

Rotifer News

A newsletter for rotiferologists throughout the world



Lewis Dorsey (left); Frank Jacob Myers (right) Source: Paul N. Turner (see p. 2)

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International Recognition.....
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Produced at the

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Editorial: *Issue of great historical importance*

History of rotifer research is of general interest to all rotiferologists who are curious to know about the development through centuries. As mentioned in a previous issue of Rotifer News (RN No. 38 p. 14), Paul Turner developed great interest in rotifer research and inherited a wealth of valuable documents of historical importance from his grandfather Lewis M. Dorsey who had correspondence with Frank J. Myers.

Scanned version of these documents are supplied to RN by Paul which are reproduced here. Many letters, original figures and other documents written or received by Myers have also been carefully archived at the Academy of Natural Sciences of Drexel University with the help of Christian Jersabek, the then Adjunct Curator (Rotifera) during 2010 (see Jersabek CD *The 'Frank J. Myers Rotifera collection' at the Academy of Natural Sciences of Philadelphia. Hydrobiologia 546:137-140 2005*).

Further details from the website:

<https://archivalcollections.drexel.edu/repositories/3/resources/60>

Another aspect of interest for all rotiferologists is to know how the manuscript submission to Hydrobiologia has evolved over the decades. Henri J. Dumont, who was Editor-in-Chief of this journal for more than three decades (presently Hon. Editor-in-Chief), has traced various aspects of evolution of manuscript submission to Hydrobiologia. This

contribution appears in this issue. Every rotiferologist may have at least one article published in this prestigious journal. In fact, starting from the very first volume and issue, Hydrobiologia has been consistently supporting rotifer research. The first article on rotifers in Hydrobiologia appeared in 1948 by Bartoš which was the 7th article of this journal (Bartoš E 1948 On the Bohemian species of the genus *Pedalia* Barrois. Hydrobiologia 1(1-4): 63-77). The journal has also been a venue for the publication of proceedings of the International Rotifer Symposia *IRS*; 13 out of 15 IRS proceedings appeared in Hydrobiologia; the proceedings of the 16th IRS are scheduled to appear later this year in this journal.

On personal reflections, an artwork submitted by Augustus C. Mamaril, a rotiferologist from Philippines appears here. A prestigious recognition as the Elected Hon. President of the Aquatic Sciences of China to Henri J. Dumont, Editorial Board Member of RN appears in this issue.

With the inclusion of historical documents, the present issue has become heavy (about 10 MB), and the RN storage site does not permit large files (> 10 MB per issue). Therefore, the present issue does not carry many regular items such as Notes and News, Recent Literature, Theses Titles and Abstracts of Virtual Rotifer Collaboratorium. These will be added to the next issue (RN 40, May 2023).

S.S.S. Sarma
Editor

Invited contribution

Letters about rotifers from early 20th century rotiferologists

My maternal Grandfather was Lewis 'Lew' MacFarland Dorsey Jr. (1885-1962). He lived in Philadelphia, Pennsylvania. He was a close friend and colleague of Frank Myers (1874-1954) who lived in various places of the northeast U.S. Their lifelong friendship revolved around little freshwater creatures called rotifers (see plate 1).

Lewis Dorsey's profession was as an architect, but his hobby was raising exotic fish, cultivating freshwater submerged plants (*Cryptocoryne*) and culturing exotic, live fish food (*Daphnia*). His *Cryptocoryne* were cultivated in large aquariums on the first floor of his home, and his *Daphnia* were raised in huge 'sinks' in his basement.

As the story goes (related to me by my Mother), one day he noticed his *Daphnia* cultures became contaminated with small creatures of unknown origin, and they were interfering with his *Daphnia* cultures! (junk sp. but I presumed *Brachionus*, *Conochilus*)....so he sought out an expert to identify them and help him get rid of them to save his cultures.

He found Frank Myers at the Academy of Natural Sciences Philadelphia who identified these interfering creatures as rotifers...and thus began Lewis Dorsey's infatuation with rotifers, and his life-long friendship and collaboration with Frank Myers.

The below letters were handed down to me from Dorsey, through my Father. They reflect a deep scientific affection for rotifers. Their personal affection and respect for each other is clear in the letters. I found it particularly pleasing to see the different 'pet' names with which they referred to each other.

[Additionally, among the letters is a separate letter from Harring to Myers (Sep 12, 1922) addressed to 'Fritzie']



Plate 1. Dorsey and Myers at ANSP (= Academy of Natural Sciences, Philadelphia) circa 1924, photograph by CREVELLE, 3445 Vaux Street, Philadelphia.

Paul Turner
 Former Editor, Rotifer News
 Email: hexarthra@netscape.net

FRANK J. MYERS,
BETHLEHEM, PA.

Dear Lew:

This is a normal semi-hard water fauna as demonstrated by comparison with lists from similar locations of which the hardness of the water is known. It appears that among the Rotifera there are many species that are able to carry on their life activities to best advantage in either hard or soft water, with many overlapping species. But, if we remember that hard water associations are rich in numbers and relatively poor in species while soft water associations are relatively poor in numbers but rich in species the significance of the above list will become apparent. If we grade the species from 1 to 10 with 1 as maximum soft water and 10 as maximum hard water, we find that there are, in the Fairmount Park list, 59 species of Ploima, 36 of which seem to thrive about as well in hard as soft water; 12 species that are found mostly oftener and in greater numbers in hard water and three typical hard-water animals. There are only 5 animals that prefer and thrive better on the soft side with no purely soft water animals. Now, we have potamogeton and ceratophyllum as our indicator plants and also the abundance of aquatic vegetation in the pond which all point to water on the hard side:

Keep your weather eye open for the two animals, sketches of which I send you, and I certainly hope you succeed in getting more.

Your Pleurotrocha will be called conus as it is shaped much like a cut-off cone and your Lecane will be called intermedia because it comes somewhere between Lecane doryssa and tenuiseta.

Sincerely,

Fritz

I have used the proper nomenclature because this is a formal list for your scientific use!

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

PH INDICATORS

Here are some examples of animals. I have never found them outside the kind of water indicated.

<u>Mediacid animals</u>	<u>Overlapping animals</u>	<u>Subalkaline animals</u>
Cathypna brachydactyla ✓ ligona ✓ mucronata ✓ satyrus ✓ pyrrha ✓ Colurus tessellatus FT Diaschiza dorseyi ✓ innesi ✓ plicata ✓ elegans ✓ pila ✓ melia ✓ perigrinus 7.4 Diceranophorus corystis FT isotheres ✓ thysanus ✓ Encentrum labrum ✓ melandocus FT Erignatha elatopis T Streptognatha mira ✓ Dinocharis cornuta ✓ Diurella armata scolia ✓ nitida Drilophagia judayi ✓ Euchlanis pellucida ✓ Eosphora thoa ✓ Lindia tecusa AK fulva ✓ annecta ✓ Metopidia cristata T Meroeuchlanis pelora ✓ neglecta ✓ Monostyla ornata ✓ Pterodina epicopta ✓ dicella ✓ angularis ✓ etc. etc. etc.	Anuraea cochlearis Polyarthra platyptera Cathypna luna ungulata Colurus obtusa bicuspidatus Cyrtona tuba Diaschiza gibba gracilis tenuior exigua eva Diceranophorus forcipatus robustus Encentrum felis circinator Dinocharis tetractis Nearly all the Diurellas Rattulids Eosphora melandocus elongata Nearly all the Floscules Oecistes Melicertas Furcularis forficula Metopidia patella ovalis Monotommata longiseta Monostyla lunaris quadridentata Noteus quadracornis Ploesoma lenticulare Pterodina patina Tparocampa annulosa etc. etc. etc. Euchlanis dilatata deflexa	All the Asplanchnas Polyarthra Brachions Cathypna ohioensis stokesi jenningsi Diaschiza hoodii megalocephalis Diceranophorus auritus ponurus Encentrum riccia Dinocharis pocillum Diplax trigona compressa Dipeuchlanis propatula Eosphora anthadis Hydatina senta Lopocharis salpina oxysternon Megalotrocha alboflavicans semibullata Lacinularia socialis Metopidia ehrenbergi Monostyla rhopalura Notpos clavulatus pelagica Octotrocha speciosa Pompolyx complanata Pterodina elliptica Scaridium eudactylosum etc. etc.

Examples of Superalkaline animals. - Asplanchna silvestrii, Brachionus mullei
Brachionus variabilis
satanicus
Diaschiza nautica
marina
Cathypna grandis
hastata
Encentrum argente
Furcularia rheinardti
Colurus ambleytelus
Encentrum marinum
Euchlanis plicata
Lindia tecusa
Ploesoma fennicum etc. etc. etc.

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N. J.

Feb. 21st 1928

Dear Lew:

Of course, came back from New York with a 8 m.m. Zeiss apochromat and have thoroughly tested it out.

I can unhesitatingly agree with Cole in that it is absolutely the grandest combination I ever worked with and at once regales most of my other objectives to the junk heap.

I can't see how anybody can want for more than a good finder, the 8 m.m. and a water-immersion $1/10$ " as the damn thing gives an absolutely critical image all the way from, in my case, 175 diameters to 540. AND here's the great point either transmittes light or dark ground! It will easily take my highest compensating ocular x20 and one must have one of these to get the real beauty out of this wonder combination. It fulfills all of Cole's 9 points with ease about which I was at first a bit skeptical. This is THE culmination of combinations and if Leitz can equal it he is a wonder.

Fitz.

(om)

Genus *Euchlanis*, (revised) to 2-21-28

Euchlanis pyriformis (This is the genuine article from England) as shown by Museum slide.

" *trulla*, n.sp. The one you have on your list as *pyriformis*.

" *para-pyriformis*, n.sp. The one on your list as Type II

" *phryne*, n.sp.

" ~~*calypso*, n.sp.~~

" *lyra*?

" *Gravelly Run*, n.sp.

" *glenburnensis*, n.sp.

