

Article IV.—INSECTS OF FLORIDA

Va. SUPPLEMENTARY NOTES ON THE WATER BEETLES

BY W. S. BLATCHLEY

In the fifth paper¹ of a series on the Insects of Florida, Chas. W. Leng and Andrew J. Mutchler give¹ a list of all the species of the families Dytiscidæ, Haliplidæ, Gyrinidæ, Hydrophilidæ, Sphæridiidæ, and Parnidæ, known to the authors to occur in Florida, with full notes on their distribution within that state and keys to the species of many of the genera. They refer to the writer quite often as furnishing notes on distribution and also descriptions of several species. The data for most of these notes were obtained and given to Mr. Leng some years ago. More extended collecting in the southern part of the state and more careful study of the species taken have furnished additional facts concerning the distribution of many of the species listed, and have also led to a change of opinion regarding the names of some of the species. The following notes, additions, and corrections are therefore offered as supplementary to the valuable paper of Leng and Mutchler, the species added being *Copelatus debilis* Sharp, *Copelatus chevrolati australis* Schaeffer, *Agabus semivittatus* LeConte, *Derallus altus* (LeConte) and the new species herein described, while *Dineutes emarginatus* (Say) should be stricken from their list.

The collecting by the writer in Florida has been limited to the period between October 20 and April 15 and has extended over a range of seven years.² While the majority of Florida beetles which pass the winter in the adult stage are, at that season, inactive and more or less in a state of hibernation, this is not true of the water beetles and they can be taken in numbers at any time. A cold snap lasting several days, or even weeks, doubtless causes many of them to burrow in the mud or hide beneath debris along the shores. A few warm days will, however, make them as active and abundant as before and during February and March they often swarm in numbers in suitable pools and ditches.

Leng and Mutchler state that the water beetles of Florida were seldom found in its beautiful clear lakes, but rather in road-side ditches, shallow rain-pools, etc., in which there was some vegetable growth. Now, the beetles are in the lakes and can be collected in numbers along

¹1918, Bull. American Mus. of Nat. Hist., XXXVIII, pp. 73-116.

²Several species have been taken at porch lights during the summer months and sent to me.

their **mucky** margins, but most of the collecting has been done in the more **easily** explored ditches and ponds. A few weeks' work with a suitable **dredge** net in the deeper waters of the lakes would perhaps bring to light **a number** of additional species which frequent only the greater depths. The great majority, however, find their food, and therefore have **their** habitat, in the shallow waters along the shores.

Most of the writer's collecting of the water beetles of Florida has been **done** along the margins of ditches, ponds, and lakes in the vicinity of **Dunedin**, a town on the west coast twenty-one miles north of St. **Petersburg** and twenty-seven miles northwest of Tampa. One winter, **however**, was spent at Sarasota, seventy miles farther south, and two **extended** trips have been made to the Lake Okeechobee region. **Collecting** has also been done at Ormond, Gainesville, Sanford, Kissimmee, **Lake Istokpoga**, Miakka, Lakeland, La Belle, Fort Myers, Little River, Cape Sable, and Key West.

DYTISCIDÆ

Notomicrus nanulus (LeConte).—This minute species has been taken by the writer only along the margins of two woodland ponds near Dunedin, and then only in the winters of 1913 and 1917. It occurs on the under surface of boards wholly immersed in the water and, as far as remembered, has never been taken with the water net. It is so small and so nearly the color of its cover that, when the latter is removed, the beetle can be seen only when it moves. Not over fifteen specimens altogether have been found, though dozens of trips have been made to the ponds especially for it.

Colpius inflatus LeConte.—This is usually a scarce species about Dunedin, only two or three being found each season. However, in March 1919, more than 75 were taken from the margins of a lake one mile east of the town. At La Belle a dozen or more were obtained from a shallow woodland pond on February 26, 1918.

Hydrocanthus iricolor Say.—I have not taken the true *iricolor* Say of the northern states in Florida. My records of "Dunedin, Kissimmee, etc.," quoted by Leng and Mutchler, should refer to *H. oblongus* Sharp, which I had not differentiated at the time the notes were given to Mr. Leng. *H. iricolor*, as found in Indiana, is larger than *oblongus*, always iridescent reddish brown, and usually with two or three confused rows of small, vague dorsal punctures. I have, however,

in my cabinet six specimens labelled *Hydrocanthus iricolor* var., which agree with *iricolor* in size and punctation, but have the upper surface, except the front margin of head, shining black. Four of them are labelled Lake Okeechobee, March 7; the others, Sanford, January 16, and Dunedin, January 2. They probably represent the *atricolor* which Leng and Mutchler, page 77, state I record from Sanford and Lake Okeechobee, though I can find no such record in my published papers. These black specimens are probably the same as the *H. texanus* Sharp of Leng and Mutchler.

