

LINGULA NODULARATA, SP. NOV., OCCURRING IN POWELL COUNTY, KENTUCKY

WILLARD ROUSE JILLSON

Frankfort, Kentucky

While engaged in executing a field study of oil and gas structure in the vicinity of Stanton¹ in central Powell County, Kentucky, on July 31, 1963,² the writer's attention was caught by the occurrence of a well defined, locally-continuing strata of small, brownish, clay-stone nodules in a ten-foot, slightly weathered exposure of the Cuyahoga (New Providence) shale outcropping on the west side of the Cat Creek road, about 1500 feet south of State Highway No. 15 and lying adjacent to the land of Grace Knox. Stopping briefly, two of these nodules, each quite noticeably spherical in figure, were collected from their original place of outcrop, sacked, labeled and dated. Returning to Frankfort toward the end of the day, these two nodules were numbered for prospective study. No. 1 nodule upon being split open by the blow of a hammer, exhibited a measured diameter of .7 of an inch; No. 2, when similarly opened, showed a diameter of .8 of an inch.

Upon close examination with a hand lens, each of the nodules revealed a single, very small, glossy, dark brown to black, well preserved bi-valve. Unable to recall from memory the exact species of this minute fossil, about which as a central bit of organic life the nodule in each case had very evidently grown, the writer sent them to Dr. G. Arthur Cooper, a widely recognized invertebrate paleontologist and a long time friend, in the Smithsonian Institution at Washington, D. C., requesting, if possible, identification of both genera and species. Shortly thereafter a letter was received by the writer from Dr. Cooper, stating that the specimens were without doubt LINGULAS, but of a species unmatched in the collections of the Smithsonian Institution.³ Return of the fossil specimens—No. 1 and No. 2—closely followed the letter.

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1. *Geology of the Area about Stanton, Powell County, Kentucky*, 33 pp. Illust. Map. Pamph. by Willard Rouse Jillson, Roberts Printing Co., Frankfort, Ky. December 2, 1963.
 2. Author's Field Note Book "FF." *Lingula* discovery and later field work. Pp. 115, 125 and 131, July 31, Aug. 13 and 20, 1963.
 3. Official correspondence. A letter from Dr. G. A. Cooper, Head Curator, Dept. of Geology, U. S. National Museum, Washington, D. C. to the author, dated Sept. 9, 1963.

Upon receipt of this advice, the writer immediately returned to the type *Lingula* locality on Cat Creek in Powell County and by close and careful work increased his collection to about 35 unbroken nodules of similar size and appearance, and all from the same horizon and outcrop as the two original specimens. At this time, A. T. elevations of 700 feet at the bottom and 710 feet at the top were placed by barometer on the roadside exposure of the New Providence Shale that exhibited the *Lingula* nodular horizon, which was found by checked barometer to be 50 feet above the top of the black New Albany (Upper Devonian) Shale. Subsequent collections in this area, made with increasing difficulty have enlarged the entire collection of nodules derived from this horizon on Cat Creek to about 50. All the nodules in the collection have been carefully split open and examined. Out of the entire collection of nodules upwards of a dozen specimens of the same little, black, shiny brachiopods were recovered. The fossilized nodules were therefore about 1 in 4 or 5 in the entire nodular assemblage.