" *alata*, Voronkov! This is old Voronkov's animal from Russia. and not a n.sp. he did not see its demorphosis; our animals agree with Museum slide of his.

" *dilatata*,

" *Hull's Cove - Hadlock*, n.sp.

" *para-elongata*, n.sp.

" *dilatata*, B. n.sp. On your list as *oropha*, I think, resembles a small *dilatata* with very long legs.

" *Triquetra*

" *pellucida*

" *plicata*

" *oropha*, The real thing.

" *deflexa* " " "

" *para-oropha*, n.sp.

" *minuta*, n.sp.

Dipeuchlanis propatula,

Near *Euchlanis* - *Anuraeopsis hypelasma*.

April 6th., 1938

Dear Lew:

Just a few thoughts in re. the mounting proposition. First of all, for mounting in glycerin I doubt if anything can exceed mounting in hollow ground cells, a supply of which I have, varying from cavities only 5 mm. in diameter by .15 mm in depth. As glycerin does not evaporate, such slides are absolutely permanent, provided the glycerin is anhydrous and the proper care has been taken in cleaning and sealing the cover glass. The important thing with these mounts is to have the glycerin anhydrous and the cover properly applied. There can never be any concave effect in the cover glass, as there is where 2% formalin is used, because there is nothing to evaporate, as in such type of mounts. Since introducing the small concavity, several years ago, there have been no failures. I admit, there were before, but, of course, that came from water present in the glycerin which I now extract in a dessicator, which ends all troubles, there being no evaporation.

For special mounts, Murrayite has its advantages.

For very small soft-bodied animals, like *L. inermis*, *Notommata tithasa* etc. The, what I call, gradual pressure method is used. This applies the pressure required so gradually and lightly there is no distortion. It spreads the body out, not unnaturally, but in such a way as to bring out the anatomy more clearly than without pressure. If this is tried by applying the pressure mechanically failure is certain to result.

For individuals where orientation is necessary. The capillary method is necessary. In using this method the Murrayite is run under the cover glass directly and the slide is rung rather heavily directly afterwards. Murrayite, under those conditions, where it can absorb a small excess from without the cover glass during the first few days, and provided the cell is not too thick, has the property of setting, when it becomes very hard. This is the easiest method, *and maintains a short working distance which is necessary.*

For very deep cells, where possibly the rotifers can be rolled about for orientating, the baking method is the best. Of course, if they beasts are to be rolled about as is necessary in many large soft-bodies species, and aqueous medium must be used. Some solution of glycerin, best learned by experiment on the animals to be mounted, must be used. Formalin must be avoided, as it has bad effects not only on the rotifers subjected to it for a long time, but to the cement as well.

Of course, for all rotifers that will stand it, and especially the jaws, glycerin jelly which should also be anhydrous as nearly as possible, should be used in conjunction with the capillary method, *short working distance again!*

It takes about three months for Murrayite to set hard if the ~~colitas~~ be not driven off, and then the cell dare not be too deep, or there will be shrinkage, in spite of the cements setting property.

Murrayite has the following advantages of other cements:-

Hardness when set; can be used cold; adheres to glass in presence of either water or glycerin under influence of

a certain amount heat.

What method is the best to use must be determined largely by the circumstances.

Of course, mounts by the concavity method never go bad, as they are perfectly permanent. Some such mounts have been in the Museum, and my personal collection since 1921 and are as good to-day as then, so that is ~~that~~. I cannot go back further than three and one-half years for the Murrayite mounts. But, if directions are followed and the Murrayite understood, there is no reason why they should not be permanent. All of mine in the Museum collection that have been deposited there longer than six months are perfectly *hard, no shrinkage*.

If you want a mixture that gets really hard, which is an advantage, because it is not affected, that is softens up when the temperature goes up-try good asphaltum, bees wax, gum dammar and salycilate of soda. Its disadvantage is that it must be applied warm. I have some of these, and they make beautiful looking mounts, if one cares much for beauty, that are as good as the day they were mounted six years ago.

Finally, Lewdibus! that sounds natural. Tell those persons, you were telling me about, who tried the plant method of collecting and who said it does not work, to try again. They assumed too much. A true scientist never assumes, because that is just where he goes wrong. Now, if the rotifers are not at home they cannot be caught, because they are not there. Littoral rotifers have a habit

of appearing in cycles. Bargaintown may be excellent one week and practically barren the next. Then, I have made barren collections in one spot, whilst a spot nearby, in the same body was reeking with them. If your people keep it up, they will get more rotifers than they want, over a period of time, and generally make a good haul.

I am asking a pupil of mine from New York, to be with us on May second for the demonstration at the Academy. He has very fine equipment, some of which is original, and feel sure he will make a fine addition to our corps of rotifer hounds who are going to pull the show off.

Yours, as ever,

Fitz

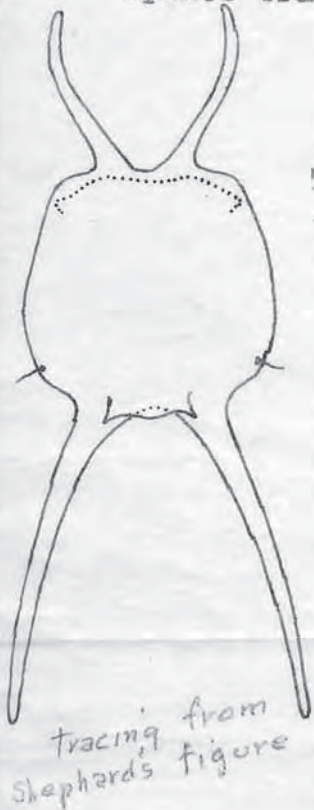
P.T. note:
this may be
Howard (chico) Taylor
Q

Dear Lewdibus:-

October, 16th., 1923

Brachionus dichotomus, Shephard

"Templestow and Black Rock, Victoria, N.S.W. Dorsally, the lorica presents a somewhat ovate shape, truncated anteriorly and provided with two long spines branching outwards so as to form a V-shaped notch between them and curving inwards at their free ends. Posteriorly two still longer straight spines are set so as to form a broad curve between them. There is also at the posterior end, overhanging the bases of the spines, a projecting plate having a gentle outward curve in the center, and then sweeping outwards at each end to form two short acute points. Ventrally the lorica shows the same outline excepting the anterior portion, which reveals a flap-like appearance with undulate edge. The lorica is transparent and very faintly stippled. The dorsal antenna is of considerable length, and the lumbar pair are very small and placed quite at the lateral edges. The long foot, corona, eye and internal organs agree with those of the genus generally. Length of lorica without spines is 120u over all 300u; breadth 100u"



Havaniensis-mollis-dolabratus and mirabilis are in the collection of American Museum and will get them for you when I go up Nov. 1st. Brachionus leydigii is a synonym for Brachionus quadratus, Rous. which is also in the Museum collection, so these slides should about fix you up. After I get them, ole top, don't show them to any of your friends as it is strictly against orders to remove specimens from Museum. But, I have a lil way of fixing that, savey.

Yours in brachmisery,

Fritzibus

December, 20th., 1925

Dear Lewdibus:-

Guess you think I have passed away or something but as there has'nt been a whole lot to write about have kept quiet. There was a time when I used to write long rambling rotifer letters whether there was any news or not, but that time has passed since you have taken your degree. I need a few of the following rotifers and need them badly-how many have you among your material that you can spare?

Brachionus mulleri -
Diaschiza gibba ✓
Diaschiza lacinulata ✓
Euchlanis triquetra -
Gastropus stylifer
Taprocampa annulosa ✓
Lopocharis salpina
Mikrocodides chlaena ✓
Macrochaetus subquadratus -
Notommata pachyura ✓
Notommata tripus ✓
Rousseletti corniculata ✓
Dicranophorus forcipatus
Diurella tigris ✓
Diurella scolia ✓
Scaridium longicaudum ✓
— Dinocharis pocillum
Proales decipiens ✓
Microcodon clavus ✓
Monostyla turbo
Pterodina elliptica

Now, you say, what the hell does Fritzie want with that material and some of them so common. Well, most of them I can get next summer, but am not quite satisfied with the mounts of them in the Museum-some little defect or other, see. I thought perhaps I could bum any good ones you might have and mount them thereby getting them in place without waiting until way next summer. Have just finished about eighty that did not quite suit.

After the excitement of the holidays is over we must have a regular old fashioned meeting and until then will keep at the mounting I am doing and a crack or two at the popular article.

Fritzibus

December, 29th., 1923

Dear Lewdibus:-

Your Brachionopsis at hand and must take your questions up in order.

No.1 Is it at all likely that the firm scale of illustration and reproduction will be a trifle large for this group.

Brachionus variabilis (See Los Angeles paper) was drawn to the firm scale and reduced 2/5 which seemed to be about right for the plate but in a whole plate full of Brachionids and where we are looking for economy of space the reduction may have to be greater. Would keep on drawing to scale as reduction can take care of it in the end.

No.2 In re-frontal spines. The frontal spines are not good characters taken by themselves. The foot opening is, possibly, the best single characteristic in the lorica, but even this varies. The combination of occipital spines, mental edge, foot-opening and shape of lorica, together with remarks on the posterior prolongations should furnish enough characters for determination. Would suggest that you call the outermost pair of occipital spines the laterals; the next pair the intermediaries and the center pair the anthers, then we will know just what spines we are talking about in the future.

No.3 In re-ventral view. As the drawings will be in outline, if you show a dorsal view/with the mental edge and foot opening in dots, tradition will be preserved with no loss in accuracy. AND don't forget the lateral antennae as a variation of position in species as, for instance, Brachionus patulus macrocanthus, Daday and Brachionus forficula, Wierzesky may be good characteristics.