***Hydrocanthus oblongus* Sharp.**—As separated by Leng and Mutchler, this is one of the most common water beetles of Florida, and has been taken by me at all points where collections have been made except Ormond and Fort Myers. It is very close to *iricolor* and will probably prove to be only a southern race of that species. The width of the prosternal process behind the front coxæ is variable and the hind coxal plates are as coarsely and closely punctate in northern *iricolor* as in *oblongus*. Both Crotch¹ and Horn² regarded all three forms viz., *iricolor*, *texanus*, and *oblongus* as one species.

***Canthydrus puncticollis* (Crotch).**—Single specimens of this well-marked form have been taken at Lake Okeechobee, March 6, and Dunedin, January 12. The *C. gibbulus* Aubé of my "Coleoptera of Indiana" is this species. Leng and Mutchler have, unfortunately, used my description of *C. gibbulus*, which should apply to *puncticollis*, under the former name. The descriptions which they give of both *puncticollis* and *gibbulus* are, therefore, essentially the same and both apply to *puncticollis*.

***Canthydrus floridanus* Blatchley.**—Only one specimen of this short, convex species has been taken since it was described. It was found on the under side of an immersed board in a pond near Dunedin.

***Canthydrus bicolor* (Say).**—I have not yet taken this species in Florida. Indiana specimens show that the color is the same as that of *gibbulus*, but the form is broader and the elytra are more coarsely punctate.

***Canthydrus gibbulus* (Aubé).**—I have found this one of the two most common dytiscids in Florida, the other being *Laccophilus proximus* Say. Both have been taken in numbers at every point where collections have

¹1873, Trans. American Ent. Soc., IV, p. 396.

²1883, Idem, X, p. 277.

been made. *C. gibbulus* is very close to *bicolor*. Sharp¹ states that "*bicolor* scarcely differs from *gibbulus* except in sexual characters (given in the accompanying key), and that it generally has the elytra and under surface darker in color." Henshaw, following Sharp, listed the two as distinct. I can find no differences except those given in the key below, which are comparative only.

The four species of *Canthyrus* above mentioned may be separated by the following key:

Key to Florida Species of *Canthyrus*

1. Elytra piceous black, each with an irregular oblique yellowish cross-bar just behind the middle; length 3 mm. *puncticollis*.
Elytra uniform dark brown or piceous, without yellow bar. 2.
2. Thorax yellow, with a fuscous blotch on middle of front margin, its disk almost impunctate; form short, ovate, strongly convex; length 2-2.2 mm. *floridanus*.
Thorax without fuscous blotch; form more elongate, less convex; length 2.5-2.8 mm. 3.
3. Form broadly oval; elytra rather coarsely and deeply punctate; apical ventral segment rather deeply impressed each side in female only. *bicolor*.
Form narrowly oval; elytra more finely and shallowly punctate; apical ventral segment transversely impressed at middle in both sexes. *gibbulus*.

Laccophilus gentilis Leconte.—This species has been taken by me at Sarasota, La Belle, and Dunedin. It is far less common than *proximus* and is sometimes found beneath boards in moist places some distance from water.

Hydrovatus compressus Sharp.—Specimens are at hand from Sarasota, Lake Okeechobee, La Belle, Lakeland, and Dunedin, January to March. It occurs more often along the margins of lakes than in the smaller ponds.

Desmopachria granum (LeConte).—This minute, subrotund species is quite widely distributed throughout southern Florida, having been taken in small numbers at Dunedin, Sarasota, Lakeland, La Belle, and Moore Haven. It is more often found on immersed boards than taken in the net.

***Desmopachria mutchleri*, new species**

Form short rounded-oval, subdepressed above, strongly convex beneath. Head, apical three-fourths of thorax, legs, mouth parts, antennae and under surface pale reddish brown; basal fourth of thorax with a transverse fuscous blotch. Elytra reddish yellow with a large common W-shaped piceous mark; the entire suture, forming the center of the W, broadly piceous, the apical margin narrowly so. Clypeus broadly rounded, distinctly margined. Eyes large, separated by their own width. Head and thorax very finely, sparsely and unevenly punctate. Elytra a little more coarsely, rather closely and more evenly punctate. Meso- and metasterna finely and sparsely punctate; abdomen with a few very minute scattered punctures. Length, 2-2.3 mm.

Four specimens taken in a deep pool on the site of an old, abandoned sawmill two miles northeast of Dunedin, March 22, 24, 1919. The pool was not over ten feet square and was over the abandoned surface-well which formerly supplied the mill with water. A shallow pond covering about ten acres was within thirty feet of the pool. With the *Desmopachria*, half a dozen specimens each of *Haliplus annulatus* Roberts and *Thermonectes ornatcollis* (Aubé), neither of which had before been known to occur within fifty miles of Dunedin, were taken from the pool. Type and allotype in my collection; one of the paratypes in The American Museum of Natural History collection and another in the private collection of H. C. Fall.