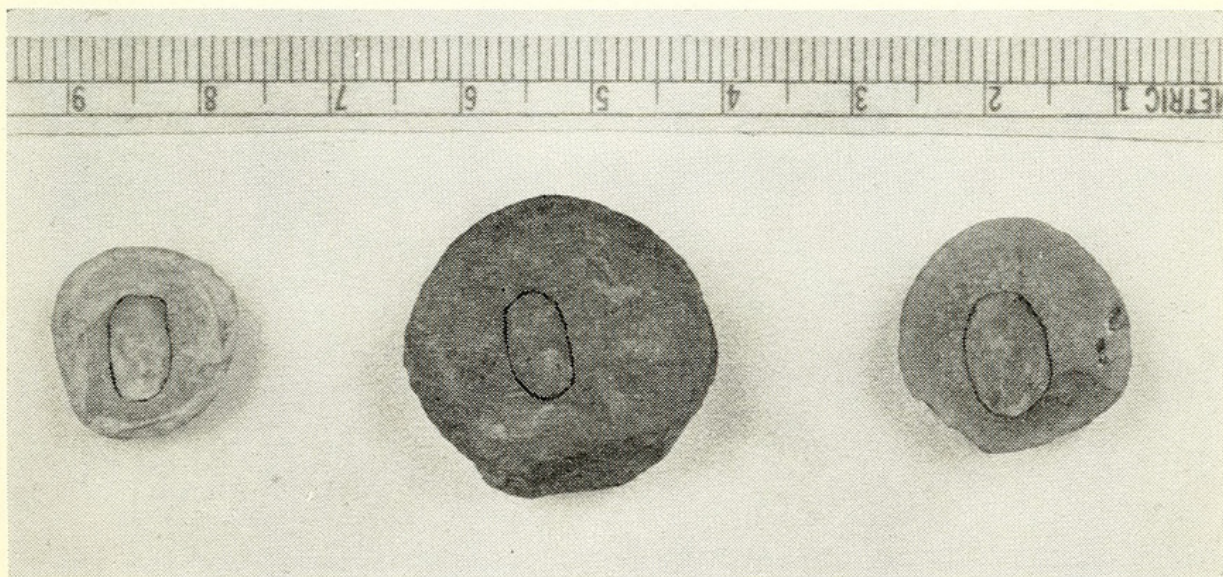


Figure 1.—Clay-stone nodules containing *Lingula nodularata* sp. nov. fossils.

The specimen *Lingulas*, measured in their separate nodules, exhibit a range in length of from 1.5 to 3.5 tenths of an inch, and in width from 1. to 2.5 tenths of an inch. These Cat Creek nodular *Lingulas* have been compared by the writer with the published figures of several other *Lingulas* occurring in the Lower Mississippian beds, chiefly in Ohio, and while similar, of course in many respects, particularly to *L. Melia* found in the Chagrin Shale of that state, these recently discovered Powell County forms have been clearly recognized to have much



Figure 2.—*Lingula nodularata* sp. nov. width of specimen is 0.2 inch.

finer and more even growth lines than any now described in the pertinent paleontological literature⁴ as found in the collections of the U. S. National Museum in Washington, D. C. Accordingly, the writer recognizes these tiny Cat Creek brachiopods as a new and hitherto undescribed species of *Lingula* and to them he here gives the name *Lingula nodularata*.

In closing this briefly descriptive announcement touching upon *Lingula nodularata*, sp. nov., the writer desires to extend sincere thanks and no little admiration to a long admired friend, Dr. Roger W. Barbour of the Department of Zoology of the University of Kentucky⁴ to whom he and all those who take interest in the advent of this new member of the rather extensive family of darkfaced *Lingulas* for the production of the marvelous photo-magnifications he made of the type specimens of *L. nodularata* to accompany this paper introducing this tiny but important *species nov.* And finally the writer's entire collection of *Lingula nodularata*, together with the residual suit of broken nodules has been given to the Smithsonian Institution to insure their proper preservation and for the use of future workers in this late Paleozoic invertebrate field whenever in the years to come they appear and whoever they may be.

4. The following publications have been examined in the course of preparing for the writing of this paper. I. G. H. Girty, P.P. No. 193-C, pp. 47-67. U. S. Geol. Survey, Washington, D. C. 1939. II. C. L. Herrick, Vol. IV, P. I & II, Bull. Dennison Univ., 1898. III. Shiver and Shrock. *Index Fossils of N. Am.* 837 pp. N. Y. C. 1944. IV. A. Foerste, *The Bedford Fauna at Indian Fields and Irvine, Ky.* Pp. 515-23. The Ohio Naturalist, Vol. IX. No. 7, May, 1909. V. James Hall, *New Species of Brachiopods.* Pal. of N. Y. Vol. VIII. Parts 1 and 2. Albany, N. Y. 1892-1894.



Jillson, Willard Rouse. 1966. "Lingula nodularata, sp. nov., occurring in Powell County, Kentucky." *Transactions of the Kentucky Academy of Science* 27(3-4), 74-77.

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