

STATE OF ILLINOIS

DEPARTMENT OF REGISTRATION AND EDUCATION

William G. Stratton, Governor

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1957

Types of
LATE CENOZOIC GASTROPODS
in the Frank Collins Baker Collection,
Illinois State Geological Survey

A. Byron Leonard

REPORT OF INVESTIGATIONS 201

ILLINOIS STATE GEOLOGICAL SURVEY

JOHN C. FRYE, *Chief*

URBANA, ILLINOIS

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**Illinois State Geological Survey Report of Investigations 201
Urbana, Illinois**

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PRINTED BY AUTHORITY OF THE STATE OF ILLINOIS

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TYPES OF LATE CENOZOIC GASTROPODS IN THE FRANK COLLINS BAKER COLLECTION, ILLINOIS STATE GEOLOGICAL SURVEY

A. BYRON LEONARD

ABSTRACT

Types of late Cenozoic fossil gastropods that are in the Illinois State Geological Survey collections are listed, illustrated by photographs, and accompanied by essential data, including catalog number, original description, type locality, and name of collector. Of the 34 types, all were described by Frank Collins Baker, except the one species from loess deposits in Illinois described by H. A. Pilsbry. A brief outline of Baker's scientific activities and a selected bibliography of his studies of fossil gastropods are included.

THE FRANK COLLINS BAKER COLLECTIONS

The molluscan materials that Frank Collins Baker studied during his professional life of more than fifty years are widely dispersed among several collections. Baker began his study of Mollusca as a Jesup Scholar at the Academy of Natural Sciences in Philadelphia; in this capacity he took part in a scientific expedition to Mexico sponsored by the Academy in 1890.

The next two years (1891-92) Baker spent at Ward's Natural Science Establishment, Rochester, New York, where he was in charge of the invertebrate collections. The following year he assisted in setting up Ward's scientific exhibits for the Chicago World's Fair. He remained in the Middle West to become Curator of Zoology in the Field Columbian Museum of Natural History, Chicago, but after one year accepted the position of curator in the museum of the Chicago Academy of Sciences, where he remained from 1894 to 1915.

The museum of the Chicago Academy of Sciences houses the collections upon which Baker based his "Mollusca of the Chicago Area" (1902). "Lymnaeidae of North and Middle America" (1911), written while Baker was at the Chicago Academy, was based largely upon his private collections of gastropods of that family, collections that the Smithsonian Institution acquired after his death.

After spending two years as a special zoological investigator at the University of Syracuse in New York, Baker became Curator of the Museum of Natural History at the University of Illinois in 1918, a position he held until his retirement as Curator *Emeritus* in 1939.

The summers of 1920 to 1923 Baker spent in study of the fresh-water mollusks of Wisconsin, under the auspices of the Wisconsin Geological and Natural History Survey. These studies resulted in two impressive volumes (1928) that discuss the fresh-water gastropods and pelecypods of Wisconsin in exhaustive detail. The collections of Wisconsin Mollusca, housed at the University of Wisconsin at Madison, include many new species described by Baker.

Several significant publications, along with a great number of shorter papers, resulted from Baker's study of Illinois Mollusca. "The Life of the Pleistocene" (1920) and his "Fieldbook of Illinois Land Snails" (1939) are outstanding examples. Before his death in 1942, Baker was vigorously pursuing a study of the Planorbidae of the world. Part of this study was assembled and published (1945), after Baker's death, by the late Harley Van Cleave of the University of Illinois. The studies on the Planorbidae were based largely on Baker's private collections of planorbid gastropods; these, like the collections of the Lymnaeidae, went to the Smithsonian Institution.

Significant assemblages of type specimens of species described by Baker are housed at the Chicago Museum of Natural History, the Chicago Academy of Sciences, the University of Wisconsin, and the University of Illinois. Baker customarily deposited paratypical specimens of new species in the Academy of Natural Sciences of Philadelphia.

There are no less than three collections of Mollusca at the University of Illinois—one in the Museum of Natural History, one forming part of the collections of the Natural History Survey, and one, composed largely of molluscan fossils from Illinois, in the paleontological collections of the Illinois State Geological Survey. Type specimens of species described by Baker are found in all of these collections, and undoubtedly there are types in still other collections, probably many in those acquired by the Smithsonian Institution.

The type specimens of the many species and subspecies described by Baker are widely dispersed. It therefore seemed desirable to make a permanent record of the type fossil gastropods in the paleontological collections of the Illinois State Geological Survey. The type specimens are listed alphabetically under the name combination used at the time of their description. When the name combination in common use today differs from the original, the present name has been placed beneath the original name. This procedure, however, is not to be construed as a systematic revision of the several species concerned. The taxonomic validity of the species and subspecies listed here is not under consideration in this paper.

Age designations of the sediments from which the fossils came are given as they were indicated by Baker. Concepts of Pleistocene stratigraphy have evolved greatly since Baker made his collections but verification of their stratigraphic placement was not attempted in this report.

Catalog numbers of the Illinois State Geological Survey are indicated by the symbol ISGS; numbers of the Academy of Natural

Sciences of Philadelphia, where Baker habitually deposited paratypes, are indicated by the symbol ANSP.

DESCRIPTION OF FOSSILS

AMNICOLA GREENENSIS Baker, 1928

Plate 1, figure 9

Paratypes: Two specimens, cat. no. Z16222, ISGS.

Original description: Wisconsin Geol. and Nat. Hist. Survey Bull. 70, pt. I, p. 113, pl. VI, figs. 32, 33. 1928.

"Shell large for the genus, rather solid, turreted; surface smooth, with rather coarse lines of growth; spire elevated, conic, longer than aperture; whorls $5\frac{1}{2}$, flatly rounded, somewhat shouldered just below suture, which is deeply impressed or even channelled; whorls rapidly and regularly increasing in diameter; nucleus small, finely granular, rounded, of one whorl, well raised above the second whorl; aperture ovate or roundly ovate, angled above, the peristome continuous, thin, appressed to the body whorl near the upper part of the aperture; base rounded, with a well-marked, narrow and deep umbilicus."

Length, 5.3; width, 3.5; aperture length, 2.3; width, 1.6 mm. Figured paratype. (Baker's measurements.)

Type locality: Green Lake, off Sherwood Forest Hotel, Green Lake County, Wisconsin.

Collector: Wisconsin Geological and Natural History Survey party, 1921.

Age designation: Pleistocene, Late Wisconsin.

Remarks: The holotype, no. 4544, is in the University of Wisconsin collection.

AMNICOLA LUSTRICA GELIDA Baker, 1921 *Amnicola gelida* Baker

Plate 1, figure 14

Holotype: Cat. no. P926, ISGS.

Original description: Nautilus, v. 35, p. 22, July 1921.

"Shell differing from *lustrica* in being narrower, with more convex whorls, more deep-

ly impressed sutures, a smaller, rounder aperture, the lip of which is usually thickened within. There are six full whorls in adult individuals."

Length, 4.25; diameter, 2.25; aperture length, 1.25; width, 1.0 mm. Holotype. (Baker's measurements.)

Type locality: Marl deposit near Morris, Grundy County, Illinois.

Collector: F. C. Baker, 1921.

Age designation: Pleistocene, Late Wisconsin.

Remarks: The ISGS collection contains two paratypes, no. P927. Baker later (Wisconsin Geol. and Nat. Hist. Surv. Bull. 70, pt. I, p. 112) raised *gelida* to a full species; the collection contains many lots from different localities, identified by Baker as *A. gelida*.

AMNICOLA PRECURSOR Baker, 1928

Plate 1, figure 8

Holotype: Cat. no. Z22508, ISGS.