Named in honor of Andrew J. Mutchler, the able assistant entomologist of The American Museum of Natural History, who has kindly given me much aid in the preparation of this and previous papers on Florida Coleoptera.

Of the eight valid species of the genus *Bidessus* listed by Leng and Mutchler, I have taken but five in Florida but have two additional forms from there which seem not to have been described. All my specimens have been carefully compared with the original descriptions or with the Indiana species which, at the time I wrote of them, were passed upon by the late Frederick Blanchard, who had made a special study of the group. Those at hand from Florida are as follows.

***Bidessus fuscatus* (Crotch).**—I have not taken this species in Florida. Mr. Mutchler kindly sent me two specimens from Taylor Co., Florida, one of which was labelled *B. fuscatus* Cr., the other *B. lacustris* Say, stating that they had been so named by the late Mr. Roberts. Both represent the same species and are probably *fuscatus*. Since both specimens are from exactly the same locality, it is possible that there was some confusion in the original placement. They differ

from Indiana *fuscatus* only in the paler color, the species being distinguished by the very short, almost obsolete basal striæ and coarse punctures of the elytra.

Bidessus exiguus (Aubé).—This easily distinguished little species is the most common *Bidessus* about Dunedin and has also been taken at La Belle and Lakeland. It occurs in numbers along the grassy margins of small lakes and ponds.

Bidessus pulicarius (Aubé).—In addition to the stations attributed to me by Leng and Mutchler, page 81, I can add only Lakeland and La Belle; February 22 to 28.

***Bidessus longovalis*, new species**

Elongate-oval, feebly convex at middle. Pale brownish yellow; elytra dark reddish brown to piceous, moderately shining, very sparsely clothed with exceedingly fine grayish yellow hairs. Head and front half of thorax minutely and very sparsely punctate. Thorax more than twice as wide as long, distinctly and closely punctate in front of the sinuate basal margin, which is fuscous between the basal striæ, the latter short, very fine. Elytra not wider at base than thorax and nearly four times as long, sides feebly and broadly curved to the rather blunt apex; basal striæ deep, twice as long as those of thorax; disk rather coarsely and densely punctate. Under surface finely and remotely punctate. Length, 2.1–2.3 mm.

This species has been taken in small numbers only at Dunedin, La Belle, and Kissimmee; January to March. When first taken I considered it *B. pulicarius* (Aubé) but, after comparing it more closely with undoubted Indiana specimens of that name, I noted important differences, and sent a specimen to Mr. Fall for examination under the identification Number 83. On March 16, 1917, he wrote me as follows: "No. 83. I succeeded in losing this in the process of relaxing and mounting. However, I had one or two examples of the same thing previously sent by you. I have recently described this in Ms. as *floridanus*. My type is from Jacksonville, the description having been written before I learned that the species sent by you was the same thing." This report by Fall led me to record this species as *B. floridanus* Fall¹ and to make the wrong statement that that species "bears a close general resemblance to *B. pulicarius* Aubé." I also sent out specimens under the name of *B. floridanus* and Mr. Mutchler, judging that they were correctly named, described the true *floridanus* as *B. shermani*. Had Mr. Fall succeeded in mounting the specimen sent him and then compared

¹1918, Canadian Ent., L, p. 52.

it closely with those previously sent, he would undoubtedly have noted the differences and the unfortunate mix-up would have been avoided.

B. pulicarius differs from *B. longovalis* in its shorter, more broadly oval form which is much more convex at middle; in the paler hue of elytra and in having the pubescence much coarser, more abundant, distinctly yellow; punctation of elytra finer and basal elytral striae distinctly shorter, being only one-half longer than those of thorax.

Bidessus affinis (Say).—Taken by me only at Dunedin, where it is scarce. My records of Arch Creek and Bassenger, given to Mr. Leng, apply to *B. floridanus* Fall, which I formerly confused with *affinis*.

Bidessus subsericeus, new species

Short-oval, obtuse at both ends, very feebly convex. Dull yellow; elytra piceous-brown with a purplish tinge, often with a vague pale oblong spot at apical third of side margin; pubescence exceedingly fine, scarcely evident. Head very finely and sparsely punctate. Thorax twice as wide as long, finely but distinctly punctate on apical and basal thirds, the middle almost smooth; basal striae short, deep, distinct. Elytra oval, widest behind the middle, sides broadly curved; disc with very fine, rather sparse aciculate punctures, the basal striae finer than and subequal in length to those of thorax. Under surface finely and sparsely punctate. Length, 1.7 mm.