No.4 In re-empty loricas. Have never tried to dissolve out the inards of any Brachionid but this method should be a valuable help as the action of javelle water can be retarded and stopped at any

July, 3rd., 1924

Dear Lew:-

Got the sketch all right, but what the hell is it? Now, here's what you must do if you can get some more material. Try and be sure about the eyes; most *Encentrum*s have none. Try and determine whether or no there is a Retro-cerebral organ; if the bladder functions as usual or is the end of the cloaca, as in some cases. Try and get a peep at the corona to find out whether it is prone or oblique and if the beast has any kind of a hood or rostrum. The jaws certainly look as if the animal is ~~an~~ *Encentrum*. If so, it is certainly new. *Encentrum* *argente*, Herring, is a marine animal which lets it out. *Encentrum* *ricciae*, Herring, has jaws entirely different than those shown by you. *E. argente* figured in Report of Canadian Arctic Expedition 1913-1918, Part E Rotatoria. *E. ricciae*, Herring is figured in A List of the Rotatoria of Washington and Vicinity, with descriptions of a New Genus and ten New Species; *Proc. U.S.N.M.*, Vol. 46 Dec. 1913. Get as much evidence on the beast as you can and later in the summer we will run it to cover properly.

On next Monday morning two-thirds of the Corporation leave Ventnor to pursue the wiley beasts of Mt. Desert. The inactive third of the firm tells me, at least, that he will arrive here Sunday next all prepared to go and, take it from me, he is going to have some chase as I expect to keep him on the jump and extract a ton or two of information, even if I have to use a can-opener and force on him, while there. He told me, in his last, that he had received more information from us than we ever did from him, which is just plain lying, as you know.

Now, keep after them, ole sport, and when we return will be all ready and set to GO.

Frank

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N. J.

Nov. 7" 1927

Dear Ludibus:

Just received a letter from Harry and he ends thusly: 'Don't forget to give Leo a dig now and then on those Euehlauids'. So, here is dig no I. McCosmen No. IV will be out shortly and soon after that, they will begin howling for copy for a new paper. I am, and have been for some time, working hard on the Monommatas, trying my best to untangle them and am getting there slowly. Harry is at work on the remaining Monommatas and is slowly working them out. Now, old top, use your eyes and noodle and give the world something worth while and something they don't know a damn thing about, by digging out the Euehlauids. Here is your big chance to go down into posterity as having really done something

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N. J.

in adding to human knowledge.
And, you will receive full credit in
next paper, something like this.

Genus Euchlanis by Dr. L. M. Dorsey.
Phila.

The authors are greatly indebted to
Dr. Dorsey, for his interest and etc. etc.
for taking charge of and elucidating this
difficult genus. et cetera.

Wisconsin. No IV

Harring and Myers - Helomnata - Monomnata
L. M. Dorsey, Jr. Euchlanis.

Now, fellow, the scientific world has its
eyes on you. Go ahead and don't
disappoint your old friend Fritz who
has much faith in you and
knows you will make good, just,
work out the damn brack, but you can,
then we'll go over them and look for the
holes, and leave the nomenclature to Harring.

Here is the way the firm now stands
Research - Dr. Myers - Dr. Dorsey.

Nomenclature - Tronomy - The late H. K. Harring.

Coming along slowly - Dr. Raymond C. Petrie Spiritual Advisor

P.S. Every week or so I shall continue to feed you up! Fritz

May, 11th., 1923.

Dear Lewdibus:-

Good I got yours this morning as I am about to leave with the good wife for Wernersville to be gone until the 22nd. of the month. She is sadly in need of the change and is going to take the batns etc., while hubby lolls about and forgets the rotifers for awhile.

Now, here is the "dope" if it suits you all right.

I will leave here in the Rotifer Special about five O'clock on Thursday evening, May, 24th., and proceed to the parking space at the North Philadelphia Station where I should be at about eight o'clock. I will there pick up L.M. Dorsey, Jr. and proceed to his residence as I am sure I could not find it without his guidance.

In the mean time he will have-on the way home, in the afternoon-picked up a collection in the Park which will give us something to go over that evening.

On Friday morning, May, 25th., we will proceed to Rock Hill which will keep us busy that day. As the Special is roomy ^{or two} would suggest you ask one/of you aspiring Rotifer friends to go with us if you care to as the experience would be worth while.

On Saturday, May, 25th., as per suggestion of L.M. Dorsey, Jr. Would suggest going over into Jersey by way of Tacony-Palmyra ferry and scouting to Haddonfield returning by way of Market Street Ferry; but that is for you to say.

On Sunday, May, 26th., ??????????????????????????????

On Monday, May, 27th., early start for Ventnor, which will give us a full Sunday.

Rock Hill, Pa.

Old pools along rail-road track, May, 25th., 1923 pH, 6.8

Predominating aquatics, Sphagnum, rare-Fontinalis, sp? abundant-Anacharis, few-Algae, abundant-Ceratophyllum, few-Nitella, rare-Potamogeton, abundant-Utricularia, few-Cabomba, common-Myriophyllum proserpinacoides, common-Stentor, rare (I always note the Stentors as where they are abundant our animals are always rare as it indicates a foul condition which rotifers cannot stand) Diatoms and Desmids, common.

The flora with the pH value give us an almost typical neutral association of rotifera.

ROTIFERA

Testudinella patina, r parva, f

Lecane flexilis, c

clara, a

luna, c

ungulata, c

Trichocerca mucosa, f

longiseta, f

lernis, f

pusilla, c

bicuspes, r

Lepadella acuminata, f

triptera, r

patella, a

Monostyla quadridentata, r

closterocerca, f

bulia, r

lunaris, c

Ascomorpha eucadis, f

Trichotria similis, f

tetractis, f

Dicranophorus lutkeni, r

forcipatus, f

Euchlanis dilatata, r

triquetra, a

Notommata copeus, c

aurita, c

cyrtopus, c

copeus (male) r

lenis, f

contorta, f

pachyura triangularis, r

Cephalodella atomus, r apocolea, r

exigua, r

sterea illustris, r

auriculata, a

gracilis, a

hoodii, f

Proales decipiens, a

Salpina ventralis, r

Lindia pallida, f

Ploesoma lenticulare, r

Scaridium longicaudum, f

Monommata longiseta, f

Stephnops mutica, c

Mikrocodides chlaena, f

Melicerata ornata, r

Taprocampa annulosa, f

The encouraging thing about this list is the fact that ^{most of} the common indifferent species all occur in small numbers which points possibly to better things later.

WHEN you return to Rock Hill remember this. Please save and narcotize as well as possible all the Taprocampa annulosa you see as it may possibly turn out to be something new and DIFFERENT! *important*

See enclosed sketch.

FRANK J. MYERS,
BETHLEHEM, PA.

Fairmount Park, May, 27th., 1923

Two bottles filled with Riccia along North shore contained nothing but Keratella serrulata, aaaa and Proales decipiens, f; Entomostraca, c showing a condition of survival probably due to the sudden heating of the shallow water during last few days together with a probable change of .2 to .4 in the pH value.

BRISTOL MILL POND Bristol, Pa.

May, 27th., 1923 pH, 6.8
Predominating aquatics; Lemna, few; Anacharis, common; Ceratophyllum, common;
Nitella, few; Potamogeton, abundant; Myriophyllum, abundant; Utricularia,
abundant; Cabomba, abundant; Stentor, rare.
Flora together with the pH value indicate a typical neutral association.

ROTIFERA

Euchlanis triquetra, a
pyriformis, r
dilatata, r
Trichocerca longiseta, a
bicuspes, a
flavus, a
mucosa, a
Proales decipiens, a
sordida, r
petromyzon, f
Cephalodella eva, r
lacinularia, a
exigua, a
gracilis, a
tenuior, c caeca, f hoodii, f
Notommata tripus, a aurita, f
copeus, c
pseudocerberus, r
pachyura, r
pachyura triangularis, r
Monostyla closteroerca, c
lunaris, c
Lepadella ovalis, f
patella, a
triptera, f
Diurella cavia, a
tenuior, f
porcellus, c
Asplanchnopus multiceps, c
Keratella serrulata, c
Searidium longicaudum, c
Dicranophorus forcipatus, r
Testudinella parva, f
patina, f
Philodina citrina, a
Squatinella mutica, f
Synchaeta stylata, r
pectinata, r
tremula, f
Conochilus hippocrepis, r
Brachionus patulus, r
Lecane ploenensis, r
luna, r unguata, r
Philodina megalotrocha, c
Mikrocodides chlaena, r
Monommata longiseta, f

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

August, 3rd., 1923

Dear Lewdibus:-

Got home last evening and found yours waiting.

Had a wonderful time up at the Island. The environment was great, about thirty scientists all working along their favorite lines, some living in tents near the Laboratory; the rest boarding at farm houses in the near vicinity. The Laboratory has a common dining hall, cook and two waiters where everybody meets three times a day to eat and gas, mostly gas when I was around.

Was travelling in pretty fast company as Dr. Miner and self sat at the same table with Dr. and Mrs. Dalhgreen, Prof. of Zoology, Princeton and Dr. and Mrs. Neil, Prof. of Zoology at Tufts. Well, ole man, I held my own and certainly put the ole Rotifers on the map up there. Tell you more about it when I see you. Oh, yes! Dr. Miner and self lived at the Justice of the Peace's house. He made a quarter during the two weeks I was there for signing a paper-real rube stuff. My room cost me four beans a week and the eats at the hall were seven!! So you can see that it was awfully expensive. Eleven beans a week for a good bed and three square meals a day. Be that as it may, there ARE certainly ROTIFERS up that way and I verily believe the whole state of Maine is the original focus of infection. The trip up and down was wonderful. Three days up-Ventnor to Springfield, Mass. first day-Springfield, Mass. to Wiscasset, Me. second day-Wiscasset, Me. to Salisbury Cove, Me. third day. Total, 773 miles. Returning, Salisbury Cove to Portland, Me. first day-Portland Me., to Providence, R.I. second day-Providence, R.I. to Elizabeth, N.J. third day-Elizabeth, N.J. to Ventnor, fourth day, Total, 707 miles. We ran 593 miles around the Island collecting etc. which leaves a grand total of 2073 which made a nice lil trip.

