

Table II. Determination of Mg and Ca in kidney and rat cortex slices

	Weight of fresh tissue (mg)	μg	Mg found $\mu\text{g}/100\text{ mg}$ of fresh tissue	Arithmetic mean $\pm$ S.E.	μg	Ca found $\mu\text{g}/100\text{ mg}$ of fresh tissue	Arithmetic mean $\pm$ S.E.
Rabbit	122.8	26.7	22.0	22.3 ± 0.30	10.75	8.75	8.73 ± 0.20
	119.0	27.2	22.9		10.35	8.70	
	116.0	25.8	22.2		10.95	9.45	
	128.2	28.3	22.1		10.25	8.00	
	156.8	36.8	23.4		14.12	9.07	
	101.0	21.5	21.3		8.48	8.40	
Rat	92.0	19.4	21.1	21.7 ± 0.26	6.65	7.30	7.10 ± 0.32
	157.0	34.2	21.8		9.96	6.35	
	159.0	33.9	21.3		12.55	7.90	
	118.5	26.8	22.6		9.00	7.60	
	162.0	34.8	21.5		10.20	6.30	

Mg. Results of Ca and Mg determinations in the test solution are shown in Table I.

Determination of Mg and Ca in the ash of kidney cortex. Accurately weighed tissue (about 150 mg fresh weight) was ashed for 9 h in platinum crucibles in an electric oven at 600–650°C. After cooling, the white melt was dissolved in 0.1 ml 1N HCl and transferred to a Dowex 50-X8 column. The further procedure was the same as described

above. The results of Mg and Ca determination in rabbit and rat kidney cortex are shown in Table II. The results agree with values previously reported⁶.

The method is applicable without special modifications to other animal tissues⁷.

Zusammenfassung. Eine Methode zur Bestimmung von 10–40 μg Mg und 5–15 μg Ca in etwa 150 mg Tiergewebe wird beschrieben. Nach Trennung auf Dowex 50-X8 wird Mg mit Komplexon III und Ca mit Na-naphthalohydroxamat bestimmt.

M. HÖFER

Table I. Determination of Mg and Ca in the test solution

Mg used	Ca (μg)	Mg found			Ca found		
		μg	$\Delta\mu\text{g}$	$\Delta\%$	μg	$\Delta\mu\text{g}$	$\Delta\%$
14.6	4.8	14.4	−0.2	−1.3	4.9	+0.1	+2.0
29.2	9.6	29.5	+0.3	+1.1	9.6	0.0	0.0
36.5	12.0	36.45	−0.05	−0.1	11.8	−0.2	−0.7
Standard deviation of each determination		< 4%			< 5%		

The values shown are averages from 3 determinations.

Laboratory for Cell Metabolism, Institute of Microbiology, Czechoslovak Academy of Sciences, Prague (Czechoslovakia), January 10, 1963.

⁶ *Handbook of Biological Data* (Ed. by W. S. SPECTOR, Philadelphia and London 1956).

⁷ *Acknowledgment.* My thanks are due to Dr. A. KLEINZELLER for an unflagging interest shown in the work described.

STUDIORUM PROGRESSUS

Preliminary Notes on the Ostracoda of the Gulf of Naples¹

MÜLLER² published his classic monograph on the Ostracoda of the Gulf of Naples. It is also one of the basic works on the ecology of Ostracoda and has been extensively used by later workers. During the spring and summer months of 1961 and 1962, the author occupied MÜLLER's stations. The Zoological Station, Naples, obtained on loan MÜLLER's syntype material deposited in the Zoological Museum of Greifswald, East Germany, for examination in Naples. Some syntype material of MÜLLER is deposited in Humboldt University, Berlin³, and this material will also be utilized in preparation of a revised monograph on the sediments, ecology, and microfauna of the Bay of Naples.

In cooperation with the Zoological Station, Naples, 400 cores were collected on 1-mile grids in the Gulf of Naples by a deep-sea coring device. Physical (temperature, transparency, depth, bottom topography, and currents), chemical (salinity, hydrogen ion concentration [pH], dissolved oxygen [O₂], NO₂-N, and PO₄-P), and biological data (food supply and gross relationship with other marine life) were obtained during the time of collection. The ostracodes are being studied by the author and J. MALLOY. The section of Foraminifera will be prepared by Dr. MONCHARMONT-ZEI, and the sediments will be studied by Professor A. LAZZARI, both of the University of Naples. It is hoped that this monograph will include not only a revision of MÜLLER's ostracodes but also a study

¹ Supported by NSF Grant No. G-14562.

