft. Smith nr. Arkansas River	27.vi.1983	(in) pool	PES 1
AR	Sevier		08.xii.1977		UAK 1
AR	Washington		10.vi.1941		FMNH 1
AR	Washington		26.vi.1946	at light	UAK 1
AR	Washington		29.vi.1946	at light	UAK 2
AR	Washington		27.vi.1973		UAK 2
AR	Washington		11.viii.1973	light trap	UAK 5
AR	Washington		10.vi.1941		USNM 1
AR	Washington	8 mi. NW Fayetteville	21.vii.1975		CUIC 21
AR	Washington	Cove Cr.	--.viii.1960		UAK 1
AR	Washington	Cove Cr., 15 mi. S Prairie Grove	--.vii.1960		UAK 8
AR	Washington	Fayetteville	05-10.vii.1975	malaise trap	FSCA 1
AR	Washington	Fayetteville	22-29.vii.1975	malaise trap	FSCA 1
AR	Washington	Fayetteville	07.vii.1983		TAMU 1
AR	Washington	Fayetteville (campus)	21.vi.1956		UAK 1
AR	Yell	2 mi. NNW Danville	12.vi.1975	leggett trap 2984	MEM 1
MO	Benton	4 mi. NW Warsaw, along MO st. UU	09.viii.1969	at UV light	FSCA 1
MO	Jasper	Joplin	29.vii.1963		FMNH 1
MO	Newton	Neosho	--.vii.19--		UAZ 1
MO	Randolph	Rudolf Bennitt Wildlife Area, S of Moberly	27.vii.1968		AMNH 1
MO	Randolph	Rudolf Bennitt Wildlife Area, S of Moberly	27.vii.1963		FSCA 1
OK	Atoka	Atoka	13.vi.1915	[*atokanus* type]	MCZ 1
OK	Atoka	Atoka	13.vi.1915		USNM 1
OK	Canadian	El Reno	14.vi.1937		OKSU 1
OK	Cherokee	Ellerville	20.vi.1937		FMNH 1
OK	Delaware	Flint	26.vi.1934		FMNH 1

OK	Latimer		09.vii.1931		CAS 4
OK	Latimer		--.vii.1982		CNC 2
OK	Latimer		--.viii.1983		CNC 3
OK	Latimer		20.vii.1931		FMNH 1
OK	Latimer		--.vi.1982		KS 1
OK	Latimer		--.viii.1986		KS 16
OK	Latimer		--.vii.1986		KS 2
OK	Latimer		--.vii.1985		KS 26
OK	Latimer		--.vii.1982		KS 8
OK	Latimer	5 mi. W Red Oak	--.vii.1980	female	CNC 1
OK	Latimer	5 mi. W Red Oak	--.viii.1981		KS 1
OK	Latimer	5 mi. W Red Oak	--.vii.1981		KS 2
OK	Latimer	5 mi. W Red Oak	16.vii.1977		KS 2
OK	Latimer	5 mi. W Red Oak	02.vii.1977		KS 4
OK	Le Flore	Muse	25.vi.1937		FMNH 1
OK	Le Flore	Muse	25.vi.1937		OKSU 1
OK	Le Flore	Page	25.vi.1937		FMNH 1
OK	Mayes	Choutou	15.vi.1965	light	OKSU 1
OK	Mayes	Strang	18.vi.1939		OKSU 1
OK	McCurtain	Beaver's Bend St. Pk.	03.viii.1983	black light trap	OKSU 2
OK	McCurtain	Broken Bow	14.vi.1973	at light	OKSU 2
OK	Ottawa	Wyandotte	15.vii.1938		FMNH 1
OK	Ottawa	Wyandotte	15.vi.1931		OKSU 1
OK	Payne	Stillwater	02.vii.19--		FMNH 1
OK	Pittsburg	Arrowhead St. Pk.	01.vi.1977	blacklight	EGR 2
OK	Roger Mills	Cheyenne	07.vi.1937		FMNH 3
OK	Roger Mills	Cheyenne	07.vi.1937		OKSU 4
OK	Rogers	Claremore	20.vi.1939		MSU 2
OK	Rogers	Claremore	20.vi.1939		OKSU 5
OK	Sequoyah		01.vii.1929		CAS 1
OK	Sequoyah		29.vii.1931		MSU 1
OK	Sequoyah		29.vii.1931		OKSU 2
OK	Sequoyah	Sallisaw	27.vii.1931		FMNH 1
OK	Sequoyah	Sallisaw	21.vi.1937		FMNH 1
OK	Sequoyah	Sallisaw	24.vii.1931		FMNH 2
OK	Sequoyah	Sallisaw	27.vi.1931		MSU 1
OK	Sequoyah	Sallisaw	27.vii.1931		OKSU 1
OK	Sequoyah	Sallisaw	24.vii.1931		OKSU 1
OK	Sequoyah	Sallisaw	21.vi.1937		OKSU 1
OK	Tulsa	Bixby	09.viii.1984	black light trap	OKSU 1
OK	Tulsa	Bixby	12.vi.1987	black light trap	OKSU 1
OK	Tulsa	Bixby	25.vi.1985	black light trap	OKSU 1
OK	Tulsa	Bixby	20.v.1987	black light trap	OKSU 1
OK	Tulsa	Bixby	22.v.1987	black light trap	OKSU 1
OK	Tulsa	Bixby	06.vii.1984	black light trap	OKSU 1
OK	Tulsa	Bixby	07.vii.1982	black light trap	OKSU 1
OK	Tulsa	Bixby	08.vi.1985	black light trap	OKSU 1
OK	Tulsa	Bixby	26.vi.1983	black light trap	OKSU 1
OK	Tulsa	Bixby	13.vii.1983	black light trap	OKSU 1
OK	Tulsa	Bixby	19.vi.1984	black light trap	OKSU 10
OK	Tulsa	Bixby	26.vi.1984	black light trap	OKSU 2
OK	Tulsa	Bixby	15.vi.1984	black light trap	OKSU 2
OK	Tulsa	Bixby	14.vi.1983	black light trap	OKSU 2
OK	Tulsa	Bixby	16.vi.1987	black light trap	OKSU 2
OK	Tulsa	Bixby	19.vi.1987	black light trap	OKSU 2
OK	Tulsa	Bixby	19.vi.1986	black light trap	OKSU 2
OK	Tulsa	Bixby	25.vi.1986	black light trap	OKSU 2
OK	Tulsa	Bixby	03.vii.1984	black light trap	OKSU 3
OK	Tulsa	Bixby	17.vi.1986	black light trap	OKSU 3
OK	Tulsa	Bixby	05.vii.1985	black light trap	OKSU 3
OK	Tulsa	Bixby	21.vi.1984	black light trap	OKSU 4
OK	Tulsa	Bixby	09.vi.1987	black light trap	OKSU 4
OK	Tulsa	Bixby	27.vi.1985	black light trap	OKSU 6
OK	Tulsa	Bixby	11.vi.1985	black light trap	OKSU 8
OK	Tulsa	Tulsa	09.vii.1941		CAS 2
OK	Tulsa	Tulsa	20.vi.1941		CAS 2

OK	Tulsa	Tulsa	13.vi.1941		CAS	5
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