September, 19th., 1922

Dear Lewdibus:

Yours at hand and am glad to hear you are going after *Proales wernecki* intensively-good luck to you. I am not going away until sometime in November as I feel fine just now and will wait until then for a change.

Are all set for the Rotifer Convention. Harring will get here Saturday evening, September, 30th. and perhaps, if you could arrange it, it would be a good idea to come down on Saturday morning and we could go over stock slides and mounting problems until he arrived. When he comes he will be all for collecting, of course, and you will be getting a lot of stuff for your collection that you have not. See.

Now, since the advent of D.I.P. cement, I proceed in three ways-all of which are good.

1st. method For small and medium size loricated animals. Capillary method. Animals do not have to be infiltrated in glycerine but are removed directly from preserving fluid.

a-For small and medium illoricated animals. Same as above but animals are infiltrated first.

2nd. method For large animals. Capillary method using deep supports and mounting in 2% formalin solution. As formic aldehyde gas is liberated freely for about 36 hours after warming slide, mount should not be sealed until all air bubbles have ceased to appear. Bubbles easily removed by hot needle method.

3rd. method For large colonial animals. Mounted directly in 2% formalin in hollow ground slip using "ring of perfect contact" method.

Cladocera Remove directly from alcohol into glycerine and mount by capillary method in cell with thick supports.

Fritz method

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

December, 5th., 1922

TAXONOMY

From a once dominant position taxonomy has apparently fallen to-day one must reluctantly confess, into rather lower repute in the mind of the general biological public. Neither our professors nor our students of biology appear, with a few brilliant exceptions, to be interested in it. One forms the impression that four fifths of the Ph.D.'s turned out in zoology at the present time not only never have, but probably never will, for themselves, identify an animal strange to them, and as for deciding whether the unknown creature has been previously described, or placing it in proper taxonomic relation to its nearest relatives, such a problem would be absolutely beyond their powers.

It is beyond question that if a young man embarking on a biological career has a desire to make an enduring contribution to knowledge, of permanent value, and incapable of being upset by any future developments of the subject, his best chance of doing this laudable thing is by becoming a careful, accurate taxonomist. If he describes accurately, carefully and completely a hitherto undescribed species of animal in such a way that anyone who reads carefully the description can recognize and identify the thing described, he has chiseled for himself an indelible record in the history of man's intellectual progress.

The labors of the taxonomist have alone given us such a picture as we have of the inter-relations, unity in diversity, and diversity in unity, of animate nature as a whole. It is the taxonomist who has furnished the bricks with which the whole structure of biological

March, 13th., 1923

Dear Lewdibus:-

Glad you gave Pine Valley an early call, but believe it was just a bit too early as the time to begin is just when the grass begins to show a greenish tint turning from the characteristic winter brown and that is pretty darn soon now.

Now am going after your Brachionus questions in order.

No.1 You have figured all except macrocanthus and mirus. What do they look like? Forget 'em both as they have no value! Synonyms.

No.2 H.K.H. chucks variabilis in with capsiliflorus et al. Do you not regard this as a valid species? Yes, and he agrees with me.

No.3 Dolabratus and Pterodinoides. I presume are new since the Synopsis. Who are their authors as I have no dope except those figures you gave me? Dolabratus, Harring. See his Panama paper! Pterodinoides, Rousselet. A subalkaline animal from Devil's Lake, N.D. Specific name means Pterodina like on account of its great resemblance to a Pterodina, especially in the position of the foot-opening situated just below the middle on the ventral plate, a most unusual position in Brachionus but usual in Pterodina. May easily be mistaken for a Pterodina but the presence of two toes instead of a ciliated cup give it away at once. Journ. Queck. Mic. Club, April, 1913 Vol. 12

No.4 What does mollis look like outside the toes. Good question, which takes me back to the time I was struggling along with the Jennings material and found it the first time. Circumneutral animal. Lorica very thin and flexible-like pala, smooth, oval in outline; dorsal surface gibbous; ventral surface slightly convex; no spines of any kind; toes and dorsal antenna very characteristic. Am enclosing my first sketch of the beast from my note-book which teaches us what a good

it is to make sketches of animals we don't understand as we have a record for future reference and, besides, are not apt to forget the brute.

Bulletin Ill. State Lab. of Nat. Hist. 1890 Vol. 4

No. 5 Quadratus does 'nt get hell room in the Shop. Either-How about it?

Wrong, ole feller, just turn to the bottom of page 21 Then for a good picture of quadratus and leydigi, which Haring makes synonyms without having seen Leydigi-perhaps he was wrong-just turn to page 210 of your Susswasserfauna Deutschlands!

I thought you had furculatus, havanaensis, pterodinoïdes and dolabratus. You did not mark them.

Well, that should clear up the genus considerably. We must get a name for the Clementon beast and, as you say, there surely should be others there and it would be nice to get about a dozen so we would have enough to go around.

Fritzmollis

April, 16th., 1923

Dear Lewdibus:-

As the weather seems to have finally settled I was just wondering if you could not make good that recent threat and bring down a collection from the Park next Sunday.

Perhaps you could go round that way and get it on way to the train as don't know a place around here where I can get a single *Diaschiza megaloccephalia*. I am anxious to get *Diaschiza forficula* (*Furcularia forficula*) also and while it is a cosmopolitan beast, it leans toward circumneutral associations and at times is hard to find down here but common as dirt in typical circumneutral waters. Perhaps, if you don't ward them before hand a couple may crawl into your bottle which would be welcome, indeed. Am placing old *Furcularia* among the *Diaschizas* and must tell just why by means of the jaws which prove that it belongs there.

If I don't hear from you to the contrary, I will be waiting for you next Sunday in anxious suspense.

Fritz

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

September, 9th., 1922

Dear Lewdibus:

Am in the Lab. and at it again although I have'nt a whole lot of "pep" but am getting there fast.

Have some more "dopd" on our D.I.P. mounting, here it is:-

Plain parafine is too greasy to use in permanent mounting and sooner or later gets away from the glass. The gum damar and para-rubber in D.I.P. are there to get away from this and makes it stick to glass very tightly so cover never comes off.

The great point is, I am sure, to float the mount on cold water while warm. Sometimes I re-melt and float twice to be sure of a good, strong contact.

If you ring your mounts be sure to ring first with an alcoholic cement-such as plain shelac dissolved in alcohol, as this has no action on D.I.P. If you use any other it will dissolve the cement. After the first coat you can use any old cement to finish with.

Next, send me a list of what Brachionus slides or material you have. In your mounting it is best to take up one group at a time. As I have some very good Brachionus material, I will let you have what you have not, then make a series of Brachionus slides putting one perfect Brachionus or at most two in each. The National Museum only allows one type per slide. The American any number. Personally I like one best for, provided it is a good specimen there is no room for confusion. If you will let me have a list of Brachionus species you have, I will send you nearly all the rest and you can take up each group in that way. What say you-if

start a collection in this way when you are Research Associate,
Academy Natural Sciences, some day, it will be invaluable and you
can turn it over to them, for which they will be very thankful-
just as I did, and it will be better and safer there than in your
own cabinet which you can use as a supply department.

Fritzionus

The Annual Rotiferfest is from October, 1st. until 15th., to which
you are welcome for 15 full days or just as long and many times
as you can spare us. Details later.

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

September, 11th., 1922

Dear Lewdibus:

What a dummy I am! Here I went and wrote you what I know about *Stephnopa* and said nothing at all about *Pleurotrocha* which, of course, I intended to do but that darn old nurse must have come along with a pill about that time and I closed abruptly. Well, she went back to Bethlehem to-day and I am discharged as cured. Amen and then some.

We don't know much about *Pleurotrocha*-that is you and me and the rest of the common Rotifer hounds, but I believe the Old Man has something up his sleeve that nobody knows and you can bet he has found out a difference, which is constant, for the genus and separates it with a nice, little sharp line from its allies *Proales* and *Notommata*; also, bet you it is a trophial difference.

Well, here goes: *Pleurotrocha* is superficially just like any old *Notommata* or *Proales*, with these differences;

Corona reduced to a ciliation nearly circular all above the mouth which is at the distal end of the buccal plate and consists of an area of cilia regularly disposed; there are two lateral tufts of long cilia taking the place of auricles.

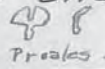
There is no retro-cerebral sac.

There you are.

There is just one very good *proales* that has a posterior spine like our animal and that is *Proales caudata*, Bilfinger. This is a good animal and resembles our beast but the mouth is nearly in the center of the buccal plate which makes it a *proales* together with the jaws. *Proales* has not the long fulcrum for attachment of hypopharynx that *Notommata* has



(Int.)



Proales.

Now, the reason I called our animal a Pleurotrocha was, on examining it I thought the mouth was all below the corona. The first animal that came to my mind was Proales caudata which it resembles in that it has a very similar spine.

Now, here is a good excuse for a wrangle with the Ole Man, of course if he is willing to wrangle, which he never is being as he is most always right. Anyway, I think I am going to bust his Stephnops theory this time unless he has something up his sleeve that I don't know and is just waiting for the Rotifer Fest to bring yours truly back to earth.

Anyway, we will boldly cast it in his teeth and make him SHOW US.

Fritztrocha

Sept. 12, 1922.

Dear Fritzie:

It sure is good to know that you are safely out of the clutches of that old nurse; nobody rejoices any more than I. As to the D. I. P. cement, all my knowledge comes from an article in the J. Q. Mi. Club: E. D. Evens, Fluid mounting. J. Q. Mi. Club, #87, Nov. 1921, pp. 221 - 224. About all the milk in the cocoanut is the recipe for the cement and the method of using it, as I have given you; he gives some historic and chemical data as an introduction, which could without much loss have been left out, and some additional data on a cement for ringing the slides, but with your method that is superfluous. I will bring the number with me, when the battle opens.