² G. W. MÜLLER, *Fauna und Flora des Golfes von Neapel*, Naples Sta. Zool., 21 Monographien (1894), p. 1.

³ K. DIEBEL, *Geol. Jahrgang* II, 2, 238 (1962).

Specific name	Slight depth	Worm tubes	Posi- donien	Cau- lerpa	Peyso- nellia	Phyllochaet- opterus socialis	Sponges	Great depths	Coarse sand	Calca- reous algae	Sea weeds and algae
<i>Erythrocypris frequens</i> Müller			C							C	
<i>E. obtusa</i> Müller			R								
<i>E. serrata</i> Müller [= <i>Erythrocypris mytiloides</i> (Norman) by Sars, 1923, p. 50]			R							R	
<i>E. pallida</i> Müller										C	
<i>E. acuminata</i> Müller			R							C	
<i>E. discrepans</i> Müller										C	
<i>Argilloecia acuminata</i> Müller							X			R	
<i>A. bulbifera</i> Müller	R		C							C	
<i>A. minor</i> Müller			R							C	
<i>A. levis</i> Müller										R	
<i>A. caudata</i> Müller			R								
<i>Bairdia obscura</i> Müller										C	
<i>B. frequens</i> Müller										C	
<i>B. decipiens</i> Müller										C	
<i>B. mediterranea</i> Müller										C	
<i>B. minor</i> Müller			R								
<i>B. longevaginata</i> Müller										R	
<i>B. corpulenta</i> Müller										C	
<i>B. serrata</i> Müller [= <i>B. formosa</i> Brady by Müller, 1912, p. 243]										C	
<i>B. reticulata</i> Müller	R		R							R	
<i>B. raripila</i> Müller											
<i>Bythocypris bosquetiana</i> (Brady)										C	
<i>Sclerochilus contortus</i> (Norman)										VR	
<i>S. levis</i> Müller [= <i>S. abbreviatus</i> Brady and Robertson by Müller, 1912, p. 261]	C		C							C	
<i>S. aequus</i> Müller										C	
<i>Pseudocythere caudata</i> Sars											
<i>Paracythere minima</i> Müller			C							C	
<i>Cytherura alata</i> Müller [= <i>C. alifera</i> Ruggieri, n. name; <i>Semicytherura</i>]			C							C	
<i>C. mediterranea</i> Müller [= <i>Semicytherura</i>]			R							R	
<i>C. nigrescens</i> Müller [= <i>C. muelleri</i> Puri, n. name]	X		R								
<i>C. neglecta</i> Müller [= <i>C. keinzii</i> Puri, n. name]										R	
<i>C. acuminata</i> Müller										R	
<i>C. ventricosa</i> Müller										R	
<i>C. punctata</i> Müller [= <i>Semicytherura</i>]			R							C	
<i>C. dispar</i> Müller			R							R	
<i>C. paradoxa</i> Müller [= <i>Semicytherura</i>]			C							VR	
<i>C. costata</i> Müller											
<i>C. cribriformis</i> Müller [= <i>C. inversa</i> Seguenza by Ruggieri, 1953, p. 119; = <i>Semicytherura</i>]			R								
<i>C. incongruens</i> Müller [= <i>Semicytherura</i>]			R								
<i>C. sulcata</i> Müller [= <i>Semicytherura</i>]			R			C					
<i>C. reticulata</i> Müller [= <i>Semicytherura</i>]	C										
<i>C. rara</i> Müller			VR							R	
<i>C. simplex</i> Brady and Norman			R								
<i>Cytheropteron latum</i> Müller			R								X
<i>C. rotundatum</i> Müller										C	
<i>C. abyssicolum</i> Müller [= <i>Kangarina</i>]										C	
<i>C. videns</i> Müller [= <i>Hemicytherura</i>]			C								
<i>C. rarum</i> Müller			VR								

[illegible]