Original description: Wisconsin Geol. and Nat. Hist. Survey Bull. 70, p. 116, pl. VII, fig. 5; text fig. 47 (6-9); 1928.

"Shell: Small, conic, rather thick, surface with rather coarse, close-set growth lines; spire broadly conic, elevated, much longer than aperture; whorls $5\frac{1}{2}$, very convex, regularly but not rapidly increasing in diameter; sutures very deeply impressed; apex obtuse, flattened, the nuclear whorl small, rounded, finely granular in texture, slightly elevated above second whorl; aperture almost circular, slightly angled above; peristome continuous; base rounded, umbilicus wide and deep."

Length, 3.0; width, 2.3; aperture length, 1.4; width, 1.2 mm. Type. Female? (Baker's measurements.)

Type locality: Green Lake, Green Lake County, Wisconsin, off Sherwood Forest Hotel, below seven meters of mud.

Collector: Wisconsin Geological and Natural History Survey party, July 7, 1921.

Age designation: Pleistocene, Late Wisconsin.

Remarks: The ISGS collection contains three paratypes, bearing the same number as

the type, as well as many other lots identified by Baker as *A. precursor*.

AMNICOLA WINKLEYI LEIGHTONI Baker, 1920

Amnicola leightoni Baker

Plate 1, figure 10

Holotype: Cat. no. P598, ISGS.

Original description: Nautilus, v. 33, p. 125, April 1920.

"Shell differing from *A. winkleyi* in being larger, heavier, wider in proportion to its height, the body whorl being more globose than in the typical form; there are $4\frac{1}{4}$ whorls, the upper part of which is somewhat flat-sided just below the suture; this is especially marked on the last whorl of some individuals; the spire whorls are rounded and the sutures deeply impressed; the first whorl is flatter than in *winkleyi*; the umbilicus is wider and deeper and the aperture is wider in proportion to its height than in *winkleyi*. Length, 5.0; diameter, 3.7; length of aperture, 2.5; width, 2.0 mm." Holotype.

Type locality: Rush Lake, Logan County, Ohio.

Collector: M. M. Leighton, 1919.

Age designation: Pleistocene, Late Wisconsin.

Remarks: The ISGS collection contains two specimens labeled "paratypes," cat. no. P599, and ten examples labeled "cotypes," cat. no. P600. In 1921, Baker (Nautilus, v. 35, p. 23) raised *leightoni* to the rank of full species. Many lots in the collection bear this designation.

BULIMUS TENTACULATUS MAGNALACUSTRIS Baker, 1928

Plate 4, figure 4

Paratypes: Cat. no. Z22506 and P2819, ISGS.

Original description: Wisconsin Geol. and Nat. Hist. Survey Bull. 70, pt. 1, p. 81, pl. IV, figs. 22-23, 26-31, 1928.

"Globosely turbinated, rather thick, transparent to opaque; color ranging from yellowish to greenish, with thin brownish epidermis; surface shining, lines of growth fine,

crossed by numerous very fine incised spiral lines; sutures deeply impressed; whorls $5\frac{1}{2}$, convex, the last rapidly enlarging and equaling all the others combined; spire elevated, broadly conic; epiconch or nucleus small, round, without striae, reddish brown; aperture broadly rounded-ovate, narrowed above; peristome continuous, rounded, simple, thickened a little on the inside, bordered all around with yellowish; inner lip appressed to the columellar [body] wall, thickened at the edge; the base may be imperforate or there may be a small umbilical chink."

Length, 10.8; diameter, 6.7; aperture length, 5.4; diameter, 3.9 mm. (Measurements are mine; Baker gave none for this paratype.)

Locality of paratype: Southwest corner of Michigan Boulevard and Walton Place, Chicago, Cook County, Illinois.

Collector: Alvin R. Cahn, date unknown.

Age designation: Late Wisconsin.

Remarks: The notations concerning color were based on the shells from living snails, but the shells from the late Wisconsin deposits in Chicago still retain much of their color.

CARYCHIUM PEREXIGUUM Baker, 1938

Plate 1, figure 1

Holotype: Cat. no. P6776, ISGS.

Original description: Nautilus, v. 51, p. 128, April 1938.

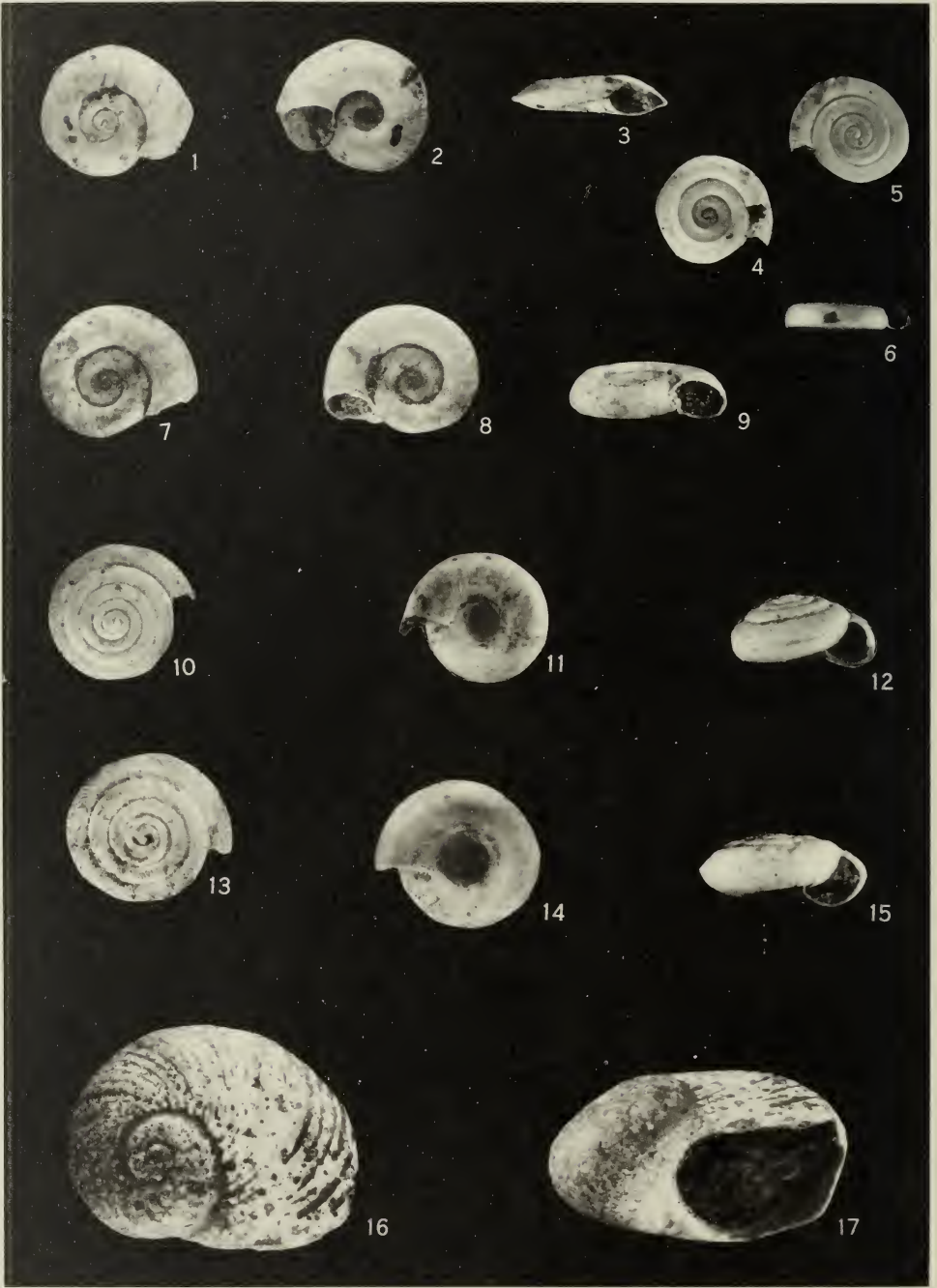
"Shell shorter and more solid than that of *exiguum*, the sutures more deeply impressed and whorls rounder, sometimes shouldered at the upper part. Whorls 5, the apical whorls somewhat smaller than in *exiguum*. Aperture a trifle more than one third of the length of the shell. Margin of aperture with thickened, callus-like lip extending basally to the parietal callus, which is well marked. There is a conspicuous callosity just above the middle of the outer lip. Umbilical region closed by the thickened basal lip. Lamella on columella conspicuous, tubercular, the fold extending upward spirally within the whorls much as in *exiguum* but it is narrower and bent upward over the axis in front. Lower lamella inconspicuous but heavier than in *exiguum*. Length, 1.8; diameter 8.5 [*sic* for 0.85] mm. Holotype."

