

and one major cord on the canal. Between these major cords there are present secondary and lesser cords. Spiral cords and spines occur on the shoulder close to the suture.

Myricanthus oxyacantha (Broderip, 1833), on the other hand, has many more major spiral cords, the shell is mostly white with the spines commonly stained with a light brown. The cords and spines are wanting on the region above the shoulder to the suture, and there are only a few minor cords between the major ones (see pl. 5, figs. 3, 4). Keen (1958, p. 356) noted in her remarks to *M. oxyacantha* "the species has been identified as *Murex melanamathos* Gmelin, 1791 by some authors, but that form, which is apparently Indo-Pacific in distribution, has black spines on all eight varices, and the published figures show spines above the aperture that are lacking in *M. oxyacantha*."

That a species from west Central America should find a counterpart in west Africa is not surprising considering the presence on the west African coast of a number of species that have twin species in the tropical west American and the eastern American regions. As for one example, in the Muricidae, *Purpurellus pinniger* (Broderip) of the Panamic province is very similar in conchological characters to *Purpurellus gambiensis* (Reeve) from west Africa.

LITERATURE CITED

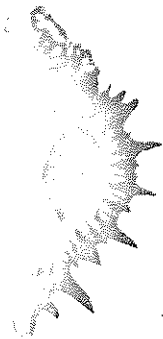
- Broderip, W. J., 1833. Characters of new species of Mollusca and Conchifera. p. 176. Hab. in America Centrali (Real Lleiños).
Murex oxyacantha was first illustrated in the following work:
Sowerby, G. B. Jun., 1834. The conchological illustrations.
Murex, A catalogue of recent species, sp. 80, pl. 59, fig. 11.
Keen, M., 1958. Sea shells of tropical west America, p. 356, sp. 345.

FRESHWATER MOLLUSCA FROM JAMES RIVER, VA.
AND A NEW NAME FOR MUDALIA OF AUTHORS.

By WILLIAM J. CLENCH AND KENNETH J. BOSS

While on our way to the American Malacological Union meetings in Chapel Hill (1966), the authors and Mr. Morris K. Jacobson of New York collected along the central reaches of the James River, Virginia. Four stations were made, three in the James and one in a tributary, the Rivanna River near Columbia. Good fortune was with us because the river was low and clear, two most important factors in fresh water collecting.

Twenty to forty miles west of Richmond, where we made most



Abito, Angola, Africa.
Nicaragua. Both $\times 1$.

of our stations, the James River was over 300 feet wide but rather shallow, probably not more than 10-15 feet deep in the main channel of the stream and about 2 or 3 feet deep for much of its area. The substrate of the river is largely sand with extensive patches of smooth flattened boulders or rocks and with occasional areas of gravel; much of the bank was soft black mud.

We are indebted to Mr. R. I. Johnson for the determination of several species of the Unionidae.

Stations made in the James River System on August 21, 1966. (Museum of Comparative Zoology, Mollusk Department Field Numbers)

2288, James River, Powhattan County, across the river from Maidens, Goochland County, Virginia.

2289, James River, near Cartersville, Cumberland County, Virginia.

2290, James River, near Columbia, Fluvanna County, Virginia.

2291, Rivanna River, 2 miles west of Columbia, Fluvanna County, Virginia.

LIST OF THE SPECIES

Vivipariidae

Lioplaç subcarinata (Say, 1817), Stations 2288, 2289.

Campeloma lima (Anthony, 1860), Stations 2288, 2289, 2290.

Hydrobiidae

Gillia altilis (Lea, 1841), Stations 2288, 2289, 2290.

Pleuroceridae

Goniobasis virginica (Gmelin, 1791), Stations 2288, 2289, 2290.

Anculosa (Alleghenya) carinata (Bruguière, 1789), Stations 2288, 2289, 2291.

Planorbidae

Helisoma anceps (Menke, 1830), Station 2291.

Physidae

Physa inflata Lea, 1841, Stations 2289, 2290, 2291.

Sphaeriidae

Sphaerium striatinum (Lamarck, 1818), Station 2288.

Unionidae

Lexingtonia subplana (Conrad, 1837), Stations 2288, 2289, 2291.

Elliptio complanata (Solander, 1786), Stations 2288, 2289, 2290, 2291.

Elliptio lanceolata (Lea, 1828), Stations 2288, 2289, 2290, 2291.

Alasmidonta undulata (Say, 1817), Stations 2288, 2289, 2291.

Lasmigona subviridis (Conrad, 1835), Stations 2288, 2289, 2291.

Strophitus undulatus (Say, 1817), Stations 2288, 2289, 2290.

* *Alasmidonta collina* (Conrad, 1837), Stations 2288, 2291.

Unio collinus Conrad 1837, Monography of the Family Unionidae of North America, Philadelphia, no. 8, p. 65, pl. 36, fig. 2

(type-locality, North Virginia); Conrad 1840, *Alasmidonta collina* (Cottonian Museum, 2236 logue of the Naiades.

Villosa constricta (Conrad

While writing up the River System, we discover has been used in error for *carinata* (Bruguière 1789). Since the only available synonym 1840 is *Nitocris* H. and we propose, in accordance with the International Nomenclature, the new

ALLEGHENYA.

Mudalia of authors, non *Nitocris* H. and A. Adalusca, 1:308 (type-species, 1819) = *Bulimus carinatus* esque 1815 (Hymenoptera berg 1866 (Vermes) and *Bulimus carinatus* Bruguspecies of *Alleghenya*.