I wish you would finish up a slide in your latest style, and I will send it to Mrs. Clarke, and let her demonstrate it at their Quekett meeting for you. I just had a letter from her the other day; she says they are all discussing the Notommatids now, and arguing the differences between *Lindia pallida* and *torulosa* etc! and how she put her foot in it by talking about a Rattulid; they are all using the Synopsis now! She wishes me to send you her personal thanks for the Not, paper and hopes to meet you when she gets back to ole U. S.

When are you going to the Mountains? Let me know when you expect to be back. Tried for *Vaucheria*, but the rock it was supposed to grow on, was dry as a bone.

From what Mrs. Clarke says, I do not expect we will get much out of Bryce in the way of Bdelloids. Do you think we can

persuade L. M. D. to make himself a specialist on this group?
Of course, he would not necessarily have to neglect the others.
In truth, I do not believe the subject is so very formidable:
with your key and a little additional time spent on them, I be-
lieve it could be mastered, don't you?

Best wishes for Mrs. Myers and your own self

Sincerely

Harry.

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

July, 11th., 1922

Dear Lewatson:

Received yours this morning and am glad to hear that Fairmount Park is still going. Yes, *Notommata pachyura* should be there as it is an overlapping animal and have found it abundantly in water from subalkaline to mediacid.

Now, I am going to add a bit more interest to your research work in that I am having a Field Indicator Set sent you which you should receive in a few days and always take it with you on collecting trips so you can determine the specific acid or alkaline reaction of a body of water in the field. This little set is for soil reactions but works just as well for water.

In the distribution problems we used to just guess at the water but this is more accurate and gives a fine line on just what to expect in a given body of water.

There are certain rotifers-just like plants-that are found, for instance, in mediacid about 300-that are not found in any other kind of water and conversely there is a rotifer fauna found in subalkaline about 30- that is not found elsewhere. Then, of course, there are overlapping species. See Proceedings of The Academy of Natural Sciences of Philadelphia, Vol. LXXII, Part, 1 January-April, 1920 article called "Correlation between Vegetation and Soil Acidity in Southern New Jersey" This is the article that gave me the idea, but knew the relation existed as hard and soft-water animals. Now, this paper should be easy for you to get at the Academy, ole top, so get it and digest it as it might have been just as well ~~been~~ written for Rotifers.

7-18-22

Additions to Phila list :-

- Microcodides chlaena* (see H-G.)
✓ *Taprocampa selenura* " " FOUND LMD. JUNE 8. 1926
✓ *Eosphora melandocus* (see Wis. paper)
✓ " *thoa* (H-M undescribed)
✓ *Metopidia rhomboides* (see Harning paper)
✓ *Limnia's annulatus* (see H-G)
✓ *Notommata inopinatus* = (unexpected) own NEW one!
THOPICA

Found these after you left in
evening together with two more
new *Notommatas*.

Am nearly ready to draw
the last. Just a few points
from material after infilterated.

Fitz

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

September, 8th., 1922

Dear Lewdibus:

Yours at hand and am glad you made the mounting demonstration last evening as it should help a whole lot to get fellows recording their findings in some kind of shape. One little point; be sure the glass on which you do the mounting and bounded by the limits of the cover-glass is polished as clean as it is possible to get it before running under the warm D.I.P. as this allows it to spread evenly under the cover-glass. Where it is not clean and polished the flow of the D.I.P. will be retarded and the rest running around will form unsightly air-bubbles.

Here is about all we know about the Genus *Stephnops* at present and am sure it needs a going over:-

Body----	ovoid, fusiform or pyriform sometimes compressed dorso- ventrally.	Our specimen-may fit
Foot----	terminal, elongate, segmented, straight, non-retractile.	" no
Toes----	conical, sharp, straight or curved.	" yes
Lorica--	transparant of 2 plates soldered together at edges.	" no, ours has good, healthy claws.
Mouth --	antero-ventral.	" is illoricate. " ????
Shield--	semi-circular, large, hyaline, anterior soldered to lorica.	" ours has none.
Body ---	with keel-like ridge sometimes with strong spine or spines.	" ours has none
Posterior lobe--	round, toothed or spined, sometimes covering part of foot.	" ours has none
Head ----	non contractile	" ???? must see alive for this.
Corona---	post-oral segments with long cilia; peri-buccal cilia short.	" don't think so
Unci ----	2 or 3 teeth, symmetrical	" ????
Lateral canals--	3 vibratile tags on each side.	" must be seen alive for this.
Contractile vacuole--	very large.	" normal.
Retro Cerebral Sac--	wanting	" normal.
Eyes ---	two latero, frontal or cervical	" wanting ?

Now, Herring has a new *Stephanops* from Washington which has, I believe, no lorica and shield is very much reduced but do not know the animal well enough to speak with authority about it. Of course, the affinities between many of the small Genera like *Stephanops* are little understood to-day as the old fellows paid too much attention on to superficial shape and form and missed the salient characteristics altogether. As Herring says, the jaws will probably tell the tale as they appear to be quite the best general characteristic we have.

Fritzanops

at present and we are it needs a going over:-	
Body----	cold, translucent or pyroform
no	sometimes compressed dorso-
"	ventrally.
Yes	terminal, elongate, segmented.
no ours	straight, non-retractile.
has good, healthy claws.	conical, sharp, straight or
no ours	curved.
is illiterate.	transparent of 2 plates
1111	soldered together at edges.
	mouth -- antero-ventral
our has none.	bilobed--ventral, large, hyaline.
our has none	anterior soldered to lorica.
	body -- with keel-like ridge sometimes
	with strong spine or spines.
our has none	posterior lobes--round, toothed or spined.
will must see	sometimes covering part of foot.
alive for life.	head ---- non contractile
don't think so	cornea -- post-bulb segments with long
1111	oligo- or bi-segmental eyes short.
	ant. ---- 2 or 3 feet, very muscular
what he seen alive	lateral ocellus -- 2 tripartite legs on each
for this.	abdom.
normal.	contractile venous--very large.
normal.	recto-ventral sac--warty
warting?	yes -- two lateral, dorsal or ventral

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR. N.J.

March, 31st., 1922

Dear Lewdibus:

There is a wonderful bit of collecting country about three miles South of Quakertown, Pa., of which I have known a long time and where I made several collections in my embryonic stage of Rotifer work. I have had a blue mark under this location ever since as I scooped up a new *Diglena* and a new *Diaschiza* at one fell swoop there long ago.

Sometime between the 15th. of May and the 15th. of June I am going to get out the Kissel-take Jake along to do any heavy work that may turn up-and go to Quakertown for two or three days, giving that beautiful little trap-rock region a rather intensive Rotifer survey.

I certainly would be glad to stop and pick up my friend Dorsey on the way as I know, full well, that four eyes are better than two, and I hereby invite him to join the party as my guest.

Now, Lew, as you are nearer Quakertown than I am and can probably find out much easier-would you be so kind as to let me know the name of the best-I suppose there is only one hotel there. I should like to write, after the date is definitely settled, and let the proprietor know just what I want. You see, I generally tell 'em what we are after and have a decent table put in the room.

Brought your compressor back from Washington and I call it SOME COMPRESSOR. Will keep it until I see you as I actually hate to trust it to the mail.

As ever,

Fritzibus

April, 10th., 1922

Dear Lewdibus:

Good morning! and here I am, at you again, by golly! it isn't going to be my fault if you don't learn your Rotifers. But, I guess, the time is comin darn quick where it is going to be a case to the blind leading the blind and instead of tellin you I'll be askin you and nobody will be gladder to see you arrive there than yours truly AND it won't be long either according to the progress you are makin and the way you are going at em.

Well, now for brass tacks, and a little Diaschiza stuff this morning.

First of all, there is a beast in that Scottish paper of Murray's that he makes a fuss about and calls Notommata pumila. Those fellers over there just loved to describe a new species from a single preserved specimen without verifying the beast from life - there are numerous such cases - which afterwards make trouble for Harring, Myers, Dorsey Co. Limited. Well, to make a long story short, just cross off that animal Notommata pumila and put it down as a poorly described Cathypna!.

Now, for some Diaschizas.

The little enclosed proofs were treated just like Macrotrachela natans, which you are going to send to Harring, will be treated. The brown tint gives a more life-like appearance and I believe they will ultimately appear that way. Besides, we then put in the little red eyes by hand, as I have done, so there is no doubt about them.

No. 1 Diaschiza parasitica, first figured by Jennings in his paper Rotatoria of the United States - I believe you have it - under the name Pleurotrocha parasitica. He didn't look 38 the

jaws hard enough or he would have found the secret of its being. Found in water fairly rich in Calcium chloride hanging on to the skin of the Oligochaet, *Naias lacustris*. Not recorded from Jersey, found in abundance among *Ceratophyllum* on *Naias* in Mamie Lake, Wisconsin. You should find it around Phila.

No.2 *Diaschiza upodia*-I found this beast among collections of Jennings from Lake Erie and Michigan. He was getting material for the above paper. This was common in Huron River, Mich. above dam-whatever that means. Habitat about same as above.

No.3 *Diaschiza elongata*-Gravelly Run, among floating sphagnum. Haring found this in material I sent him back in 1916. Have found one or two specimens since. It appears to be a rare animal living in soft water poor in calcium and showing acid reaction.

No.4 *Diaschiza tenuiseta*, Burn. Described in detail in the Dixon-nüttal paper-you have it. While it is undoubtedly the same beast the American species have no such long toes as Dix figures, besides I have never found it outside either salt or brackish water.

No.5 *Diaschiza perigrinus*-Can be diagnosed at once from all others by the distinct claws at end of toes. First found in Starvation Lake, Wis. afterwards common at Bargaintown. Habitat same as *D. elongata*.

No.6 *Diaschiza sterea*. A revision of one of Dix-nuts. If you are dirty enough to put a net in the rottenest old smelly cow-pool in the stinkiest barn-your you can find, you are apt to pull this feller out. Nuff said!