Type locality: Rexroad Ranch, SW $\frac{1}{4}$ sec. 22, T. 33 S., R. 29 W., Meade County, Kansas.

PLATE 1

- FIG. 1. *Carychium perexiguum* Baker, holotype, cat. no. P6776, ISGS; Rexroad Ranch, SW $\frac{1}{4}$ sec. 22, T. 33 S., R. 29 W., Meade County, Kansas, Enlarged 7.2 times.
- FIG. 2. *Vertigo gouldii loessensis* Baker, holotype, cat. no. P2366, ISGS; $3\frac{1}{2}$ miles west, $1\frac{3}{4}$ miles south of Lewistown, Fulton County, Illinois. Enlarged 10 times.
- FIG. 3. *Vertigo hibbardi* Baker, holotype, cat. no. P6773, ISGS; Rexroad Ranch, SW $\frac{1}{4}$ sec. 22, T. 33 S., R. 29 W., Meade County, Kansas. Enlarged 10 times.
- FIGS. 4, 5, 6. *Strobilops sparsicostata* Baker, holotype, cat. no. P6774, ISGS; spiral, basal and apertural views, respectively; Rexroad Ranch, SW $\frac{1}{4}$ sec. 22, T. 33 S., R. 29 W., Meade County, Kansas. Enlarged 8.9 times.
- FIG. 7. *Pomatiopsis scalaris* Baker, holotype, cat. no. P2321, ISGS; New Harmony, Posey County, Indiana. Enlarged 3.8 times.
- FIG. 8. *Amnicola precursor* Baker, holotype, cat. no. Z22508, ISGS; Green Lake, off Sherwood Forest Hotel, Green Lake County, Wisconsin. Enlarged 8.4 times.
- FIG. 9. *Amnicola greenensis* Baker, paratype, cat. no. Z16222, ISGS; Green Lake, off Sherwood Forest Hotel, Green Lake County, Wisconsin. Enlarged 4 times.
- FIG. 10. *Amnicola winkleyi leightoni* Baker, holotype, cat. no. P598, ISGS; Rush Lake, Logan County, Ohio.
- FIG. 11. *Succinea ovalis pleistocenica* Baker, holotype, cat. no. 2088A, ISGS; 3 miles southwest of Marshall, Clark County, Illinois. Enlarged 3.8 times.
- FIG. 12. *Succinea retusa fultonensis* Baker, holotype, cat. no. P2368, ISGS; $2\frac{1}{4}$ miles west, $\frac{3}{4}$ mile south of Lewistown, Fulton County, Illinois. Enlarged 3.8 times.
- FIG. 13. *Succinea grosvenorii gelida* Baker, holotype, cat. no. P875A, ISGS; $\frac{1}{2}$ mile northwest of railway depot, Irene, Boone County, Illinois. Enlarged 4.1 times.
- FIG. 14. *Amnicola lustrica gelida* Baker, holotype, cat. no. P926, ISGS; near Morris, Grundy County, Illinois. Enlarged 8 times.
- FIG. 15. *Fossaria dalli grandis* Baker, holotype, cat. no. P972A, ISGS; Fair Grounds, Joliet, Will County, Illinois. Enlarged 8 times.





Collector: C. W. Hibbard and party, summer, 1937.

Age designation: Pleistocene, late Nebraskan, in Blanco formation.

Remarks: Three paratypes, numbered the same as the type, and three paratypic shells, no. P6777, dissected to show structure, are in the ISGS collection. The species is widespread in the central Great Plains, where it occurs in Kansan as well as Nebraskan deposits (Leonard, 1950, Univ. Kansas Paleo. Contrib., Art. 3, Mollusca, p. 1-48).

A typographical error occurs in the placement of the decimal point in the table of measurements given in the original description; in all measurements of diameter, the decimal point should be moved one place to the left, that is, 8.5 mm. should read 0.85 mm.

FOSSARIA DALLI GRANDIS Baker, 1930

Plate 1, figure 15

Holotype: Cat. no. P972A, ISGS.

Original description: Trans. Illinois Acad. Sci., v. 22, p. 427, 1930.

"The *Fossaria dalli* of the Pleistocene is uniformly larger, with five to $5\frac{1}{2}$ full whorls, the sutures deeper and the whorls rounder, the whole shell wider, the aperture longer and narrower. The type specimen measures: L. 4.5; W. 2.4; Ap. L. 2.3; W. 1.3 mm. (No. P372A [*sic* for P972A], Mus. Nat. Hist., collected by J. H. Ferris from marl beds in the Fair Ground in Joliet, Will Co. *Late Wisconsin* age). Referable to this

variety are also specimens from the *Yarmouth* interval (Clark Co.), and three deposits in *Late Wisconsin* (Carroll, Will, and Whiteside Co.). All are uniformly larger than the recent form, which only rarely attains any such proportions in length, and never in width and general size. The recent *dalli* is undoubtedly the descendant of the larger Pleistocene variety."

Length, 4.5; width, 2.4; aperture length, 2.3; width, 1.3 mm. (Baker's measurements.)

Type locality: Excavation in marl, Fair Grounds, Joliet, Will County, Illinois.

Collector: J. H. Ferris, 1921.

Age designation: Pleistocene, Late Wisconsin.

Remarks: The ISGS collection contains ten paratypic specimens, cat. no. P972B, and many lots from Pleistocene deposits at many different localities.

GONYODISCUS MACCLINTOCKI Baker, 1927

Discus macclintocki (Baker)

Plate 2, figures 10-12

Holotype: Cat. no. P2367, ISGS.

Original description: Nautilus, v. 41, p. 133, April 1927.