Mudalia Haldeman 1841 type-species designation and separated geographically complex represented by *carinata* claimed consistently and Bruguière was the type-species. Malac. Soc. London, 10:16; Nat. Mus., 103:361; Wen. 6 (1):701). Bruguière's name by Haldeman in connection

In October 1840, Haldeman name under *Anculosa* in his ment to No. 1, p. 1, and or *turgida* without locality data resembled the *Paludina* dis other species of *Mudalia*, A graph, inside of back cover

(type-locality, North River, a branch of James River, Virginia); Conrad 1840, *Ibid.*, no. 12, p. 109, pl. 60, fig. 3.
Alasmidonta collina (Conrad). Simpson 1900, Proc. U.S. National Museum, 22:669; Simpson 1914, A Descriptive Catalogue of the Naiades, Detroit, Michigan, 1:501.

Villosa constricta (Conrad, 1838), Stations 2288, 2289.

While writing up the list of mollusks collected in the James River System, we discovered that the *Mudalia* of Haldeman 1840 has been used in error for the species complex containing *Anculosa carinata* (Bruguière 1789) and *Anculosa dilatata* (Conrad 1834). Since the only available synonym of *Mudalia* of authors non Haldeman 1840 is *Nitocris* H. and A. Adams, which itself is preoccupied, we propose, in accordance with the International Code of Zoological Nomenclature, the new name:

ALLEGHENYA.

Mudalia of authors, non Haldeman 1840.

Nitocris H. and A. Adams 1854, The Genera of Recent Mollusca, 1:308 (type-species, here designated, *Paludina dissimilis* Say 1819 [= *Bulimus carinatus* Bruguière 1789], non *Nitocris* Rafinesque 1815 (Hymenoptera), Thompson 1858 (Coleoptera), Kinberg 1866 (Verms) and Guenée 1868 (Lepidoptera).

Bulimus carinatus Bruguière 1789 is here designated as the type-species of *Alleghenya*.

Mudalia Haldeman 1840: 1) never has been given a correct type-species designation and 2) embraces a species complex widely separated geographically from the east coast-middle-western complex represented by *carinata* and *dilatata*. Most authors have claimed consistently and incorrectly that *Bulimus carinatus* Bruguière was the type-species of *Mudalia* (Hannibal, H. 1912, Proc. Malac. Soc. London, 10:168; Morrison, J. P. E. 1954, Proc. U. S. Nat. Mus., 103:361; Wenz, W. 1939, Handbuch Paläozoologie, 6 (1):701). Bruguière's name was not even used or ever mentioned by Haldeman in connection with his name *Mudalia*.

In October 1840, Haldeman introduced *Mudalia* as a subgeneric name under *Anculosa* in his Monograph of the Limniades, Supplement to No. 1, p. 1, and on p. 2 he described the species *A. (M.) turgida* without locality data; he mentioned that *A. (M.) turgida* resembled the *Paludina dissimilis* of Say. Later, he described another species of *Mudalia*, *A. (M.) affinis* Haldeman 1841, Monograph, inside of back cover of number 3. Goodrich (1932, Nauti-

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 he Family Union-
 p. 65, pl. 36, fig. 2

lus, 46: 40) mistook the 1841 citation of *Mudalia* as the introduction of the generic name by Haldeman and considered *A. (M.) affinis* as the type-species of the genus and, further, made it a synonym of *Lithasia obovata* Say; he also suggested that the name *Nitocris* H. and A. Adams be used for the group of *A. carinata* (Bruguère) (Goodrich, C. 1942, Occ. Papers Mus. Zool., Univ. Mich., no. 456, p. 2). Haldeman ([in] Chenu 1848, Illustrations Conchyliologiques, vol. 3, *Leptoxis*, p. 5, pl. 5, fig. 151) gave the locality of *L. (Mudalia) turgida* as Alabama. We here designate *Anculosa (Mudalia) turgida* as type-species of *Mudalia* Haldeman 1840 and restrict the type-locality to the Black Warrior River, Alabama.

LOCALITIES FOR NEW BRUNSWICK LAND MOLLUSKS

BY N. J. REIGLE, JR.¹ AND H. B. HERRINGTON²

There are very few published records of the land and fresh-water mollusk fauna of the Canadian province of New Brunswick. La Rocque (1961) provided a review of the literature and a summary checklist of the non-marine mollusks of the province. Since that work Dincow (1962) working near the Nova Scotian border has provided some additions to the faunal record and a checklist of his collection.

The authors collected in New Brunswick from September 2 to September 10, 1961. The primary purpose of his trip was to collect fresh-water mollusks, particularly Sphaeriidae; however a secondary effort was made to procure as many specimens of land mollusks as time permitted. Land mollusk collections were made near Lincoln in Sunbury and York Counties and during brief stops at various localities along Number 2 Highway and the St. John River en route from the Quebec border to Lincoln. In all, collections were made at 9 localities in 5 counties. A total of 16 species of land snails and 3 species of slugs were collected. The material has been deposited in the Museum of Zoology of the University of Michigan and the National Museum of Canada. Since many of these records are county records and due to a general lack of information concerning the distribution of New Brunswick mollusks, all land mollusks collected during the trip will be listed here.

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² Westbrook, Ontario, Canada.

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- Triodopsis* sp. 2.3 miles south of
Stenotrema sp. 2.3 miles south of No. 2
Euconulus sp. 2.3 miles south of No. 2
Zonitoides sp. way 4 miles south of
 Andover: Carl
 Route 5 near
 Sunbury Co.; a
 Nevers Road 2,
 Road 2 miles south
Oxychilus sp. the Princess Mar
Hygromia sp. the Princess Mar
Deroceras sp. 2 miles north of
 Camp Road 11
Deroceras sp. River at Andover
 north of Route
 at Princess Mar
 edge of Lincoln,
 and along Cam
Anguispira sp.