No.7 *Diaschiza belone*. Holds the two long toes tight together while swimming, so thought it was a *Rattulus* until a little formalin revealed the fact that there were two toes. Rest 39y

as the beast is so small and utterly distinctive that anything more is unnecessary. Habitat same as elongata.

No. 8 *Diaschiza hyalinus*-First found in decadent lake about one mile East of Eagle River, Wis. afterwards at Bargaintown. Toes entirely unlike any other *Diaschiza*-has a bristle on end. Habitat, same as No. 7

No. 9 *Diaschiza paeta*, Gosse. Have come to the conclusion this is the species that ole Gosse was wrestling with in H and G. He mistakes the ~~stomach~~ gastric glands for the eye, of course, and his description of the Habits are much better than his description of the animal. It can be identified at once by its small size, absence of eye, relatively tremendous toes and slow, graceful, deliberate and stately, if I may use that term ^{way} of gliding through the water.

No. 10 *Diaschiza plicata*, Can be identified at once by the deeply cleft lorica, the presence of symbiotic zoochlorella in the somatic cavity or archicoele (look 'em up) the cervical eye and decurved toes. Nearest relative, *Diaschiza hoodii*. Habitat, same as No. 8 Starvation Lake, Wis. afterwards Bargaintown.

No. 11 *Diaschiza nautica* We caught this feller on our Fest last August in brackish ditch near Absecon. Cannot be missed as it comes from salt water and has TWO frontal eyes, notice toes!

No. 12 *Diaschiza lepidus*-Unnamed Lake near Eagle River, Wis. is the only recorded location. The absence of eye and straight toes are distinctive features. A negative beast which may be rejected later unless again verified in the field.

No. 13 *Diaschiza lacuna*-Oceanville. The remarks about No. 12 apply to this beast also. Possibly a variation of the Jersey form of *D. caeca* but have not made up my mind about this yet. More material later.

FRANK J. MYERS,
BETHLEHEM, PA.

The above 13 Diaschizas are not in any significant sequence but simply selected on account of little technical details in the drawing of, which I wished to verify under reproduction conditions. There will be another batch in about two weeks when you can expect another epistle something like this.

Now, Lew, how about the week end of April 23rd. for down here. You might come on Friday or Saturday and stay until Sunday evening or anything you like-I have nothing on at all for that week and the beasts will be out-at least the spring species-and we can get in some good preliminary work before the Quakertown expedition.

How, bout it?

Sincerely,

Fritzibus Rotarious

cheif pest to

His Eminence Lewdibus Dorseyi

October, 18th., 1921

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

Dear Lew:

First of all, thou art a damn poor correspondent, but be that as it may, the time has arrived when you can do the Rotifer Corporation a real service and that is to find and send me some *Notommata wernecki* (*Proales wernecki*) This little beast appears to be rare around here and as the time has arrived to describe it over again must have some living examples if possible. Here are some hints about it. First, you can't miss it if you get it as it is only found in one place and that is forming galls in the coenocytic algae Vaucheria and where found is plentiful. *Vaucheria* is easily identified because it grows in tuft like mats and the endochrome is dispersed through the filament not clustered in any way and, most important of all, it is coenocytic, that is, there are no cell divisions in the individual filaments but each one a complete little tube with no internal divisions. Here is a list of habitats for the algae.

Vaucheria = Filaments growing in tufts, green, unicellular. Plant consists of a single elongate, tubular, coenocytic filament more or less branched, endochrome rather evenly distributed on inside of the walls and consist of green granules with minute oil drops imbedded.

Habitats = Ditches and marshy places around lime, stone springs.

Intermingled with aquatics near river banks.

Springs and actively running water. (Supposed to be abundant around Phila. (*Vaucheria sericea* and *Vaucheria aversa*))

Ditches and Ponds

Aquaria in green-houses. (Burk's, Barret's)

Small pools along banks of rivers and creeks

The reason, I suppose, it is hard to locate around here is that

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

possibly it prefers harder more alkaline water. The rotifers are always found inside the filaments inhabiting galls which they form and the galls can be easily seen with the hand magnifier.

Now, Lew, do you think you could locate the beast, or must I run up one of these days and tackle it together. Personally I believe you can capture the ferocious animal unaded but call for help if you need it.

Sincerely,

Fritz

October, 23rd., 1921

Dear Lew:

As I am going away to-morrow for the whole week, I just got at those collections on reaching home this evening and now it is bed time and have just finished going over them.

Here is the list I found in your bottle. First of all I was mighty happy to find at least a dozen examples of a little *Metopidia* with a rather long, squarish lorica and foot projecting considerably behind with short toes. There was only one rather imperfect example of this new *Metopidia* in captivity before this evening and that was from the State Fish Hatchery, six miles Southwest of Madison, Wis. and was almost afraid to risk describing it on this scant evidence; but now, we are all right old man, thanks to you. Bully find!

Your next best is an undescribed *Monostyla*, examples of which I have wanted as my two are not what you could call very good. This *Monostyla* was first found at Eagle River, Wis. and comes nearest to *M. bulla*. It has not the long, oval outline of *bulla* but is very stout with a rhomboid lorica and the toe goes to a fine point without any evidence of the well marked claw of *M. bulla*.

Here are the rest-the ones I was able to recognize in such a small space of time.

FAIRMOUNT PARK

- ✓ *Cathypna unguolata*, not *acronycha* ✓
- ✓ *Pterodina patina*
- ✓ *Salpina ventralis*
- ✓ *Monostyla bulla*
- ✓ *Scaridium longicaudum*
- ✓ *Dissotrocha aculeata*
- ✓ *Metopidia patella*
- ✓ *Monostyla crenata*
- ✓ *Diaschiza gracilis*
- ✓ *Diaschiza lacinulata*
- ✓ *Colurus obtusa*

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

August, 28th., 1921

Dear Lew:

Your last at hand and am glad to hear that you had such good success in Delaware. Your list shows an odd mixture of soft, hard and cosmopolitan species in following order:

Cosmopolitan, -*Monostyla quadridentata* with a leaning towards hard water.
Cyrtonia tuba, same.
Brachionus bakerii, same.
Monostyla bulls, same.
Monostyla lunaris, strictly cosmopolitan.
Polyarthra platyptera, same.
Diglena forcilata, same
Pterodina patina, same.
Scaridium longicaudum, same
Diurella porcellus, same.
Salpina ventralis, hard water animal.
Dinocharis pocillum, same
Dinocharis collinsii, soft water animal.
Euchlanis pellucida, same.
Lepadella quinquecostata, same.

From the above list, I should say that your lake is neither very hard or very soft water but somewhere between the two which is a very good condition for the Rotifer hunter. Of course a more extended list with some idea of the relative numbers of individual species in a collection might swing the final conclusion either way, you know.

How would you like to help with inking in some of the figures when the time comes? It would be a fine way of learning the animals and the technique will be quite simple as there will be no wash work for the following bulletins. This first is the 50 anniversary number of the State Surver and will be more elaborate than the following. I will send you the drawing from time to time all ready to be inked in with a sample already inked in for your guidance in technique. I hope this is not imposing on good nature, but when the time comes, I really believe, Lew it will be an education in learning species and you will get full credit in the papers.

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

September, 8th., 1921

Dear Lew:

As you know Osmic Acid quickly forms numerous crystals in the water here in N.J. and also in Wis. so have been looking around for another method of killing and fixing which would give as good results without the drawbacks of osmic and have found the following to give beautiful results fixing tissue and organs almost as in life.

After animals are narcotized kill in a small quantity of water by adding a solution (saturated in distilled water) of bichloride of mercury acidified with 1 % glacial acetic acid.

Animals are fixed when they are opaque throughout which takes only a very short time.

Wash out fixing solution with water to which enough iodine has been added to color a light wine tint.

Animals fixed as above clear beautifully during concentration in the glycerene and altogether is the best method I have found so far as there is no danger of the animals turning black from osmic, no crystals, fumes etc. etc. It is better than the straight formalin as the various organs do not tend to fuse together nor get fluffy but if carried out correctly, stand out beautifully.

Sincerely,

Fitz.

See Vade-Mecum pages, 53-54-55

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

September, 14th., 1921

Dear Lew:

Your last at hand and am enclosing a sketch of a hypothetical Diaschiza, lateral view, with all the organs necessary to show or indicate in a drawing which holds good also for the large majority of Rotifers. Starting at the extreme left of the figure we have the beak (O) this is a thickening of the cuticle around the mouth opening and may be more or less pronounced varying with the species. The ciliated area (U U) is known as the face and in the Diaschizas is a simple ciliated surface uniformly covered without any specialization as sensory setae etc. etc. The two cells (A A) are a couple of the large head cells. There are about a dozen of the large cells extending back into the head mass and it is only necessary to indicate several of them where they will fit in without obscuring anything else. The ganglion or brain mass (B) is present in all the Rotifers varying somewhat in shape; it is indicated in its regular position but is not a specific characteristic. The dorsal antenna (S) is always in the same relative position, indicated in drawings somewhat as shown. The blue mass (C) is the mastax or muscular mass functioning the trophi which is detailed in Fig. 4. If you now look at Fig. 2 I will explain how this organ works. You will notice a striated area indicated in darker blue lines. This is a powerful muscle attached to the end of the fulcrum (F) at one end and to a toughening of the cuticle, indicated in red, and situated just below and forming part of the lining of the anterior part of the oesophagus (throat). When the animal suddenly contracts the powerful muscle referred to above a ^{or vacuum} cavity is suddenly formed, indicated by the black, dotted line, into which the water and contained food consisting of spores, desmids, diatoms, smaller

