

THE NAUTILUS.

VOL. XIII.

MAY, 1899.

No. 1.

A LIST OF THE LAND AND FRESH-WATER SHELLS OF MANITOBA.

BY A. W. HANHAM, WINNIPEG, MAN.

When I commenced collecting here in 1894, my enthusiasm was soon checked by the dearth of land shells, in which, since I first collected, I have been particularly interested. In fresh-water species things were different, as this list shows, but I have never felt the same interest in them, and my work here, as far as they are concerned, has been half-hearted, and I have done nothing at all during the past two seasons. Under these circumstances, I have thought it advisable to publish this list before my records get lost or destroyed. The most striking feature here (even after Quebec) was the utter absence of all the larger species of land shells (with the exception of the Succineas), and the scarcity of even the small kinds which have been taken. However, I am still impressed with the idea that some few of the larger species may occur, rarely perhaps, in the well-wooded districts lying in the extreme east, southeast and northeast of the Province. The country I have worked here has been mostly prairie, even though swampy or wooded in places, and really almost the only localities worth exploring are the river "bottoms." Water shells, especially by contrast, are quite conspicuous; the sand dredged from the Red river for building purposes contains a mass of Sphæria, and along the river banks the large valves of Uniones are very noticeable. The railway ditches and sluices, which are generally dry early in the summer, have in their bottoms a mass of Linnæa, Aplexa and

small Planorbis. Often large areas of prairie, inundated during the spring, are covered with these dead shells, which are the "land" shells of the novice.

Soon after my arrival in Manitoba, I received a good deal of assistance from the Rev. George W. Taylor, of Gabriola Island, B. C., who kindly furnished me with lists of the species he had taken here in 1893, during a flying visit; also any other records or lists of Manitoba species that he knew of.

The lists furnished were as follows:

His own from Winnipeg in 1893.

Condray's, also from Winnipeg.

Hollands', from Norquay, Man.

Bells',

Christy's, } all from Winnipeg eastward.

Dawson's, }

(The species taken by Condray and Holland being in his own collection.)

All these records are included in the subjoined list. Dr. V. Sterki, Mr. Ed. W. Roper, Mr. Jas. H. Ferriss and others, have kindly helped in the identification of the more troublesome things of my own taking. The numbers before the land shells (following Mr. H. A. Pilsbry's valuable catalogue), show that our local or provincial species are few and far between.

(47. *Acanthinula harpa* Sav.) This species has been taken along the north of Lake Superior, both West as well as East, and I feel sure is to be found in the northern unexplored parts of the province.

48. *Vallonia pulchella* Müll. (Condray, Holland, Taylor, etc.)

50. *Vallonia costata* Müll. Taken here under stones, etc., along railway banks.

(Dr. Sterki remarks of these *costata*, "a beautiful and interesting form with rather crowded ribs.")

53. *Vallonia gracilicosta* Reinh. Winnipeg in 1893, by Taylor.

180. *Strobilops labyrinthica* Say. (Christy and Holland.)

186. *Bifidaria armifera* Say. Very rare here, also taken by Taylor. A rather small form occurs at Brandon; very few were taken.

187. *Bifidaria contracta* Say. From Carberry, by Christy.

188. *Bifidaria holzingeri* Sterki. Rather plentiful here in the Spring of 1894 in Red River drift. Also taken by Condray and Taylor.

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199. *Bifidaria pentodon* Say. A few taken here, also recorded
 by Condray and Taylor. (Dr. Sterki writes "somewhat different
 from the typical figure, the last whorl comparatively small.")

219. *Vertigo binneyana* Sterki. Rare here, also taken by Condray.

222. *Vertigo ovata* Say. Not uncommon here.

Vertigo sp. (2 examples) Winnipeg. (Dr. Sterki writes, "in size,
 shape and striation much resembles *V. gouldii* Binn., but there is a
 peculiar, very strong callus in the palate.")

235. *Cochlicopa lubrica* Müll. (*F. subcylindrica*, Linn.) Well dis-
 tributed and not uncommon.

254. *Vitrina limpida* Gld. A few on "toad-stools" late in the
 fall. Several other records.