"Shell orbicular, with convex, dome-shaped spire; whorls six, slowly and regularly increasing in size, tightly wound, slightly convex, the body whorl typically flatly rounded; sutures well impressed; base flatly rounded, excavated near the widely open umbilicus, which exhibits all of the

PLATE 2

- Figs. 1, 2, 3. *Menetus kansasensis* Baker, holotype, cat. no. P6778, ISGS; spiral, basal and apertural views, respectively; Rexroad Ranch, SW $\frac{1}{4}$ sec. 22, T. 33 S., R. 29 W., Meade County, Kansas. Enlarged 3.3 times.
- Figs. 4, 5, 6. *Gyraulus pattersoni* Baker, holotype, cat. no. 26128, Chicago Natural History Museum; spiral, basal, and apertural views, respectively; 6 miles north of Ainsworth, Brown County, Nebraska. Enlarged 8 times.
- Figs. 7, 8, 9. *Planorbis parvus urbanensis* Baker, holotype, cat. no. Z10772, ISGS; spiral, basal and apertural views, respectively; Campus, University of Illinois, Urbana, Champaign County, Illinois. Enlarged 7.2 times.
- Figs. 10, 11, 12. *Gonyodiscus macclintocki* Baker, holotype, cat. no. P2367, ISGS; spiral, basal, and apertural views, respectively; $3\frac{1}{2}$ miles east and $1\frac{3}{4}$ miles south of Lewistown, Fulton County, Illinois. Enlarged 3.2 times.
- Figs. 13, 14, 15. *Gonyodiscus macclintocki angulata* Baker, holotype, cat. no. P2359, ISGS; spiral, basal, and apertural views, respectively; 4 miles west of bridge, Havana, in Fulton County, Illinois. Enlarged 3.2 times.
- Figs. 16, 17. *Parapholys packardii corrugata* Baker, holotype, cat. no. P7451, ISGS; spiral and apertural views, respectively; well boring, near Summer Lake, Lake County, Oregon. Enlarged 4 times.

whorls including the nucleus; sculpture of many close-set, distinct ribs, which become finer on the base, there being usually an almost smooth space in the center of [the] lower part of the body whorl; aperture widely or roundly lunate, arched above where the outer lip joins the body whorl; peristome simple, acute, without parietal callus, the terminations of the outer and columellar lip being widely separated."

Height, 3.6; diameter, 6.5 mm. (Baker's measurements.)

Type locality: Three and one-half miles east and one and three-quarters miles south of Lewistown, Fulton County, Illinois.

Collector: H. R. Wanless, summer, 1927.

Age designation: Pleistocene, Peorian loess.

Remarks: Three paratypes in the ISGS collection bear the same number as the holotype; other paratypes, ANSP, no. 145108. Many lots in the ISGS collection from Wisconsin loess are identified as *G. macclintocki*.

GONYODISCUS MACCLINTOCKI ANGULATA
Baker, 1927

Discus macclintocki angulata (Baker)

Plate 2, figures 13-15

Holotype: Cat. no. P2359, ISGS.

Original description: Nautilus, v. 41, p. 134, April 1927.

"Shell differing from typical *macclintocki* in having a more depressed somewhat flattened spire, flatter base and shallow umbilicus, and a subangulated periphery. On the average rather larger than the typical form."

Height, 2.9; diameter, 6.2 mm. (Baker's measurements.)

Type locality: Four miles west of bridge at Havana, in Fulton County, Illinois.

Collector: H. R. Wanless, summer, 1927.

Age designation: Pleistocene, Yarmouth loess.

Remarks: Two damaged paratypical specimens, bearing same number as the type, are in ISGS collections; other paratypes, ANSP, no. 144922.

Baker remarks (p. 134): "This angulated form persisted throughout the Yarmouth interval and died out in the Peorian, a few scattered specimens having been seen among

a large number of the rounded-whorled Peorian form."

GYRAULUS CRESSMANI Baker, 1942

Plate 3, figures 1-3

Holotype: Cat. no. P7453, ISGS.

Original description: Nautilus, v. 55, p. 130, April 1942.

"Shell of about the size of *Gyraulus vermicularis* (Gould), of $3\frac{1}{2}$ -4 rounded whorls rapidly increasing in diameter, the sutures deeply impressed, the inner whorls of the right side below the level of the body whorl; left side with rounded whorls and deep sutures; periphery rounded and obliquely deflected; sculpture of coarse growth lines, sometimes slightly costate, with more or less deeply incised spiral lines."

Height, 1.5; greater diameter, 4.0; lesser diameter, 3.3; aperture height, 1.0; diameter, 1.5 mm. Holotype. (Baker's measurements.)

Type locality: South end of Lower Klamath Lake, secs. 25, 26, T. 47 N., R. 2 E., Mt. Diablo Merid., Siskiyou County, California.

Collector: L. S. Cressman.

Age designation: Late Pleistocene.

Remarks: The ISGS collection has seven paratypic examples, no. P7454.

GYRAULUS PATTERSONI Baker, 1938

Plate 2, figures 4-6

Holotype: Cat. no. 26128, Chicago Natural History Museum (formerly Field Museum of Natural History).

Original description: Nautilus, v. 51, p. 129, April 1938.

"Shell completely discoidal, flat on upper and lower sides (right and left); periphery flattened and almost as high as the height of the shell, a rounded angle bordering the body whorl above and below; whorls $3\frac{1}{2}$, slowly and regularly increasing in diameter; sutures well impressed; sculpture consisting of fine lines of growth crossed by fine spiral lines; on the nucleus only the spiral lines are developed, the growth lines beginning at about a fourth of the turn of the first whorl; aperture not expanded, wider than high, roundly flattened at the upper part (the shell is ultradextral), almost horizon-

tal at the lower part, without peripheral cal-
lus; the peristome is thickened in adult
specimens.

"Height 0.50; diameter 2.10; aperture
height 0.45; diameter .35 mm. Holotype."

Type locality: Six miles north of Ains-
worth, Brown County, Nebraska.

Collector: Bryan Patterson.

Age designation: Pleistocene, Kansan.

Remarks: The Chicago Natural History
Museum has paratypes, no. 26129; other
paratypes, no. P6778, ISGS, no. 169948,
ANSP.

Leonard, who found this distinctive spe-
cies widely dispersed in Pleistocene deposits
of Kansan age, reports (Univ. Kansas Paleo.
Contrib., art. 3, Mollusca, p. 20, pl. 3, fig.
1, 1950) that adults possess six whorls, and
measure 4.0 mm. in diameter.

MENETUS KANSASENSIS Baker, 1938

Plate 2, figures 1-3

Holotype: Cat. no. P6778, ISGS.

Original description: Nautilus, v. 51, p.
129, April 1938.

"Shell lenticular as in *M. exacuus* (Say).
Periphery carinate with a 'pinched' border as
in *M. a. Megas* [sic] (Dall). Whorls $3\frac{1}{2}$.
Umbilicus wide, shallow, the whorls rounding
into it. Sculpture consisting of more or less
regularly spaced ribs extending from the
suture in a backward curve to and over the
periphery to the base and into the umbilicus.
The ribs may be equally spaced, with strong
growth lines between, or they may be so
crowded together as to form a continuous
series of ribs without intervening spaces.
The surface above and below is covered with
strong spiral lines.

"Length 1.0; diameter 5.0 mm. Holo-
type."

Type locality: Rexroad Ranch, SW $\frac{1}{4}$
sec. 22, T. 33 S., R. 29 W., Meade County,
Kansas.

Collector: C. W. Hibbard and party, July
1937.

Age designation: Pleistocene, late Nebras-
kan, in Blanco formation.

Remarks: The ISGS collection contains

two series of paratypes, no. P6778 and no.
P7456.

PARAPHOLYX PACKARDI CORRUGATA Baker, 1942

Plate 2, figures 16, 17

Holotype: Cat. no. P7451, ISGS.

Original description: Nautilus, v. 55, p.
132, April 1942.

"Shell of $3-3\frac{1}{2}$ whorls, the spire flattened
or slightly elevated, the body whorl very
large; sutures not well impressed; aperture
about as wide as high, rounded above,
slightly angulated below; columella thick-
ened by a heavy plait parallel with the axis;
umbilicus closed or with a slight vertical
chink; there is no evidence of a tooth on the
columella as described for *packardi*; sculp-
ture of coarse growth lines or of distinct,
regular ribs evenly spaced; spiral lines show-
ing faintly in some specimens."