Dunedin, Kissimmee, and Okeechobee City, January to April. Formerly considered by me as *B. lacustris*, but the latter is paler with elytral punctures indistinct and basal striae longer than those of thorax. The elytra of *B. subsericeus*, when viewed in profile, often have a purplish silken iridescence. The punctures are not round and deep, but slightly elongate and shallow as though made with a fine needle held at an incline. From *B. longovalis*, *subsericeus* differs by its short, blunt form, much finer and sparser pubescence, and different punctation and much shorter basal striae of elytra.

Bidessus floridanus Fall.—This species, which I formerly confused with *affinis*, I have taken at Arch Creek, Bassenger, and Dunedin, December 1 to March 21. It is quite common in woodland ponds about Dunedin, often occurring beneath boards near their margin. It resembles closely both *fuscatus* and *affinis*. As noted above, *B. shermani* Mutchler is a synonym.

Cœlambus princeps Blatchley.—One object of my trip to the Okeechobee region in February, 1918, was to try to find additional specimens of this large *Cœlambus*, but the search was a futile one, the decaying water-hyacinth and other debris along the beach being very limited.

Two mistakes were made in the description of the species as given by Leng and Mutchler. In the third line, "Antennæ and legs paler," should read "Antennæ and palpi paler," while the length should be 4.5 mm., not 5.4 mm., as there stated.

Cælambus marginipennis Blatchley.—Since the original description was published this species has been taken sparingly by me at Dunedin, La Belle, and Moore Haven. From the other localities given by Leng and Mutchler, it seems to be widely distributed but nowhere common in southern Florida. To line one, p. 84, of their description, the words "reddish brown" should be inserted after "middle," otherwise the sentence loses its principal meaning.

Mr. Fall, in a recent letter, questions the validity of *marginipennis*, stating that it appears to him to be only "a suffused color form of *C. acaroides* Lec., with a rather coarser punctuation, it having the lateral elytral carinæ present as in that species." In comparing *marginipennis* with my only Indiana specimen of *acaroides*, I find the lateral carinæ of the former much more feeble, punctuation very much coarser, and the color very different, *acaroides* being dull yellow with a large common sutural spot and three discal spots on each elytron black. The matter having been referred to John D. Sherman, Jr., who has made a special study of Dytiscidæ and has a large series of both forms, he replied: "I consider *Cælambus marginipennis* one of the most distinct species of the genus."

Hydroporus cimicoides Sharp.—This is the only species of *Hydroporus* which I have found in numbers in Florida. It has been taken at La Belle, Okeechobee City, and Dunedin, being quite frequent in the ponds about the latter place, January to April.

Hydroporus undulatus Say.—One specimen only has been taken. It was found at Sanford, March 28, and agrees with Indiana examples, but is somewhat darker.

Celina grossula LeConte.—This is the only species of the genus I have taken in the state. One specimen was found on the margin of a small pond near the University grounds at Gainesville on February 7.

Copelatus debilis Sharp.—This species is not included in the Leng and Mutchler paper. It is a tropical form described¹ from Central America, recorded from Mexico and Panama, and not hitherto known

¹ 1880-1882, Scientific Trans. Royal Dublin Soc., (2) XI, p. 579.

from the United States. Nine specimens were found, March 3, 1919, beneath dead leaves one-fourth mile south of the crematory and about two miles northeast of the city of Key West. No fresh-water ponds or streams are found on the island and I was much surprised to find a dytiscid inhabiting the dry land. It is probably a subarctic species breeding in brackish or salt-water pools, as the island at that point is narrow and the beetles were within 200 yards of the tidal pools on either side. Six of the nine specimens, all females, had evidently just matured, as their hue was much paler and integuments softer than the darker males. It is easily known from all our other species of the genus by having only five striae on each elytron.

***Copelatus chevrolati* Aubé.**—Occurs quite frequently about Dunedin, January to March, and also taken at La Belle. There is a short apical stria near the suture in typical *chevrolati*, which is not mentioned in the description given by Leng and Mutchler.

***Copelatus chevrolati australis* Schaeffer.**—I find among my specimens of *chevrolati* one specimen of this pale brown form, lacking the short, apical subsutural stria. It is labelled Dunedin, March 24, 1913. Not before recorded from Florida; Schaeffer giving its distribution as Texas, New Mexico, Arizona, and California.

***Copelatus glyphicus* (Say).**—My only specimen was taken beneath dead leaves in a cypress swamp, about fifty feet back from the margin of a lake near Lakeland, February 21. The Arch Creek record attributed to me by Leng and Mutchler belongs to the next species.

***Copelatus caelatipennis* Aubé.**—Only three specimens are at hand, two taken from beneath debris on the margin of Arch Creek, March 21, the other at porch light at Dunedin by my son, June 20.