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

algae etc. rushes and is then swallowed. Referring to Fig. 4 again the dotted lines represent the opposite side of the trophi forming a cup-like cavity in which this muscle works. Refer, now, to Fig. 5 which is one side of Fig. 4 (the fulcrum F is common to both sides) and you will notice a stippled area which is a very thin, hyaline plate with black strengthening ribs which forms one-half of the cup shaped cavity referred to above. *Did not put this stippling in Fig. 4 as it would obscure dotted lines.* The manubrium (M) Fig. 4 serve to support the contiguous muscle mass of the mastax. Hope I got that clear, pretty hard. This type of trophi is known as the Virgate or pumping type common to the Notommataidae. To continue with the Fig. 1 (H) in green is the oesophagus, longer or shorter, varying with the species and empties into the stomach (J). The stomach walls are composed of a number of large cells containing oil globules, nuclei etc. easy or hard to see in individuals, depending on consumed food, condition etc. etc. The kidney-shaped organ (I) is one of the gastric glands a pair of which are always present near the dorso-anterior part of the stomach and vary somewhat in size and shape. *Their contents empty into stomach through minute ducts.* Div. 1 is known as the head sheath and while the cuticle is slightly stiffened, it is not so dense nor stiff as the lorica proper (Div. 2). The lorica in Diaschiza consists of four semi-hard, flexible plates connected by a very thin, transparent membrane as in cross section (Fig. 3). The clear distal part of the stomach-tinted lighter green and marked (K) is called the intestine. It is always clearer than the stomach proper and functions as the intestine in higher animals. (T) is the left lateral antenna; there are always a pair of these antenna in the lombar region, one on the left; other on the right side of animal. (E E) is the ovary, situated under the stomach and opening into the cloaca (X) by means of an oviduct. (F F F) are developing ova in ovary. The tube (purple and marked G G) is the nephridal system. There is a duplicate on right hand

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

side of animal in the same position. This system consists of a delicate, convolute tube encased in granular matter to which a number of small glands (flame cells) are attached. These flame cells collect the waste body fluids, waste nitrogenous matter which passes along the nephridial tube into the contractile vacuole (L) from which it is discharged through the cloaca (X). The mucus glands (M) are two in number. In this case the right gland is hidden by the left. Their function is, as you know, to store secreted mucous and pass it through a minute canal to the toe tips enabling the animal to attach itself at pleasure for feeding purposes. (R R R R) are the retractor muscles, four for the head and four for the foot. The *soft* posterior part of the animal below the cloaca and containing the mucous glands is the foot. The white area (P P P P) is the body cavity of the animal and contains granular matter, protoplasm, and a clear liquid analogous to blood, the whole of which including all the body organs is enclosed in a cellular, transparent, membrane analogous to our skin. You will notice rotifers have no lungs; they receive their oxygen by osmosis through the syncytial cells of the membrane just referred to. These cells have the property of taking up oxygen from the surrounding water and giving off carbon dioxide as a waste product from the body of the animal.

Now, Lew, I guess I have gone over the whole animal in a rough way. Oh, yes, the eyes. Diaschizas may have no eyes; one eye at the distal end of the ganglion (B); one eye, frontal on antero-dorsal part of face (U) or two frontal eyes in the same position. Next time you get a Diaschiza or any member of the Notommatidae as Notommata, Furcularia, Diglena, Monotommata, Eosphora etc. try and observe the various organs I have pointed out. You will not have much trouble in locating them.

The things to consider particularly in drawing Diaschizas are the eyes-trophi-~~test~~-general shape-length and shape of toes-size. All these are of first importance and the rest are secondary.

Am glad you are coming down in October-make it the first part or before the 15th.anyway and be sure to try and come on a Friday and stay until Sunday evening or Monday morning as we will have plenty to keep us busy.

Now,I hope the above stuff will kinder clear up things a bit-anyway it will be a starter and **some** of it you won't be able to get out of any books.

Sincerely,

Fitz

FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

March, 28, 1920

Dear Lew:

Now about Sunday, April, 11" for a trip to Ventnor? Hope you don't think I am getting to be a pest, but really Lew, I am curious to see you well on your way, off to a fine start as your interest shows now that it is in you and I know you will do a whole lot of things. Am all settled and was out yesterday after the early spring crops and was well repaid by finding a brand new *Diaschiza* among fontanilis at Bargauntown Bog. The animal has a large cervical eye and long straight toes and, in honor of your coming visit will be named *Diaschiza dorseyi*.



Nothing like those toes among the *Diaschiza* except in *Dias. tenuiseta*, which is an animal twenty times as large, at least, and having no eyes.

Dinocharis tetractis caudatis, Lucks was also a rare find. I reported a few of this species from Jersey two years ago, first time ever found in this country. Got a single specimen on

Saturday. It differs from the common
Dinocharis tetractis in the possession of a
prominent condyle at the dorso-posterior
end of the lorica.

If you can arrange to come on the eleventh
come early so we can take a run out and
get a collection. This will be an education
as I will show you how to get em in bulk.

Sincerely

Entz



FRANK J. MYERS
15 S. CORNWALL PLACE
VENTNOR, N.J.

May, 14th., 1920

Dear Lew:

Yesterday I went out to Barrett's Fishery on Wyoming Ave., for the purpose of getting some plants and a few young fishes for my Uncle. Before leaving I placed some green scum, which was on the surface of his tanks in the green-house, in ~~my~~ bucket, together with a sprig or two of myriophyllum. The green scum was composed of Vaucheria, Cladophora, Oedogonium and Mesocarpus, all filamentous algae. Here is what I got and this should be a great place for you, right on the ground to slip to and get a collection of two, as I believe if you made a few collections there you possibly might get something worth while. In trying to narcotize any floscules or melicer-tas you may get, do it by trial in following manner. Cut off parts of plants to which they adhere and, if you have enough of them, place about $\frac{3}{4}$ full of water one or two in a watch glass, one or two in another; one or ~~two~~ in another; and so on, say for example six watch glasses if you have enough specimens and where you find one there are apt to be plenty more. Now, add one drop of narcotic to each of the six watch-glasses containing the rotifers and in twenty-minutes ^{later} kill the first with osmic; twenty minutes ^{later} kill those in watch-glass no. two and so on until you arrive at the watch-glass where they are killed and fixed perfectly-say this is glass #4 you will know then that the floscules in #5 and #6 are just right and ready to be killed. Get the idea? You should try this ^{with variations} on all the ^{bodied} soft/species that are hard to narcotize where you have material enough and you will then know in the future just about how to get a certain species.

Fitz

November, 16th., 1920

Dear Lew:

Yours at hand and am glad you have decided to take up the Cathypnas first as a starter in learning the various Genera and Species of the Rotifera.

I can see, right now, that if I say all I want to say this letter is going to be some lengthy letter, but here goes.

You are now beginning what is probably the most interesting division of our study:-the tearing apart, drawing and describing.

There are two little pieces of apparatus which you will have to have, if you already don't have them. They are simple.

The first is some kind of eye-piece micrometer. Jackson's is a very good one, but any disc for insertion over the eye-piece diaphragm will do and Pennock can fix you up easily. See Fig. 1

The second is an eye-piece micrometer ruled in squares. I got mine at Arthur H. Thomas Co. and it is known as Ocular Micrometer Disc ruled in squares.

The value of one interval between two of the micrometer lines is found. For my $1/8$ objective with x8 ocular and draw-tube set at 222 mm, the value of one interval is 3 micra and the squares on the other micrometer are just 25 x 25 micra.

Now for the Cathypna! Let us take for our typical example one that you know not but which is very characteristic, for our purpose. Cathypna made-up-for-the-occasion.

The very first thing to do is to get the animal ^{glycerine and then in} into a very shallow glass cell, several of which you have. Use a large, square cover-glass, moving which around will allow you to orient your rotifer in any desired position.

Now, we measure the beast, taking the following measurements:

Width of anterior points-width of dorsal plate-width of ventral plate-length of dorsal plate-length of ventral plate-length of toes, total length of animal. ~~and~~ Dorsal-ventral body depth. See Fig. 2

You will find a scale enclosed which is used as explained thereon. This scale has the advantage of keeping the largest Rotifera within the limits of a page while the smallest are large enough to show all detail (See Herring-Rotatoria of Washington etc.)

Get the total length of your animal-say our Cathypna is 214u long-which, according to the scale, is just six inches.

Put the micrometer ruled in squares in eyepiece and make the Cathypna exactly fit in a certain number of squares-done by shortening or lengthening the mechanical draw-tube. See Fig. 3

Now, on your drawing paper, divide a line six inches long into seven equal parts, from which make corresponding squares. The Rotifer can now be accurately drawn directly from the microscope, and after the main outlines are drawn carefully, the ocular may be removed and detail filled in free-hand. This is my method. Herring uses a different one, more tedious, and no better. He makes a large number of measurements in all directions, then as the squares on the ruled paper are 10u and 2u respectively he draws on that paper and traces for the drawing to be published. Both methods are good. I think mine is just as accurate and much quicker-he thinks so now himself.

I wonder if I have made myself clear. Anyway, Lew, you know that I still hang out at 15 South Cornwall and will always be glad to see you here.

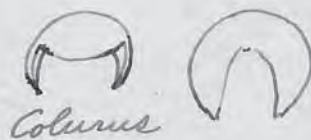
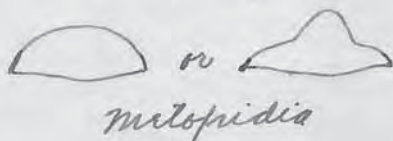
The photographs are good, Lew, but here is the great objection to photographs:-With an animal of any appreciable depth no objective of high enough power to show the necessary details has depth of focus enough to make them all visible at the same time. Your Brachions are good because the general shape is very characteristic and is all that is needed, in this case, for determination. But how about the Monostyal

Feb. 10th 1920

Dear Lew:

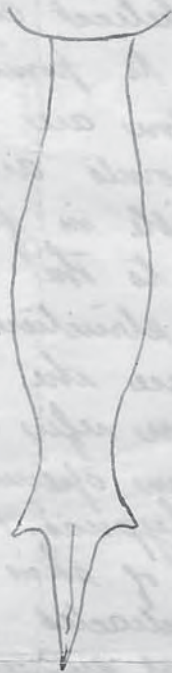
While trying to pass the time away setting up in bed I thought it would be a good idea to point out a few uses for your 1/6 objectives. This objection will prove invaluable to you from now on in the determination of species.