Height, 8.5; maximum diameter, 10.5;
lesser diameter, 7.9; aperture height, 7.0;
diameter, 6.9 mm. Holotype. (Baker's
measurements.)

Type locality: Near Summer Lake, Lake
County, Oregon; well boring at depth of
1080 feet.

Collector: C. L. Huffaker.

Age designation: Pliocene?

Remarks: The ISGS collection contains
12 paratypic examples, including 5 juvenile
shells, no. P7452.

PLANORBIS ALTISSIMUS Baker, 1919 *Gyraulus altissimus* (Baker)

Plate 3, figures 7-9

Holotype: Cat. no. Z10775, ISGS.

Original description: Nautilus, v. 32, p.
95, pl. VII, figs. 7-10, January 1919.

"Shell depressed, with flatly rounded pe-
riphery which is placed below the center of
the whorl; lines of growth fine, crowded,
but surface without spiral ornamentation;
whorls 4, regularly increasing in diameter,
sloping flatly to the rounded periphery; spire
whorls sunken below the general level of
the surface, the whorls forming a rather
sharp v-shaped suture, causing the shell to

resemble a miniature *Planorbis antrosus* and producing a subacute carina on the upper surface of the whorls; base of shell deeply concave, forming a wide, saucer-shaped depression and umbilicus; the earlier whorls are carinate on the under side but the last whorl is rounded; the last half of the last whorl is markedly deflected, forming a contact with but half of the preceding whorl; aperture roundly ovate, shouldered above, the dorsal margin much produced over the ventral margin, the parietal callus joining the margins and causing the aperture to be continuous.

"Height at aperture 2.00; greatest diameter 4.50 mm. Holotype."

Type locality: Campus of University of Illinois, Urbana, Champaign County, Illinois; marls exposed in excavations for footings of south greenhouse.

Collector: T. E. Savage.

Age designation: Early Wisconsin marl.

Remarks: Three paratypic examples, no. Z10776, are in the ISGS collection, together with many other lots from waterlaid deposits referred to as Early Wisconsin in age.

PLANORBIS CAMPANULATA FERRISSI Baker,
1922

Helisoma campanulata ferrissi (Baker)

Plate 3, figures 10-12

Holotype: Cat. no. P1068A, ISGS.

Original description: Trans. Illinois Acad. Sci., v. 15, p. 412, 1923.

"The shells from the Joliet marls are different from the recent form of typical *campanulatus*. The whorls are not as high, giving the shell the appearance of having a greater diameter and more whorls. The

marl form is also smaller on the average and the aperture is not as widely campanulate as in the recent form."

Whorls 5, height, 4.6; maximum diameter, 11.5; minimum diameter, 8.5 mm. (Baker's measurements.)

Type locality: Fair Grounds at Joliet, sec. 11, T. 35 N., R. 9 E., Will County, Illinois, in marl deposits.

Collector: D. J. Fisher, 1921.

Age designation: Pleistocene, Late Wisconsin marl.

Remarks: The ISGS collection has two series of paratypes, both from the type locality: no. P1068, eight specimens; no. P1066, eight specimens.

PLANORBIS PARVUS URBANENSIS Baker, 1919
Gyraulus urbanensis (Baker)

Plate 2, figures 7-9

Holotype: Cat. no. Z10772, ISGS.

Original description: Nautilus, v. 32, p. 94, pl. VII, figs. 4-6, January 1919.

"Shell differing from *parvus* by having a round aperture, the last third of the body whorl being depressed below the general level of the spire, deeper sutures, channelled in most individuals, and a deeper umbilical region. The body whorl has not quite as great transverse diameter as in typical *parvus*. In *parvus*, the whorls are typically in the same plane, the aperture is oblong or long ovate and the sutures are impressed but not channelled. The umbilical region is also less impressed and has a 'reamed out' appearance.

"Height at aperture, 1.0; greatest diameter, 3.00 mm. Holotype."

PLATE 3

Figs. 1, 2, 3. *Gyraulus cressmani* Baker, holotype, cat. no. P7453, ISGS; spiral, basal, and apertural views, respectively; south end of Klamath Lake, Siskiyou County, California. Enlarged 8 times.

Figs. 4, 5, 6. *Planorbula indianensis* Baker, holotype, cat. no. P2833, ISGS; spiral, basal, and apertural views, respectively; Uniontown Road, 2 miles southwest of Mt. Vernon, Posey County, Indiana. Enlarged 4 times.

Figs. 7, 8, 9. *Planorbis altissimus* Baker, holotype, cat. no. Z10775, ISGS; spiral, basal, and apertural views, respectively; Campus, University of Illinois, Urbana, Champaign County, Illinois. Enlarged 8.8 times.

Figs. 10, 11, 12. *Planorbis campanulata ferrissi* Baker, holotype, cat. no. P1068A, ISGS; spiral, basal, and apertural views, respectively; Fair Grounds, Joliet, sec. 11, T. 35 N., R. 9 E., Will County, Illinois. Enlarged 3.2 times.





Type locality: Campus of University of Illinois, Urbana, Champaign County, Illinois; marls exposed in excavations for footings for south greenhouse.

Collector: T. E. Savage.

Age designation: Early Wisconsin marl.

Remarks: Paratypes, no. Z10773, are catalogued in the ISGS collection but the specimens have not been found. Many other lots, labeled *Gyraulus urbanensis*, are in the ISGS collection.

PLANORBULA INDIANENSIS Baker, 1930

Plate 3, figures 4-6

Holotype: Cat. no. P2833, ISGS.

Original description: Trans. Illinois Acad. Sci., v. 22, p. 430, 1930.

"Sangamon interval (Montgomery, Fulton, Iroquois counties); Late Wisconsin time (Chicago deposits, Cool [*sic* for Cook] Co.). This recently distinguished species is apparently extinct, nothing approaching it having been seen from the recent fauna. It resembles *armigera* but is larger, with a greater axial height and five full whorls. In size it is between *armigera* and Dall's *chrystyi*, a recent species of northern distribution. This

species has six full whorls and is different from *indianensis*. The absence of *indianensis* from deposits between Sangamon and Early Wisconsin, and from the earlier Yarmouth interval is noteworthy. The type locality is in a deposit near Mt. Vernon, Indiana, beneath a terrace believed to be of Early Wisconsin age. It is thus either Peorian or Sangamon in age. In a deposit in Iroquois County, the fossil species from Sangamon strata is *indianensis*, while the species living near Sugar Creek at the present time is *armigera*."

Height, 3.4; diameter, 8.8; height of aperture, 3.2; diameter, 3.1 mm. Holotype. (Measurements mine.)

Type locality: Uniontown Road, two miles southwest of Mt. Vernon, Posey County, Indiana.

Collector: Charles V. Theis, date unknown.

Age designation: Pleistocene, Early Wisconsin.

Remarks: Three paratypes from the type locality, no. P2833A, are in the ISGS collection, together with a few other lots from various localities. The species is not common in the State.