Specific name	Slight depth	Worm tubes	Posi- donien	Cau- lerpa	Peyso- nallia	Phyllochaet- opterus socialis	Sponges	Great depths	Coarse sand	Calca- reous algae	Sea weeds and algae
<i>Paracytheridea depressa</i> Müller [= <i>P. bonetiensis</i> (Seguenza) by Müller, 1912, p. 305]			C							C	C
<i>Loxoconcha impressa</i> (Baird) [= <i>L. rhomboidea</i> (Fischer)]			C							C	C
<i>L. stellifera</i> Müller	C								C		C
<i>L. minima</i> Müller	R										C
<i>L. levis</i> Müller [= <i>L. turbida</i> Müller, 1912, p. 308]			R							R	
<i>L. pellucida</i> Müller			R							R	
<i>L. parallela</i> Müller											
<i>L. versicolor</i> Müller											
<i>L. littoralis</i> Müller	R						R				R
<i>L. mediterranea</i> Müller [= <i>L. napoliensis</i> Puri, n. name]											
<i>L. decipiens</i> Müller			C							R	R
<i>Pseudoloxoconcha minima</i> Müller			R							C	
<i>Cytheroma variabilis</i> Müller			C								
<i>Cythere elegans</i> Müller [= <i>C. lobiancoi</i> Müller, 1912, p. 318; = <i>Callistocythere</i>]			R								
<i>Cythere mediterranea</i> Müller [= <i>Callistocythere</i>]			R	R							
<i>C. littoralis</i> Müller [= <i>Callistocythere</i>]			R								
<i>C. diffusa</i> Müller [= <i>Callistocythere</i>]	R < 10 m		C							C	
<i>C. pallida</i> Müller [= <i>Callistocythere</i>]			C							R	
<i>C. discrepans</i> Müller [= <i>Callistocythere</i>]			R								
<i>C. rara</i> Müller [= <i>Leptocythere</i>]			R								
<i>C. labaciformis</i> Müller [= <i>C. muellerlabaciformis</i> Puri, n. name; = <i>Leptocythere</i>]			C	R							
<i>C. levis</i> Müller [= <i>C. macallana</i> Brady and Robertson by Müller, 1912, p. 321; = <i>Leptocythere</i>] X			R	C						R	
<i>Krithe similis</i> Müller			R							R	
<i>K. reniformis</i> (Brady)			C								
<i>Cytheridea rubra</i> Müller [= <i>C. elongata</i> Brady by Ruggieri, 1952, p. 8; = Cushmanidea]	10 m		R								
<i>C. turbida</i> Müller			C								
<i>C. milleri</i> (Münster) [= <i>C. neapolitana</i> Kollmann, 1960, p. 152]										C	C
<i>Euclithere declivis</i> (Norman)			C							R	C
<i>Cythereis convexa</i> (Baird) [= <i>Aurila</i>]											
<i>Cythereis speyeri</i> (Brady) [= <i>Mutilus</i>]										R	C
<i>C. margaritifera</i> Müller [= <i>Urocythereis</i>]										R	
<i>C. laticarina</i> (Brady) [= <i>C. marginata</i> Norman]									R		
<i>C. ornata</i> Müller [= <i>C. ascoli</i> Puri, n. name; = <i>Trachyletheris</i>]			R								C
<i>C. sarsi</i> Müller [= <i>Henryhowella</i>]											
<i>C. giesbrechti</i> Müller [= <i>Buntonia</i>]										R	C
<i>C. turbida</i> Müller [= <i>C. quadridentata</i> (Baird) by Müller, 1912, p. 355; = <i>Carinocythereis</i>]			R							R	
<i>C. rubra</i> Müller [= <i>Carinocythereis</i>]			R								
<i>C. hamata</i> Müller [= <i>C. carinata</i> (Roemer); = <i>Costa</i>]			C							R	C
<i>C. antiquata</i> (Baird) [= <i>Carinocythereis</i>]			R								
<i>C. jonesii</i> Baird [= <i>Pterygocythereis</i>]			R								
<i>C. prava</i> Baird [= ? <i>Quadracythere</i>]			R							C	
<i>C. lineata</i> Müller [= <i>C. dohrni</i> Puri, n. name; = <i>Occultocythereis</i>]										R	
<i>C. dentata</i> Müller [= ? <i>C. carinata</i> (Reuss); = <i>Bosquetina</i>]										R	
<i>C. teres</i> (Brady) [= <i>Basslerites</i>]	X		R								
<i>Cytherideis foveolata</i> Brady [= <i>Neocytherideis</i>]	10 m		X								
<i>Cytheretta rubra</i> Müller	10 m		C								
<i>Microcytherura nigrescens</i> Müller	10 m								C		
<i>Cytherella sordida</i> Müller			R								

C Common R Rare VR Very rare X Abundance unknown

on the hydrography, sediments, and the ecology of the Bay of Naples based both on foraminifers and ostracods.

During this study, it was realized that the nomenclature and taxonomy of ostracodes described by MÜLLER has undergone rigorous changes. Since the monograph contains valuable data on ecology which is scattered through this monumental work, this information is summarized in the accompanying Table. Changes in nomenclature and taxonomy appear in parenthesis after each species, which are listed in the same order as they appear in the monograph.