***Matus bicarinatus* (Say).**—One specimen was taken at Arch Creek with the last named species and another at Dunedin in the mucky margin of Jerry Lake, January 28. The latter specimen is distinctly smaller than those from Indiana, 7.3 as contrasted with 8.5 to 9 mm., and has the elytra a uniform shining piceous, but otherwise agrees with them.

***Coptotomus interrogatus obscurus* Sharp.**—One of the more common dytiscids of the state, taken in numbers at all places where collections have been made, except Sarasota and Ormond.

Agabus semivittatus LeConte.—Leng and Mutchler state, p. 88, that "So far, no species of *Agabus* is known to occur in Florida." I have at hand six specimens, taken near Dunedin, which agree with those from Indiana bearing the above name. Mr. Sherman has examined one of the males and verified my identification. They were taken in January and February; four in woodland ponds, the others in a ditch. The range of *semivittatus* is given by Crotch as "Kansas, Colorado River, Texas and Canada," so that it is wide enough to easily include Florida.

Rhantus calidus (Fabricius).—This species is at hand from Sarasota, Dunedin, La Belle and Moore Haven. It is scarce about Dunedin but was taken in numbers at La Belle. The single Sarasota specimen was found beneath cover in a bay-head which was covered with water only at high tide.

Hydaticus bimarginatus (Say).—A dozen or more specimens have been taken about Dunedin in January and March in company with the two species of *Thermonectes* mentioned below. One was also taken in a ditch near Moore Haven, March 2. The characters separating the genera *Hydaticus* and *Thermonectes* are very feeble, the most salient one being the slightly bifid apices of the posterior tibial spurs in *Thermonectes*, these being acute in *Hydaticus*. The females of *Hydaticus* have the elytra smooth, not aciculate-punctate at base as in that sex of *Thermonectes*.

Thermonectes basilaris (Harris).—Found rarely at Dunedin and Arch Creek; common at La Belle, Moore Haven, and Okeechobee City. Varies much in size. The description of Leng and Mutchler does not mention the numerous short, deep, elongate punctures found on the basal halves of elytra of females.

Thermonectes ornatcollis (Aubé).—This species was not taken in western Florida until March 1919, when nine individuals were secured from woodland pools and ponds about Dunedin. Fresh specimens have the under surface a uniform pale reddish yellow, not reddish brown or piceous as in *basilaris*. The pale basal cross-bar of elytra is wanting, the median one on the thorax always more distinct and the size larger than in *basilaris*. I therefore regard *ornatcollis* as a valid species and not a variety of *basilaris* as placed by Leng and Mutchler.

Cybister fimbriolatus (Say).—One pair taken March 2 from the shallow margins of Lake Okeechobee, four miles southeast of Moore Haven.

HALIPLIDÆ

Haliphus punctatus Aubé.—My first specimen of this species was taken from a pond near Dunedin, January 30, 1916. Since then it has been found in small numbers each winter. It was also taken at La Belle, Moore Haven and Okeechobee City in March, 1918. The specimens from the last two stations, taken in Lake Okeechobee and Taylor's Creek, have the dark spot on front margin of thorax ill defined, and the black spots of elytra less confluent than in typical *punctatus* as found at Dunedin.

Haliphus havaniensis Wehncke.—This small species was not taken by me until December 27, 1917, when two specimens were found in a small pond within a hundred and fifty yards of my residence at Dunedin. A half-dozen or so were taken later in the same pond, and a few at La Belle on February 26.

Haliphus annulatus Roberts.—My first specimen was taken at Sarasota, March 2, 1911. It was labelled *H. lewisii*, though I recognized differences between it and the latter species found in Indiana. Mr. Mutchler has recently compared the Sarasota specimen with the type of Roberts and pronounces them the same. No others were secured until March 1919, when a half dozen were taken from the same pool in which *Cælamбус mutchleri* was found.

Peltodytes oppositus Roberts.—Occurs in some numbers in the ponds about Dunedin. Taken also at La Belle and in Taylor's Creek at Okeechobee City.

Peltodytes floridensis Matheson.—First taken near Dunedin, December 27, 1917, in the same pond with *H. havaniensis*, above mentioned. Afterwards found in some numbers in Taylor's Creek in company with the preceding. The collecting in this stream was done only at one place, viz., along the margins of a ripple just above the Fort Pierce wagon-bridge near the docks. Here, in the shallow water among the aquatic grasses and *Potamogeton*, quite a number of species of water beetles were taken with the net. This species has been recorded before only from the type locality, Sanford, Florida. It can be separated at a glance from *oppositus* by the form of the two black basal spots on the thorax. In *oppositus* these are rounded or triangular, sharply limited and widely separated. In *floridensis* they are pear-shaped and placed obliquely with the small ends almost or completely united.