PLATE 4

- FIG. 1. *Valvata sincera illinoisensis* Baker, holotype, cat. no. P1671A, ISGA; west end Crystal Lake, McHenry County, Illinois. Enlarged 7.4 times.
- FIG. 2. *Valvata lewisii precursor* Baker, holotype, cat. no. P2360, ISGS; $2\frac{3}{4}$ miles south and 1 mile west of Lewistown, Fulton County, Illinois. Enlarged 4.4 times.
- FIG. 3. *Valvata tricarinata supracarinata* Baker, holotype, cat. no. P928, ISGS; near Morris, Grundy County, Illinois. Enlarged 4.3 times.
- FIG. 4. *Bulimus tentaculatus magnalacustris* Baker, paratype, cat. no. P2819, ISGS; southwest corner Michigan Boulevard and Walton Place, Chicago, Cook County, Illinois. Enlarged 2.5 times.
- FIGS. 5, 6, 7. *Polygyra multilineata altonensis* Baker, holotype, cat. no. P740A, ISGS; spiral, basal, and apertural views, respectively; Plant no. 2, Mississippi Lime and Materials Company, Alton, Madison County, Illinois. Enlarged 0.9 times.
- FIGS. 8, 9, 10. *Polygyra appressa hubrichti* Baker, holotype, cat. no. P6629, ISGS; spiral, basal, and apertural views, respectively; Valmeyer, Monroe County, Illinois. Enlarged 1.1 times.
- FIGS. 11, 12, 13. *Polygyra profunda pleistocenica* Baker, holotype, cat. no. P751, ISGS; spiral, basal, and apertural views, respectively; near corner East Sixth and Market Streets, Alton, Madison County, Illinois. Enlarged 1.3 times.
- FIGS. 14, 15, 16. *Stenotrema hubrichti* Pilsbry, paratype, cat. no. P5137, ISGS; spiral, basal, and apertural views, respectively; just south of McCann School, 2 miles northeast of Aldridge, Union County, Illinois. Enlarged 2.4 times.
- FIGS. 17, 18, 19. *Polygyra multilineata wanlessi* Baker, holotype, cat. no. P2358, ISGS; spiral, basal, and apertural views, respectively; 4 miles west of bridge at Havana, in Fulton County, Illinois. Enlarged 0.9 times.
- FIGS. 20, 21, 22. *Polygyra monodon peoriensis* Baker, holotype, cat. no. P1910A, ISGS; spiral, basal, and apertural views, respectively; North municipal quarry, near Quincy, Adams County, Illinois. Enlarged 2.6 times.
- FIGS. 23, 24, 25. *Polygyra hirsuta yarmouthensis* Baker, holotype, cat. no. P2085, ISGS; spiral, basal, and apertural views, respectively; 3 miles southwest of Marshall, Clark County, Illinois. Enlarged 2.4 times.

I am not certain that the paragraph quoted above is the original description, but I have found no other diagnosis of *P. indianensis* in any of Baker's writings known to me.

POLYGYRA APPRESSA HUBRICHTI Baker, 1937

Triodopsis fosteri hubrichti (Baker)

Plate 4, figures 8-10

Holotype: Cat. no. P6629, ISGS.

Original description: Nautilus, v. 51, p. 23, July 1937.

"Shell differing from typical *appressa* [= *Triodopsis fosteri missouriensis* Pilsbry] in its much greater size, more elevated spire, rounder aperture, and generally gibbous form. The parietal lamella is long, curved, and extends to the umbilical region as in the typical form. Basal tooth of peristome usually well developed, but the upper denticle of race *fosteri* rarely developed. Sculpture of fine lines of growth."

Diameter, 25.5; height, 14.5; aperture diameter, 10.0; height, 7.0 mm. *Holotype*. (Baker's measurements.)

Type locality: Valmeyer, Monroe County, Illinois.

Collector: Leslie Hubricht, 1 April 1932.

Age designation: Pleistocene, Sangamon loess.

Remarks: Two paratypic examples, no. P6630 and no. P6631, ISGS; other paratypes: no. 168631, ANSP, and no. A-1562 in the collection of Leslie Hubricht. Other lots, from various localities, are in the ISGS collection.

POLYGYRA HIRSUTA YARMOUTHENSIS Baker, 1927

Stenotrema hirsuta yarmouthensis (Baker)

Plate 4, figures 23-25

Holotype: Cat. no. P2085, ISGS.

Original description: Nautilus, v. 40, p. 115, April 1927.

"Shell differing from recent *hirsuta* in being uniformly smaller, with a straight parietal lamina which is shorter than in the typical form, the denticle on the peristome is smaller, the base of the shell not usually as

convex, and the basal callus is not as heavy."

Height, 4.2; diameter, 6.6 mm. *Type*. (Baker's measurements.)

Type locality: Three miles southwest of Marshall, Clark County, Illinois.

Collector: Paul MacClintock, 30 August 1925.

Age designation: Pleistocene, Yarmouth loess.

Remarks: A single paratype, bearing the same number as the type, is in the ISGS collection, together with other lots identified by Baker; paratypes no. 142707 are in the ANSP collection.

POLYGYRA MONODON PEORIENSIS Baker, 1927

Stenotrema leai peoriensis (Baker)

Plate 4, figures 20-22

Holotype: Cat. no. P1910A, ISGS.

Original description: Nautilus, v. 40, p. 116, April 1927.

"Shell differing from typical *monodon* in being smaller, with a smaller umbilical opening, a less elevated parietal lamina which is usually joined to the basal lip near the columella by a more or less well-developed callus."

Height, 3.9; diameter, 6.1 mm. *Type*. (Baker's measurements.)

Type locality: North municipal quarry, near Quincy, Adams County, Illinois, from loess 15 feet above bedrock.

Collector: M. M. Leighton and Ben B. Cox, 1923.

Age designation: Pleistocene, Peorian loess.

Remarks: Eight paratypic specimens, no. P1910, and many other lots identified by Baker are in the ISGS collection; other paratypes, no. 142708, ANSP.

POLYGYRA MULTILINEATA ALTONENSIS Baker, 1920

Triodopsis multilineata altonensis (Baker)

Plate 4, figures 5-7

Holotype: Cat. no. P740A, ISGS.

Original description: Nautilus, v. 34, p. 65, October 1920.

"Shell differing from typical *multilineata* in being larger, the whorls more gibbous, the spire more depressed, and the sutures between the later whorls more deeply impressed; the last whorl begins to rapidly descend on the previous whorl until the upper part of the outer lip rests against the periphery, instead of above this point, as in *multilineata*; the deflection of the upper part of the whorl toward the aperture is also more abrupt, and forms a distinct shoulder at this point; the reflected lip is much heavier as is also the umbilical callus; the spiral color bands and lines are apparently much less numerous than in typical *multilineata*.

"Greatest diameter, 32; height, 19.5; aperture height, 14; breadth, 14 mm. Holotype."

Type locality: Lower 10 feet of pink loess above quarry, Plant no. 2, Mississippi Lime and Materials Co., Alton, Madison County, Illinois.

Collector: M. M. Leighton, April 1920.

Age designation: Pleistocene, Sangamon interval.

Remarks: Paratypes (no. P740B) and a few other lots are in the ISGS collection; this large variation of *T. multilineata* does not occur commonly in the Pleistocene of Illinois.

POLYGYRA MULTILINEATA WANLESSI Baker,
1928

Triodopsis multilineata wanlessi (Baker)

Plate 4, figures 17-19

Holotype: Cat. no. P2358, ISGS.

Original description: Nautilus, v. 41, p. 132, April 1928.

"Shell differing from recent *multilineata* in being smaller, the body whorl somewhat gibbous, of greater diameter as compared with height, the aperture somewhat narrower, and the base flattened and indented about the umbilical region, which may be narrowly perforate or completely closed. It may be distinguished from variety *algonquinensis* Nason, by its usually larger size, more gibbous whorls, especially the body whorl, and the deeper indentation of the umbilical region. There are faint indications of

color lines or stripes on a few specimens, but the majority were probably unicolored as are some specimens of *multilineata* at the present time. Adults are usually imperforate, but immature shells appear to be always umbilicated.

"Height, 13.5; diameter, 21.5 mm. Holotype."

Type locality: About four miles west of bridge at Havana, in Fulton County, Illinois.

Collector: H. R. Wanless, summer, 1927.