I have drawn a hypothetical cathypnia which will also do for a monostyla and tried to point out some of the points in its structure to notice when you are making a drawing in the future as, if the referred to points are done with any degree of accuracy, there will be no trouble in finding out just what the animal is. This also applies to the metopidia sketch I am sending. The main differences in structure between the metopidia and Cathypna-Monostyla groups are the metopidias have no dorsal or ventral plates, although we refer to them just for convenience. The lous is really entire with an opening for the protrusion of the head and foot while the Cathypnas have a dorsal and ventral plate separated by a membrane of skin which connects them and folds in on itself when lousa is contracted to make a kind of single bellows fold called the lateral sulcus. The metopidias as a group are much smaller than the Cathypnas although there are some cathypnas as small as the largest metopidias. You see Lew, these groups are closely related, then we might know in the Colurus group for good measure, which differ mainly from the metopidias in that the lous is shaped like a coat, a ventral cleft being present as a cross section of ^{each} the three groups would be something like this.



Colurus is a small genus and we will leave it for now, taking it up in its turn. I want you to get familiar with Cathypna, Monostyla + Metopidia first then we will go on down through the located species, taking up the illucates next last. How about it? Am getting along fairly and will be on my feet soon, I hope. See if you can find monostyla rhopalura (Herring no mysus) in the material I gave you.

The leuca comes close to *M. lunaris* but cannot miss it when you come to the toe as there is nothing just like it in the group. The animal seems to be a northern species never being found south of the great lakes. The toe looks something like this.



5014

Schuyler

Sincerely,

Fitz.



Rotifer drama in the early 20th century!

I don't know how much we all know about Haring's epic work, "Synopsis of the Rotatoria" 1913, Bull U.S. Nat. Mus, Wash. D.C. 81:7-226. but I can tell you it was monumental! While at the Natural History Museum., HK Haring compiled a comprehensive and manpower intensive work synopsising all the known rotifer species names (Families, Genera and Species) into a coherent volume dedicated to bringing Rotifera in line with the International Code of Zoological Nomenclature (ICZN) (aka Règles internationales de la Nomenclature zoologique) as amended in Boston in 1907.

Before computers and the INTERNET!

Can you imagine such an undertaking...!? Haring undertook this task because he cared a great deal about having Rotifera legitimized within the zoological community in accordance with the new ICZN, and because he was 'fanatic' about correctness of the burgeoning number of Rotifera 'community' descriptions, drawings and assignment of nomenclature (naming conventions).

The ICZN did not compel authors to use it. It was offered as an internationally agreed upon guide to which (taxonomists in particular) scientists across the globe would conform. Surely the rotifer community would be the better for this effort, and with compliance all would be well!

But then there was:

Beauchamp, P. de, 1914., Documents sur les Notommatides a mastax forcipe avec quelques remarques sur la nomenclature des Rotifers. Bull. Soc. Zool. France, vol 38. p 291-301, 326-335.

As you may know, Beauchamp was a contemporary of Haring, and prolific and quite respected in the rotifer community of the early 20th century. From what I know, Haring and de Beauchamp had a very respectful working relationship till then and even corresponded on matters of import. Haring and Myers 1922 went so far as to say de Beauchamp's 1909 Recherches sur les Rotiferes created 'a new standard' for rotifer work...suddenly making the earlier research on the group worthless!

Yet Beauchamp chose to use what some might call 'common sense' while applying the new rules with respect to *Furcularia*, *Diaschiza* and *Cephalodella* as discussed in his paper. To Haring, this was a personal affront to his monumental work! As a response and within six months, Haring issued an uncommon PUBLIC reprimand of Beauchamp by way of this:

Haring, H. K. Sonderabdruck aus dem Zoologischen Anzeiger, Bd. XLIV. Nr. 11 vom 7 Juli 1914. [*The publications are available for your pleasure in my personal reprint collection.*]

Quite a lot of drama that year!!

Paul Turner

Former Editor, Rotifer News

Email: hexarthra@netscape.net

To avoid copyright problems, full text articles are not included here. They are, however, available with the author

SÉANCE DU 9 DÉCEMBRE 1913

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**DOCUMENTS SUR LES NOTOMMATIDÉS
A MASTAX FORCIPÉ AVEC QUELQUES REMARQUES
SUR LA NOMENCLATURE DES ROTIFÈRES**

PAR

P. DE BEAUCHAMP,
Préparateur à la Faculté des sciences de Paris.

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SÉANCE DU 23 DÉCEMBRE 1913

**DOCUMENTS SUR LES NOTOMMATIDÉS A MASTAX FORCIPÉ
AVEC QUELQUES REMARQUES SUR LA NOMENCLATURE
DES ROTIFÈRES**

PAR

P. DE BEAUCHAMP,
Préparateur à la Faculté des sciences de Paris.

(Sonderabdruck aus dem »Zoologischen Anzeiger« Bd. XLIV. Nr. 11
vom 7. Juli 1914.)

Notes on Rotatorian Nomenclature.

By H. K. Harring, Washington.

Invited contribution*Evolution of the Term Manuscript*

Experiences from Hydrobiologia

In 1959, as a teenager, I won a prize for a scientific study on the dragonflies of my region. This would lead to my first contact with publishing and manuscripts. But first I was invited to take part in two excursions to a wetland in the Campinean area. And here I met both Paul Van Oye and Margriet De Ridder. Some may remember Van Oye as the first editor of *Hydrobiologia*, but many should remember Miss De Ridder as a prolific writer on rotifer taxonomy and geographic distribution. We were all asked to contribute an article on our favorite group of organisms to the journal of the biology teachers of Flanders. So I wrote about Odonata while De Ridder wrote about rotifers, and I saw her figures, strange looking critters with lots of silly-looking outgrowths and spines. And we all submitted our manuscripts to the editorial office. I was asked to produce a manuscript in legible handwriting, or preferably, in typewritten form. I did not have a typewriter, at the time, and so tried to do my text in calligraphy. In due time, I received a so-called first proof, with many typographical errors, such that a second proof was necessary. When the paper was printed, I was surprised to receive a parcel with 40 reprints, free of charge. That is how my first paper was conceived and how I acquired my first hands-on experience about scientific publishing. The reprints were sent out or given away.

Citation records did not exist at the time.

The early 1960ies saw the end of what is, linguistically, a manuscript, viz. any type of text, written by hand. Except for the very top scientific journals, there was no peer review of contributed papers either. I remember from the sessions of the Belgian entomological society how papers received were circulated among those present (the 'peers'), and a verdict on acceptance or rejection was delivered at the end of each meeting, which was usually monthly. Rejection was rare, and revision uncommon.

But typewriters became omnipresent and more and more sophisticated. Instructions to authors began to include the mandatory rule that the text should be typewritten, double-spaced, etcetera. The etceteras became longer and more detailed and as soon as personal computers entered the scene in the late 1970ies, manuscripts submitted began more and more to look like finished printed papers, with layout, and including line drawings and photographs. During my 23 years as the editor of *Hydrobiologia*, I employed an artist-photographer, and I made him redraw illustrations of submitted papers, many of which came from India, because I could not reject manuscripts because of substandard figures. Artists have disappeared from labs nowadays. Journals are run by editorial manager software, and manuscripts have become files.

The newest trend (but for how long?), online publishing ("librarians do not accept paper anymore"), reduces the workload of printing houses (and of postal services) even more. Suffering

most are books. It used to be that writing a book was an honor reserved for senior scientists, often the coronation of a career, but now the market for books is only a fraction of what it used to be. This is due in part to the astronomical pricing of scientific books, but also to the fact that the newest generations of scientists only read what they can find on the internet (which, admittedly, is quite a lot). But they do not know the feeling of real pages being turned over by real fingers.

When I took over Hydrobiologia in 1980, my mail box at the entrance of the university building was small. It soon became too small, as the flow of manuscripts ('in three identical copies') became bigger and bigger. The janitors who sorted the incoming mail to person valued staff members by the volume of their mail. From a nobody I quickly rose to the top! I admit I feel nostalgic for that time....

Henri J. Dumont

Hon. Editor-in-Chief, Hydrobiologia

Email: henri.dumont@ugent.be

International Recognition: Elected as Hon. President, Aquatic Sciences of China

Henri J Dumont



Artwork

With greetings from Augustus C. Mamaril (Philippines)

Warm greetings to
hardworking ROTIFEROLOGISTS OF THE WORLD
from the Filipino rotiferologist inside a mastax
who is now hardly working

One of the first neophytes of the Alpha Sigma fraternity in 1964, Augustus was once the faculty adviser of his fraternity.

One of his brods is former UP law Dean Raul C. Pangalangan, who was until mid-2021, a Judge of the International Criminal Court (ICC) in The Hague.

The fraternity celebrated its 60th anniversary on October 10 of this year.

The face of Augustus is shown in the mastax of the rotifer *Philodina* sp. The large illustration was a gift to Augustus, and adorns the wall of his room.

He's one of the very few Filipinos who study rotifers.

Associate Professor (ret.) Augustus C. Mamaril in his faculty room (room 238) in the Institute of Biology, College of Science of the University of the Philippines-Diliman campus (the main campus).

Photos were taken by Gidell Palos on September 17, 2022 after a lunch buffet of alumni and members the UP Zoological Society (UPZS) at the UP Town Center as part of the 70th Anniversary (Platinum year) of the UPZS. Until his retirement in late 2011, Augustus was the faculty adviser of the UPZS; according to Remy Q. Baylon, MD, of Wisconsin, USA, Augustus is now the Faculty Adviser Emeritus of the student organization.

December 25, 2022 AC Mamaril

Authors are encouraged to submit contributions to *Rotifer News*.

Contact email account: rotifernews@gmail.com

For details, please visit the website:

<https://sitios.iztacala.unam.mx/rotifernews/>

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