260. *Vitrea hammonis* Ström. (*H. radiatula* Ald.) From all
 points recorded.

264. *Vitrea binneyana* Morse? A few shells taken at Brandon,
 were recorded as this species. They have been mislaid, or would
 have been referred to Dr. Sterki.

270. *Vitrea indentata* Say. From Pine Creek, by Christy.

278. *Conulus fulvus* Müll. Plentiful locally. (Dr. Sterki says,
 "different to the usual form.")

282. *Zonitoides nitidus* Müll.? Some dead shells from river drift
 may be this species.

283. *Zonitoides arboreus* Say. From all points recorded.

290. *Zonitoides minusculus* Binn. A few dead shells from Red
 River drift. (Also Red River, Binney's Manual.)

294. *Zonitoides milium* Morse. Very rare here.

316. *Agriolimax campestris* Binn. Seen occasionally in this dis-
 trict, not included in the other lists.

344. *Pyramidula striatella* Anth. Plentiful, in all lists.

346. *Helicodiscus lineatus* Say. Recorded by Condray. I have
 taken one or two shells here.

348. *Punctum pygmaeum* Drap. Taken here, not included in other
 lists.

358. *Succinea retusa* Lea. (*S. ovalis* Gld.) My Winnipeg spe-
 cimens are all small. (Christy, Dawson and Holland.)

360. *Succinea haydeni* W. G. Binn. (Dawson.)

361. *Succinea hawkinsi* Baird. Carberry. (Christy.)

362. *Succinea obliqua* Say. From all points recorded.

366. *Succinea grosvenorii* Lea. (*S. lineata* Binn.) Wood Moun-
 tain (Dawson).

367. *Succinea avara* Say. Rather common here. (Christy, Dawson and Taylor.) Var. *vermeta* Say? (Referred to this by Dr. Sterki.) A small colony taken under logs on railway bank near the city. (If only *S. avara*, then an unusually large coarse form.)
370. *Succinea oregonensis* Lea. (A few examples referred to this species by Dr. Sterki). From Winnipeg.
- Carychium exiguum* Say. } By no means abundant here. (Named
" *exile* Lea. } by Dr. Sterki.)
- Sphaerium sulcatum* Lam. (Christy, Dawson and Holland.)
- " *solidulum* Prime. Common here in Red River. (Also recorded by Christy & Dawson.)
- Sphaerium striatinum* Lam. (Christy & Dawson.)
- " *stramineum* Conrad. (Dawson).
- " *rhomboideum* Say. (Christy & Dawson.)
- " *jayanum* Prime. (Christy.)
- " *tenuis* Prime. Souris River (Dawson).
- " *transversum* Say. Playgreen Lake (Bell).
- " *simile* Say. A single valve was in a lot of *S. solidulum* referred to Mr. Ed. W. Roper for naming.
- Sphaerium partumeium* Say. (Dawson.) One specimen taken here, kindly named by Mr. Roper.
- Pisidium virginicum* Gmel. Lake of the Woods (Dawson).
- " *variabile* Prime. Pine Creek (Christy).
- " *abditum* Hald. (Holland).
- " *ferrissii* Sterki. These are the only *Pisidia* I have found here, and I took a small colony of them in moss in a dried-up swamp late in the year. Only a few appeared to be full grown (named by Dr. Sterki).
- Unio alatus* Say. Have taken some fine shells along the banks of the Red River here. (Christy & Dawson).
- Unio asperrimus* Lea. A few from Red River here. (Christy).
- " *borealis* A. F. Gray. Lake of the Woods (Christy).
- " *canadensis* Lea. (Taylor.)
- " *boydianus* Marsh. Red River here. Kindly named by Mr. Ferriss.
- Unio gracilis* Barnes. Not uncommon in Red River.
- " *lachrymosus* Lea. (Bell, Dawson & Taylor.)
- " *ligamentinus* Lam. Roseau River (Dawson).
- " *hippopeus*, I understand from Mr. Ferriss that this species has been taken in Lake Winnipeg.

Rather common here. (Christy, *neta* Say? (Referred to this by Dr. under logs on railway bank near the unusually large coarse form.)

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Creek (Christy).