Age designation: Pleistocene, Yarmouth loess.

Remarks: Three paratypes, bearing the same number as the type, and from the type locality, are in the ISGS collection; other paratypes, no. 144921, ANSP.

POLYGYRA PROFUNDA PLEISTOCENICA Baker,
1920

Allogona profunda pleistocenica (Baker)

Plate 4, figures 11-13

Holotype: Cat. no. P751, ISGS.

Original description: Nautilus, v. 34, p. 66, October 1920.

"Shell uniformly smaller than typical *profunda*, more solid, with slightly higher spire and proportionally smaller aperture and umbilicus; the color bands are developed in but two specimens of the 19 specimens examined, the majority of the individuals being unicolored.

"Greatest diameter, 22; height, 14.7 mm. Holotype."

Type locality: Pink loess, near corner East Sixth and Market Streets, Alton, Madison County, Illinois.

Collector: M. M. Leighton, April 1920.

Age designation: Pleistocene, Sangamon loess.

Remarks: The ISGS collection contains two paratypical examples, no. P751B, and many other lots from deposits designated Yarmouth to Early Wisconsin, referred by Baker to this subspecies.

POMATIOPSIS SCALARIS Baker, 1927

Plate 1, figure 7

Holotype: Cat. no. P2321, ISGS.

Original description: Nautilus, v. 40, p. 120, April 1927.

"Shell elongated, turreted, scalariform; spire long, scalar; sutures deeply impressed; whorls about 8, very convex, the body whorl disproportionately larger than the preceding whorl; umbilicus round, wide, deep; aperture roundly oval, peristome thin, continuous, the inner lip forming a rounded, erect border near the umbilicus."

Length, 7.8; diameter, 3.5; aperture length, 2.1; diameter, 1.6 mm. Type. (Baker's measurements.)

Type locality: New Harmony, Posey County, Indiana.

Collector: L. E. Daniels; from A. A. Hinkley collection.

Age designation: Pleistocene, Peorian loess.

Remarks: The ISGS collection contains two paratypes from the type locality and bearing the same number as the type; other paratypes, no. 142713, ANSP. *P. scalaris* occurs widely in Pleistocene deposits of Illinois.

STENOTREMA HUBRICHTI Pilsbry, 1940

Plate 4, figures 14-16

Paratype: Cat. no. P5137, ISGS.

Original description: Pilsbry, Land Mollusca North America, v. 1, pt. 2, p. 687, fig. 423, 1940.

"The imperforate shell is depressed, lens-shaped, acutely carinate, the height not much exceeding half of the diameter. Spire low conic, of slowly increasing whorls, the first convex, the rest nearly flat, impressed above the keel; last whorl descending in front. The base is flattened below the keel, then convex, and slightly impressed around the central axis. The embryonic whorls are most minutely granulose. Later whorls are lightly striate, the striae low, very unequal. Base with fainter striae and densely, minutely granulose. The aperture resembles that of *S. fraternum* but is narrower, the parietal tooth nearer to the basal lip, approaching it slightly towards the outer end; nearly straight, rather low, connecting with the end of the columellar lip by a low, curved

ridge. The basal lip is reflected, rather strongly thickened within, the thickening narrowing at the passage of basal into columellar margin, forming a rounded sinus there; in the outer half of the basal margin it is wider, but narrows gradually at the position of the keel, not abruptly as in *S. barbigerrum*."

Height, 4.4 mm.; diameter, 9.9 mm.; $5\frac{1}{4}$ whorls. (Measurements mine.)

Type locality: Pleistocene "talus" just south of McCann School, two miles north-east of Aldridge, Union County, Illinois.

Collector: Leslie Hubricht.

Age designation: Pleistocene.

Remarks: The holotype and a series of paratypes, both numbered 174941, are in the ANSP collection. The shells in the ISGS collection are from a paratypical series from the private collection of Leslie Hubricht, no. A5137.

This unusual species, described by Pilsbry from Pleistocene loess deposits in Illinois, is included for the sake of completing the list of types of late Cenozoic mollusks in the ISGS collections.

STROBILOPS SPARSICOSTATA Baker, 1938

Plate 1, figures 4-6

Holotype: Cat. no. P6774, ISGS.

Original description: Nautilus, v. 51, p. 127, April 1938.

"Shell broadly conic with somewhat elevated, dome-shaped spire. Whorls $5\frac{1}{2}$, the first $1\frac{1}{2}$ smooth, the balance sculptured with distinct ribs, widely spaced, with frequently a faint riblet between. The umbilicus is contained about seven times in the diameter of the shell. Last whorl decidedly angular, the base of the shell smooth or with occasional faint riblets extending over it from the dorsal surface. Aperture with expanded, thickened peristome and a heavy palatal callus. There is a very heavy parietal lamella emerging from the edge of the callus and a weak infraparietal lamella which emerges within the aperture almost to the parietal callus in some specimens. This is often not developed outside of the aperture. The pari-

etal lamella penetrates within the aperture more than three-fourths of a whorl. Half a whorl within the aperture there is a short, stout lamella on the axis. There are five baso-parietal folds, the first two basal folds are large and heavy, the first kidney-shaped, the second larger and lamellar, erect. The other three folds are low, rather long and curved. All basal folds are arranged radially. Height, 2.0; diameter, 2.7 mm. Holotype."

Type locality: Rexroad Ranch, SW $\frac{1}{4}$ sec. 22, T. 33 S., R. 29 W., Meade County, Kansas.

Collector: C. W. Hibbard and party, summer, 1937.

Age designation: Pleistocene, late Nebraskan in Blanco formation.

Remarks: Fifty paratypes, from the type locality and bearing the same number as the holotype, are in the ISGS collection; other paratypes, no. 169886, ANSP. This species is a common fossil in Nebraskan and Kansan deposits in the central Great Plains region.

SUCCINEA GROSVENORII GELIDA Baker, 1927

Plate 1, figure 13

Holotype: Cat. no. P875A, ISGS.

Original description: Nautilus, v. 40, p. 118, April 1927.

"Shell small, elongated, rather narrow; whorls $3\frac{1}{2}$ convex, separated by deep sutures, last whorl comparatively small, flat-sided, or but slightly convex; spire long, acute; aperture rounded, about half as long as shell; columella straight curving into the parietal wall in a gentle curve, not forming a distinct angle; there is a slight callus which is spread over the parietal wall; sculpture of rather fine, vertical striae."

Length, 8.0; diameter, 4.2; aperture length, 4.0; diameter, 2.4 mm. Type. (Baker's measurements.)

Type locality: One-half mile northwest of railway depot, Irene, Boone County, Illinois.

Collector: M. M. Leighton, 1920.

Age designation: Pleistocene, Peorian loess.

Remarks: Three paratypes from the type locality are in the ISGS collection; other paratypes, no. 142712, ANSP. Shells identified by Baker as *S. g. gelida* occur commonly in the loesses of Illinois.

SUCCINEA OVALIS PLEISTOCENICA Baker, 1927

Plate 1, figure 11

Holotype: Cat. no. P2088A, ISGS.

Original description: Nautilus, v. 40, p. 117, April 1927.

"Shells differing from typical *ovalis* in having a rounder aperture and comparatively longer spire; it averages somewhat smaller than the *ovalis* now living in Illinois."

Length, 19.0; diameter, 11.5; aperture length, 11.5; aperture diameter, 8.0 mm. Holotype. (Baker's measurements.)

Type locality: Three miles southwest of Marshall, Clark County, Illinois.

Collector: Paul MacClintock, 30 August 1925.

Age designation: Pleistocene, Yarmouth loess.

