visit floods had cut the clay banks and turned up a subfossil species of *Oreohelix* not now found alive on the south rim.

Thus ends my longest adventure, and perhaps the most fruitful. Collections were made at 187 stations, and with something over 140 sets of duplicates thrown into the basket by generous California friends, we will have about 500 separate lots to check up and discuss later.

Joliet, Ill., June, 1918.

NEW VARIETIES OF NAIADES FROM LAKE ERIE.

BY N. M. GRIER.

While the general distinction between the Naiades of Lake Erie and their parent forms of the Ohio drainage have already been commented upon by Walker, (1) representatives in Lake Erie of at least three of the parental forms have never been given the varietal distinction they deserve. The parent species following the nomenclatorial changes proposed by Frierson (2) and Vanatta (3) are *Fusconaia flava* (Raf.), *Elliptio dilatatus* (Raf.), and *Symphynota* (*Lasmigona*) *costata* (Raf.). The comparisons between them and their Lake Erie representatives were made with the aid of Simpson's Descriptive Catalogue.

ELLIPTIO DILATATUS var. STERKII, new variety.

Differs from typical *dilatatus* by its smaller size, less elongated and proportionately higher shell. Always inflated, not so pointed posteriorly. Ventral line rather straight, beaks more anterior in position. Epidermis in *dilatatus* dark brown and horn or yellowish, surface usually with uneven growth lines. In *sterkii*, epidermis always smooth or polished, light olive green to yellowish brown to reddish brown. Nacre in *dilatatus* mostly dark purple, salmon and white; that of *sterkii* is lavender, light reddish purple, pearl-blue.

The following table gives maximum, minimum and mean dimensions of 52 shells each of parent and variety:

E. dilatatus			Var. *sterkii*		
Length	Height	Diameter	Length	Height	Diameter
130 mm.	60 mm.	35 mm.	87 mm.	46 mm.	28 mm.
86 mm.	41 mm.	24 mm.	59 mm.	31 mm.	18 mm.
30 mm.	16 mm.	7 mm.	26 mm.	13 mm.	7 mm.

Factors obtained from above by comparison of length with height and diameter show that greater height and inflation rest with *sterkii*—51% and 30% as against 48% and 25%. In variety *sterkii*, the average distance of the beaks from the anterior extremity of the shell is 18% of the total length; in *dilatatus* this is 25%. There appears to be no substantial difference between values obtained with Simpson's measurements and my own.

This new variety is respectfully dedicated to Dr. V. C. Sterki, who first commented upon the distinction between it and the stream forms. (4) Type no. 61. 4268, card catalogue Carnegie Museum.

LASMIGONA COSTATA var. EREGANENSIS, new variety.

Variety *eriganensis* is smaller, less elongated and proportionately lower than *costata*. Ventral line straight. Epidermis in *costata* light horn-color to dark chestnut in old specimens, surface usually with uneven growth lines. In *eriganensis* always smooth or polished, greenish olive to reddish brown to chocolate-brown, even growth lines. Nacre in *costata* cream-color to lavender or blue. In variety *eriganensis*, pinkish, buff or salmon-color.

Average for 20 shells:

costata			var. *eriganensis*		
Length	Height	Diameter	Length	Height	Diameter
137 mm.	78 mm.	42 mm.	90 mm.	46 mm.	31 mm.
96 mm.	55 mm.	27 mm.	72 mm.	40 mm.	23 mm.
55 mm.	31 mm.	14 mm.	65 mm.	36 mm.	19 mm.

Factors secured as previously show that *costata* is proportionately higher than var. *eriganensis*, 56% against 53%, but

is not so inflated 27% against 32%. My measurements of *costata* check readily with those of Simpson.

Type no. 61.4720, card catalogue, Carnegie Museum.

FUSCONAIA FLAVA var. PARVULA, new variety.

Variety *parvula* differs chiefly in size from *flava*, being smaller although proportionately higher and more inflated. Epidermis of *flava* yellowish to dark horn-color; in var. *parvula*, yellowish green, greenish olive. Surface with even growth lines. Nacre of typical *flava* mostly white, tinged with salmon in the beak; of *parvula*, pinkish-color or to pale blue.

Dimensions:

flava			var. *parvula*		
Length	Height	Diameter	Length	Height	Diameter
91 mm.	60 mm.	37 mm.	59 mm.	45 mm.	30 mm.
36 mm.	43 mm.	25 mm.	36 mm.	28 mm.	18 mm.
27 mm.	24 mm.	25 mm.	13 mm.	11 mm.	8 mm.

Ratio of length to height and diameter in *flava*—77% and 42%.

Ratio of length to height and diameter in var. *parvula*—79% and 51%.

Similar results are obtained from Simpson's measurements of *flava*.

Type no. 61.4513 card catalogue, Carnegie Museum.

The type specimens of the above three new varieties were collected by Dr. A. E. Ortmann at Big Bend, Presque Isle Bay, Lake Erie, July 8-12, 1910, and kindly entrusted to me for description. They appear to be generally distributed throughout Lake Erie.

1. Walker, Bryant. "Unione Fauna of the Great Lakes." Nautilus, 27, 1913.
2. Frierson, L. S. "Remarks on Classification of Unionidæ." Nautilus, 28, 1914.

3. Vanatta, E. S. "Rafinesque Type of Unio." Proc. Acad. Nat. Sciences, Philadelphia, 1916.
4. Sterki, V. "A Preliminary Catalogue of the Land and Freshwater Mollusca of Ohio." Proc. Ohio Acad. Science, IV, pt. 8.

A FURTHER NOTE ON THE GENUS TRACHYDERMON.

BY S. STILLMAN BERRY, REDLANDS, CALIFORNIA.

Since the publication of my note on the chiton genus *Trachydermon* in the Proceedings of the California Academy of Sciences, (4), vol. 7, p. 245, September, 1917, Mr. Tom Iredale has supplied me with the interesting information that *Trachydermon* Carpenter 1864 is preoccupied, and hence cannot be used in *Polyplacophora* in any sense. This considerably clarifies the whole situation by rendering needless any further investigation as to which species is properly to be regarded as the type of the genus. At the same time the peculiar group of West American chitons comprising the old *Trachydermon flectens* Carpenter and the remarkable *Mopalia heathii* of Pilsbry is automatically left without a name. Having ascertained from Mr. Iredale that he is chiefly concerned with certain other consequences of the nomenclatural tangle we have discussed and has, himself, no intention of taking up the present question, I feel at liberty to propose the new generic name, *Basiliochiton*, based upon *Mopalia heathii* Pilsbry 1898 as its typical representative. A cogent argument for the selection of this rather than the older species as the type of the genus is that the whereabouts, if not the very existence, of the type specimen of Carpenter's *flectens* appears to be unknown. I had supposed it to be in the British Museum, but Mr. Iredale writes me that it is not there. It is possible that it was destroyed along with so many other Carpenterian specimens in the San Francisco conflagration of 1906.

A further and fuller discussion of this group of chitons will appear in a forthcoming publication.