GYRINIDÆ

Dineutes emarginatus (Say).—I do not find this among my Florida specimens and do not know why Leng and Mutchler give their only Florida record on my authority. It occurs in southern Indiana, but is by no means common there.

Dineutes carolinus LeConte.—This has been taken by me at practically all points where collections have been made in Florida.

Dineutes serrulatus LeConte.—Also a common species and taken at all points except Ormond. Large colonies were frequent in the Caloosahatchee River at La Belle on February 27.

Gyrinus elevatus LeConte.—This has been found by me at Dunedin, Lake Istokpoga, and Moore Haven. I have never seen large colonies, but only from one to a half dozen specimens at a time.

Gyrinus rockinghamensis LeConte.—This is a southern form originally described¹ from Rockingham, North Carolina. As pointed out by LeConte it differs from the northern *G. minutus* Fab. in its narrower and more convex form; more strongly alutaceous and therefore duller upper surface, distinctly paler under surface, and especially in the finer and much more approximate stria punctures of elytra. These differences are very evident as between numerous specimens taken about Dunedin in March 1919, and *minutus* as found in Indiana. I regard *rockinghamensis* as a valid species, or at least as a distinct southern race, and not as an absolute synonym of *minutus* as placed by Leng and Mutchler.

HYDROPHILIDÆ

Hydrochus simplex LeConte(?).—Numerous specimens at hand from Dunedin and La Belle probably belong to what Leng and Mutchler consider the *H. simplex* of LeConte, as they are the only Floridian species which I have that are 2.5 mm. in length. They have been labelled by me as *H. subcupreus* Randall(?), as they differ apparently only in size from an Indiana specimen named *subcupreus* for me by Mr. Blanchard, the northern specimen being 3.2 mm. long. One of the Florida specimens, not otherwise different, is fully 3 mm. in length. Specimens from Dunedin were sent some months ago to F. Waldo Dodge, who is especially interested in aquatic beetles, with the request that he compare them with the different species at the Cambridge Museum. After doing so he wrote: "The specimens you had labelled *subcupreus*? are not in the museum under that name, but there are identical specimens labelled *H.*

¹1868, Proc. Acad. Nat. Sci. Philadelphia, pp. 370, 373.

rufipes Mels., which is probably a synonym of *subcupreus*." I do not know whether Mr. Dodge compared them with LeConte's type of *simplex* or not. The specimens from Dunedin do not agree in some characters with LeConte's original description of that species, as he says "thorace postice vix angustato, foveisque basalibus duabus profundis," whereas they have the thorax distinctly narrowed behind and the basal foveæ not as evident as those in front. However, the elytral striæ are of the same width as the intervals, the latter being all entire except the fifth, which is slightly interrupted just behind the middle. The types of the three species, *subcupreus* Rand, *simplex* LeConte, and *rufipes* Melsheimer, should be gotten together and carefully compared. About Dunedin the beetle is found in company with the next species and, like it, is more often taken from the under side of immersed boards than with the net.

Hydrochus rugosus Mulsant.—Taken in small numbers in the ponds about Dunedin, December 1 to April 16. Of the fourteen specimens at hand nine are distinctly coppery above, the others dull grayish black without a trace of cupreous. All range from 5.5 to 5.7 mm. in length, and not 6 mm. as given by LeConte and Leng and Mutchler. Of Florida examples sent Dodge, he wrote: "Your specimens labelled *H. rugosus*? are in the Blanchard collection determined as 'very close to *subcupreus*' by Mr. Blanchard from Massachusetts material. Specimens in the LeConte collection from Florida are practically identical but not labelled."

Hydrochus minimus, new species

Elongate, slender. Above dark brown, distinctly bronzed, beneath piceous; antennæ and legs dull red. Head as broad as apex of thorax, rather finely and sparsely punctate. Thorax as long as wide, distinctly narrowed behind the middle, disk coarsely, deeply, and densely punctate, the front foveæ evident but faint, the hind ones obsolete. Elytra oval, widest behind the middle; the second, fourth, sixth, and eighth intervals distinctly raised and carinate throughout their length, the alternate intervals scarcely evident, the punctures of the striæ large, wider than the intervals and lying apparently in double rows, between the elevated carinæ. Length, 1.6 mm.

A single specimen of this minute species was taken from the under side of an immersed board in a pond near Dunedin on December 23, 1915. Its small size and peculiar elytral sculpture easily distinguish it from all known species.

Ochthebius foveicollis LeConte.—One specimen, taken at Dunedin December 17, represents the genus among my Florida material.