Remarks: The ISGS collection contains four paratypical specimens, no. P2088A, from the type locality; other paratypes, no. 142710, ANSP. The ISGS collection contains numerous lots from Pleistocene deposits of Illinois, identified by Baker as *S. o. pleistocenica*.

SUCCINEA RETUSA FULTONENSIS Baker, 1928

Oxyloma decampi fultonensis (Baker)

Plate 1, figure 12

Holotype: Cat. no. P2368, ISGS.

Original description: Nautilus, v. 41, p. 136, April 1928.

"Shell elongately ovate, compressed, spire long, conic, sutures well impressed; whorls three, somewhat oblique, narrow, the second whorl much swollen as compared with the first whorl which appears above the second whorl as a small knob; aperture narrow, ovate, narrowed above, widely rounded below; columella somewhat incurved.

"Height, 8.1; diameter, 4.0; aperture height, 5.0; diameter, 2.8 mm. Holotype."

Type locality: Two and $\frac{1}{4}$ miles west and $\frac{3}{4}$ miles south of Lewistown, Fulton County, Illinois.

Collector: H. R. Wanless, summer, 1927.

Age designation: Pleistocene, Early Wisconsin, gray silts.

Remarks: Two paratypes from the type locality, and bearing the same number as the holotype, are in the ISGS collection; other paratypes, no. 145109, ANSP. Other lots are found in the ISGS collection, but the snail is not common in Pleistocene deposits of Illinois.

VALVATA LEWISII PRECURSOR Baker, 1928

Plate 4, figure 2

Holotype: Cat. no. P2360, ISGS.

Original description: Nautilus, v. 41, p. 136-137, April 1922.

"Shell somewhat larger than *lewisii*, spire elevated, scalariform, the sutures deeply impressed, the whorls notably rounded and set one above another in turban fashion; whorls rather more than four with four full coils visible in front view, the upper two whorls projecting well above each other; the body whorl high, increasing in diameter as it approaches the aperture; umbilicus wide, deep; aperture large, rounded, entire, the inner lip only touching the parietal wall; sculpture of rather distinct, longitudinal lines of growth resembling tightly wound thread.

"Height, 4.3; diameter, 5.0 mm. Holotype."

Type locality: Two and $\frac{3}{4}$ miles south, one mile west of Lewistown, Fulton County, Illinois.

Collector: H. R. Wanless, summer, 1927.

Age designation: Pleistocene, Early Wisconsin, upper gray silts.

Remarks: The ISGS collection contains paratypes from the type locality, no. P2360, and several lots from various localities identified by Baker as *V. l. precursor*. The subspecies is not common in Pleistocene deposits in Illinois. Paratypes no. 144923, ANSP.

VALVATA SINCERA ILLINOISENSIS Baker, 1929

Plate 4, figure 1

Holotype: Cat. no. P1671A, ISGS.

Original description: Trans. Illinois Acad. Sci., v. 22, p. 189, figure 1, 1929.

"In the Mollusca of Wisconsin a form of *Valvata* was referred to *sincera danielsi* Walker. The receipt of a large collection of Pleistocene fossils from the Illinois Geological Survey indicates that this reference was erroneous. The fossil form is about half the size of *danielsi* and is apparently wholly extinct. It is a common species in the Pleistocene of Illinois and occurs more rarely in Late Wisconsin deposits in Wisconsin. The type locality is near the west end of Crystal Lake, McHenry County, Illinois, in a marl deposit of Late Wisconsin age. This variety does not occur in the Chicago deposits. It is probably the ancestor of both *sincera* and *danielsi*, but is nearer *sincera*."

Length, 2.7; diameter, 2.0; length of aperture, 1.2; diameter of aperture, 1.1 mm. (Measurements are mine; Baker gave no measurements.)

Type locality: West end Crystal Lake, McHenry County, Illinois, in marl deposit.

Collector: M. M. Leighton and E. P. Rothrock, 10 August 1922.

Age designation: Pleistocene.

Remarks: Three paratypes from the type locality and bearing the same number as the holotype, are in the ISGS collection; other lots from Illinois are not numerous.

In the original description, Baker used the heading "new variety," but the figures that accompany the description are labeled *Valvata illinoisensis*. As it seemed to be Baker's intention to describe this fossil as a subspecies of *Valvata sincera*, it seems best, for the present at least, to regard *illinoisensis* as a subspecific name.

VALVATA TRICARINATA SUPRACARINATA Baker, 1921

Plate 4, figure 3

Holotype: Cat. no. P928, ISGS.

Original description: Nautilus, v. 35, p. 24, July 1921.

"Shell differing from the other described varieties of the tricarinate series in lacking the carina on the periphery and base. Otherwise similar.

"Length, 3.5; width, 4.5; aperture length, 2.0; width, 1.8 mm. Topotype."

Type locality: Near Morris, Grundy County, Illinois.

Collector: H. E. Culver, 1921.

Age designation: Pleistocene, Late Wisconsin.

Remarks: Three paratypes, no. P929, are in the ISGS collection.

VERTIGO GOULDII LOESSENSIS Baker, 1928

Vertigo elatior loessensis (Baker)

Plate 1, figure 2

Holotype: Cat. no. P2366, ISGS.

Original description: Nautilus, v. 41, p. 135, April 1928.

"Shell differing from recent *gouldii* in being more ventricose, especially on the last whorl, having the apical whorls wider and more obtuse, the outer lip more auricled causing the aperture to have its longest diameter more diagonal than in *gouldii*. There are five denticles placed as in *gouldii*, but more delicate than in the typical form; the palatal denticles are long and subequal.

"Length 2.0; diameter 1.3 mm. Holotype."

Type locality: Three and a half miles west and one and three-quarters miles south of Lewistown, Fulton County, Illinois.

Collector: H. R. Wanless, summer, 1927.

Age designation: Pleistocene, Peorian loess.

Remarks: Two paratypes from the type locality, no. P2366, are in the ISGS collection; other paratypes, no. 145107, ANSP. The ISGS collection contains numerous lots from widespread localities in Illinois.

VERTIGO HIBBARDI Baker, 1938

Plate 1, figure 3

Holotype: Cat. no. P6773, ISGS.

Original description: Nautilus, v. 51, p. 126, April 1938.

"The shell has 5 whorls and is very ventricose over the body whorl. The sutures are impressed, the apex is obtuse and bluntly rounded. There is a conspicuous crest behind the outer lip, behind which are two pits showing the position of the palatal laminae. The body whorl is flattened laterally and the base of the shell is trumpet-shaped when viewed from below. Base subumbilicate. Aperture more than half the length of the last whorl, the lips expanding outward. Outer lip biarcuate. Lamella and plications 7 in number. The angular and parietal lamellae are long and extend some distance within the aperture, the angular emerging further than the parietal, the parietal curving spirally inward toward the left. Columella or lamella large and conspicuous, curving backward toward the base of the shell. The lower palatal fold is stout, nearly straight and somewhat flattened on top. The upper palatal is stout, high and lamellar and curves downward toward the lower palatal. Both palatal folds rest in front on a rounded callus and they terminate abruptly at an equal distance within the aperture and both increase in height as they extend backward. There is a strong, curved basal fold and a strong tubercular suprapalatal fold.

"Length 1.9; diameter 1.2 mm. Holotype."

Type locality: Rexroad Ranch, SW $\frac{1}{4}$ sec. 22, T. 33 S., R. 29 W., Meade County, Kansas.

Collector: C. W. Hibbard and party, summer, 1937.

Age designation: Pleistocene, Late Nebraskan, Blanco formation.

Remarks: The ISGS collection contains a series of paratypes, no. P6773A; other paratypes, no. 169883, ANSP.

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