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Unio luteolus Lam. Red River. (Christy, Dawson & Taylor.)

" *multiplicatus* Lea. (Christy.)

" *occidens* Lea.? Red River.

" *plicatus* Lesueur. (Bell & Christy.)

" *radiatus* Lam. (Bell.)

" *rectus* Lam. Some large specimens, with beautiful nacre, have been taken from the Red River here. (Christy, Dawson & Taylor.)

Unio rubiginosus Lea. Common in Red River. (Christy, Dawson & Taylor.)

Unio spatulatus Lea. (Red River, by Dawson.)

" *subovatus* Lea.? (Dawson.)

" *undulatus* Barnes. (Christy, Dawson & Taylor.) Appears to be common in Red River.

Margaritana complanata Barnes. (Bell & Dawson.)

" *rugosa* Barnes. (Dawson.)

Anodonta ferussaciana Lea. Lake of the Woods. (Dawson.)

" *footiana* Lea. Souris River. (Dawson.)

" *plana* Lea.? I sent a shell to Mr. Ferriss, which he considered this species.

Anodonta subcylindracea Lea. (Holland.)

" *undulata* Say. (Bell & Dawson.)

Valvata tricarinata Say. Rare here. (Christy & Dawson.)

" *sincera* Say. (Christy & Dawson.)

Campeloma decisum Say. Rare here. (Lake of Woods, Dawson.)

Bythinella obtusa Lea. Winnipeg (also by Condray here).

Annicola porata Say. Lake of the Woods. (Dawson.)

" *pallida* Hald. (Christy & Dawson.)

" *granum* Say. Pine Creek. (Christy.)

Limnæa stagnalis L. I have taken a few dead shells along the Assiniboine River here. Also included in the other lists.

Limnæa decollata Mighels. Lake of the Woods (Dawson.)

" *megasoma* Say. Echimamish River (Bell).

" *palustris* Müll. On all the lists. Some shells which I think belong to this species are very prettily lined. This form is rather abundant in some of the marshes.

Limnæa catascopium Say. Lake Manitoba, etc. Also on Dawson's list.

Limnæa caperata Say. On all the lists.

- " *desidiosa* Say. Winnipeg. Also by Christy.
 " *humilis* Say. Winnipeg. Also by Christy and Dawson.
Physa heterostropha Say. On all the lists. Quite uncommon here.
 " *ampullacea* Gould.? (Dawson.)
 " *ancillaria* Say. Lake of the Woods (Dawson). Also rarely
 at Winnipeg.
Aplexa hypnorum L. On all lists. Usually a fine shell here.
Planorbis corpulentus Say. Lake of the Woods (Dawson).
 " *trivolis* Say. On all the lists.
 " *macrostomus* Whiteaves. Lake of the Woods (Dawson).
 " *bicarinatus* Say. (Bell and Dawson.)
 " *campanulatus* Say. Winnipeg, also by Bell and Dawson.
 " *exacutus* Say. Winnipeg, also by Christy, Dawson and
 Holland.
Planorbis albus Müll. (Holland and Taylor.)
 " *parvus* Say. On all the lists.
 " *umbilicatellus* Ckll. (*umbilicatus* J. W. Taylor.) Bran-
 don (Christy, etc.).
Planorbis cristatus L. A pair from this place, identified by Dr.
 Sterki.
Planorbula armigera Say. On all the lists.
Ancylus parallelus Hald. (Christy & Dawson.)
 " *rivularis* Say. (Dawson.)

NEW SOUTHERN UNIOS.

BY BERLIN H. WRIGHT.

N. Harperi, sp. nov.

Shell smooth, with slightly elevated growth lines, black towards the umbos and tinged with red towards the base. Shining above, rayless, oblique or very inequilateral. Umbos elevated and nicely rounded; substance of the shell moderately thick, thinner posteriorly; bluntly pointed behind with an inclination to biangulation. Dorsum slightly arched, ligament red, basal margin slightly curved; umbonal ridge rounded above and decidedly flattened out at the posterior extremity; teeth double in the left and single in the right valve, cardinals pointed, compressed and oblique, with a supplemental tooth or pointed callosity in the right valve midway between the cardinal and