Hydraena marginicollis Kiesenwetter.—Scarce about Dunedin, December 21 to March 25, where it is taken from the under side of submerged boards about the margins of ponds, and by sifting rubbish in damp places. At La Belle, on February 26, more than fifty specimens were taken in twenty minutes in a woodland ditch where the water was running freely.

Tropisternus lateralis (Fabricius).—A very common species wherever collections have been made in Florida. It appears from the preponderance of evidence in the available literature, as well as in that furnished by numerous specimens, that the name *lateralis* should take the place of *nimbatus* Say, and that only one species exists in the eastern United States. In the original description of *nimbatus*, Say expressly states that the "lateral margin and anterior edge of the thorax are yellowish-white." LeConte,¹ referring to Say's name, says: "*Hydrophilus lateralis* Fab. is an older name of this species." Zimmermann² restored Say's name with the following words: "Differs from the South American *lateralis* Fab.; the yellow side margin is narrower and *does not extend upon the front margin of the thorax*; the hind tibiae are often almost entirely testaceous, the elytra very finely but visibly striate, and the anal tooth long and sharp (in *lateralis* scarcely visible)." Specimens at hand from Indiana have the front margin of thorax sometimes yellow, but more often concolorous with the disk, and Say's type or types were evidently so colored, Zimmermann to the contrary notwithstanding. The marginal stripe is distinctly wider and the anal spine more prominent in the northern specimens than in those from Florida, and the legs vary much in color, thus controverting Zimmermann's statement that the wide-striped form is southern, with weak or no anal spine.

Horn, in his tabular synopsis of *Tropisternus*,³ did not follow Zimmermann but used the name *lateralis* for the species. On the next page, however, he says: "Dr. Zimmermann thinks that Say's name (*nimbatus*) should be retained, inasmuch as the two species do not appear to be identical." He then dodged the question by adding: "This must, however, be left for further determination." Finally, Dr. Sharp,⁴ in his "Revision of *Tropisternus*," uses the name *lateralis*, ignores *nimbatus* altogether, and gives the range of the species thus: "America, North and South, including the Antilles. United States from New York

¹Complete Writings of Thos. Say, II, p. 130.

²1869, Trans. American Ent. Soc., II, p. 249.

³1876, Trans. American Ent. Soc., V, p. 251.

⁴1883, Trans. Ent. Soc. London, part 2, p. 111.

southwards, abundant; Mexico and Central America, abundant; Cuba, Antigua, St. Thomas; Rio Janeiro, Constancia, Buenos Ayres, Chili." He speaks of the great variation in the "width and regularity of the yellow cincture on the head, thorax and wing-cases," and also in that of the "armature of the last ventral plate," and states: "I have been quite unable to arrange the numerous variations in such a way as to indicate distinct species; nevertheless it may prove that there is more than one truly distinct species mixed under the name *lateralis*."

We have, therefore, the direct or implied opinions of LeConte, Horn, and Sharp, three of the greatest Coleopterists the world has produced, as against that of Dr. Zimmermann. Moreover, we have the known variation in the color of the insect itself. On whose opinion Henshaw replaced *lateralis* by *nimbatus* in his Check List I know not, but I believe that the name *lateralis* only should be used, and *nimbatus* permanently relegated to synonymy.

Tropisternus sublævis (LeConte).—This species was first recorded from Florida by the writer,¹ the record being based on Dunedin specimens taken in ponds in January and February, and at porch light in June. Since then it has been taken by me at La Belle and Moore Haven, and a specimen from Arch Creek was found among those labelled *glaber*.

Tropisternus glaber (Herbst).—I have found this a scarce species in Florida, my only specimens being from Ormond, Moore Haven, and Dunedin.

Tropisternus striolatus (LeConte).—Dunedin, Lakeland, Fort Myers, La Belle, Moore Haven, and Arch Creek; frequent, December to June. The specimens from Fort Myers and part of those from Dunedin were taken at light. All my Florida specimens differ from those from Indiana in having the thorax very narrowly margined with yellow and the pale stripes of elytra vague or subobsolete. In some of the northern specimens the yellow predominates, while in all of them the pale elytral stripes are distinct. Sharp (*loc. cit.*, p. 99) notes this variance in color and suggests that it may indicate two distinct species, the dark one being new.

Hydrophilus ovalis Ziegler.—I have taken this large species only at light at Fort Myers and Sanford, March 11 to April 3. It is the *H. ovatus* Gemminger and Harold of my "Coleoptera of Indiana."

¹1918, Canadian Ent., L, p. 52.

Hydrocharis castus (Say).—Taken in small numbers at Dunedin, Fort Myers, La Belle, Moore Haven, and Arch Creek, January to April.

Berosus pugnax LeConte.—This species was not in my collection until March 1, 1918, when I took six in the shallow water of Lake Okeechobee, southeast of Moore Haven.

Berosus infuscatus LeConte.—I have found this the most widely distributed species of the genus in Florida, it having been taken at nearly every place collecting was done; January to March. In addition to the differential characters between this species and *striatus* given by Leng and Mutchler, it may be added that the surface is finely but distinctly alutaceous in *infuscatus*, smooth in *striatus*,

Berosus exiguus (Say).—This minute form is at hand only from Dunedin and La Belle, three of the six specimens having been taken at porch light in June and sent to me.

Berosus striatus (Say).—Only four specimens have been taken, two at Ormond, April 6, the others at Moore Haven and Dunedin, March 2 and June 20; on the latter date at light. It is our most common species in Indiana.

Berosus aculeatus LeConte.—Not discovered until my last trip to Lake Okeechobee, when a dozen specimens were secured at La Belle and Moore Haven.

Chaetarthria pallida (LeConte).—The same is true of this minute species, my only Florida specimen having been taken at lamp light in a tent near Moore Haven on March 2.

Derallus altus (LeConte).—This species is not included in Leng and Mutchler's paper. A single specimen was taken beneath a board on the margin of a pond one mile east of Dunedin, January 16, 1916, and a half dozen others were dredged from the same pond in March 1919. It was described from Louisiana and is a small (2 mm.) black, feebly bronzed species, the form oval, very convex and strongly compressed. LeConte placed it in *Berosus*, but Sharp erected for it the genus *Derallus*.

Helochares maculicollis Melsheimer.—Taken only at Dunedin where it is scarce; December 28 to April 1.¹

¹An account of the egg-carrying habits of the female, as shown by a Dunedin specimen, will be found in Canadian Ent., XLIX, 1917, p. 139.

Philhydrus cinctus (Say).—One specimen taken at Dunedin, March 9; my others so labelled proving to be *consors*.

Philhydrus consors LeConte.—A scarce species about Dunedin, December to April. Not taken elsewhere.

Philhydrus nebulosus (Say).—Dunedin, Moore Haven, and Okeechobee City; not common in Florida so far as my collecting shows.

Philhydrus ochraceus Melsheimer.—One of the most common hydrophilids of the state, taken at practically all collecting stations. Varies much in size, some of the smaller examples being only 2.3 mm. in length.

Philhydrus perplexus LeConte.—Dunedin, Sarasota, La Belle, and Moore Haven; frequent, January to April.

Cymbiodyta fimbriatus Melsheimer.—Kissimmee, Sarasota, Dunedin, and Moore Haven; scarce, December to March. It is my opinion that the generic name *Cymbiodyta* Bedel should be retained for this and allied species.

Creniphilus nanus Fall.—This species, so named for me by Mr. Fall, is quite common about Dunedin and apparently widely distributed throughout Florida, having been taken at Sanford, Lakeland, Kissimmee, Bassenger, and Moore Haven; February to April. It often occurs beneath dead water-hyacinth and other débris on the margins of lakes, as well as in the water.

Creniphilus reductus Fall.—A single specimen taken at Arch Creek, March 21, I refer to this species. It is distinctly shorter and more convex than *nanus*, and has the surface alutaceous and more coarsely punctate.

SPHÆRIDIIDÆ

Phænonotum estriatum (Say).—Taken at all points where collections have been made except Ormond; January to April. Occurs especially beneath boards near springs, and occasionally taken by sweeping.

Phænonotum semiglobosum (Zimmermann).—Much less frequent than the preceding, Sarasota and Dunedin being the only stations represented; February to March.

Oösternum costatum Sharp.—A single specimen was taken March 7, from beneath decaying water-hyacinth on the beach of Pelican Bay, near the southeastern corner of Lake Okeechobee. My tentative determination was confirmed by Mr. Mutchler.

Cercyon prætextatum (Say).—Taken in small numbers only at Kissimmee, La Belle, Okeechobee City, and Dunedin; January to March. Found more often beneath cover on the borders of ponds and lakes than in the water.

Cercyon floridanum Horn.—Dunedin, Kissimmee, and Lake Okeechobee at Moore Haven and Palm Beach Canal; February to March. Occurs also beneath debris and at light.

Cercyon variegatum Sharp.—Represented by one specimen taken at Sarasota, February 14. It lacks the usual piceous spots of thorax and elytra, but otherwise agrees with the descriptions.

PARNIDÆ

The only species of this family which I have so far taken in Florida is

Pelonomus obscurus LeConte.—Five specimens are at hand, two from Arch Creek, March 21; one from Sarasota, January 31, and two from Dunedin, taken at porch light, July 22 and September 20. All agree in every particular with LeConte's description,¹ their color being dark piceous-brown, and not dark red-brown as Casey describes his *rufescens*.

¹1852, Proc. Acad. Nat. Sci. Philadelphia, VI, p. 42.