The following notes will clarify the taxonomic and nomenclatural changes made on the Table:

Aglaia rara MÜLLER² and *A. complanata* BRADY and ROBERTSON². BRADY⁴ described the genus *Aglaia* (type species *A. pulchella* BRADY). MÜLLER² doubtfully assigned both these species to *Aglaia*; he⁵ later considered *Aglaia* to be a synonym of *Paracypris*, and transferred both these species to the latter genus. Since the name *Aglaia* BRADY was preoccupied by *Aglaia* RENIER⁶ and *Aglaia* SWAINSON⁷, SYLVESTER-BRADLEY⁸ renamed it *Aglaia-cypris*. SCHNEIDER⁹ (in ABUSHIK et al. 1960) erected a subfamily Aglaiacyrinae based solely on this genus. Since BRADY gave only exterior views of the carapace of the type species, there was some doubt as to its hingement. However, characters of the carapace are sufficiently known to place this species questionably in the synonymy of *Cushmanidea*¹⁰. The type species of *Aglaia* and *Cushmanidea* BLAKE¹¹ are congeneric. Thus, *Aglaia-cypris* is an objective synonym of *Cushmanidea* and the subfamily Aglaiacyrinae a junior synonym of Neocytherideidinae PURI¹².

Cytherura alata MÜLLER² is a homonym of *C. alata* LIENENKLAUS¹³ which was published earlier than MÜLLER's monograph; a new name, *C. alifera* was therefore proposed by RUGGIERI¹⁴ for MÜLLER's form.

Cytherura nigrescens MÜLLER² is preoccupied by *C. nigrescens* LIENENKLAUS¹³; a new name, *C. muelleri*, is here proposed for the Gulf of Naples species.

Cytherura neglecta MÜLLER² is a homonym of *Cytherina neglecta* REUSS¹⁵ which was assigned to *Cytherura* by LIENENKLAUS¹⁶. *C. heinzei* PURI, a new name, is proposed for MÜLLER's form in honor of Mr. M. HEINZE, who prepared excellent illustrations that accompanied MÜLLER's monograph.

Loxoconcha levis MÜLLER² was renamed *L. turbida* by MÜLLER⁵ because it was preoccupied by *L. levis* BRADY¹⁷.

Loxoconcha mediterranea MÜLLER² is a homonym of *L. avellana mediterranea* SEGUENZA¹⁸. Therefore, *L. napoliana* PURI, a new name, is here proposed for the species erected by MÜLLER.

Since *Cythere elegans* MÜLLER² was preoccupied by *C. elegans* BOSQUET¹⁹, MÜLLER⁵ renamed it *C. lobiancoi*.

Cythere littoralis MÜLLER² was selected the type species of both *Callistocythere* RUGGIERI²⁰ and *Cryptocythere* MANDELSTAM²¹. *Callistocythere* obviously has priority and is the valid name.

Cythere fabaeformis MÜLLER² is preoccupied by *Cythere (Cytheridea) fabaeformis* SPEYER²². *Cythere muellerfabaeformis* PURI, new name, is proposed to replace MÜLLER's species.

Cythereis ornata MÜLLER² is a homonym of *Cypridina ornata* BOSQUET²³, which BOSQUET²⁴ considered to be *Cythereis*. A new name, *C. ascoli*, for Dr. P. ASCOLI, is here proposed for the Gulf of Naples form.

Cythereis lineata MÜLLER² is not *C. triplicata lineata* CHAPMAN and SHERBORN²⁵. A new name, *C. dohrni*, is proposed for the Naples species in honor of Dr. P. DOHRN.

Riassunto. Discussione sulla nomenclatura e tassonomia correnti degli Ostracodi del golfo di Napoli e sul loro ambiente naturale. Si propongono 6 nuovi nomi.

H. S. PURI

Florida Geological Survey, Tallahassee (Florida, U.S.A.), March 21, 1963.

⁴ G. S. BRADY, in *Les Fonds de La Mer*, vol. I (1) XVIII (1868), p. 88.

⁵ G. W. MÜLLER, Im Auftrage der Königl. Preuss. Akad. Wiss. Berlin 31, 125, 305, 318 (1912).

⁶ St. A. RENIER, Tavole XVI (1804).

⁷ W. SWAINSON, J. Zool. 3, 377 (1827).

⁸ P. C. SYLVESTER-BRADLEY, Annals Mag. Nat. History, ser. 11, 13, 194 (1947).

⁹ A. F. ABUSHIK et al., *Basic Paleontology*, Arthropoda volume (Moscow 1960), p. 349.

¹⁰ H. S. PURI, Gulf Coast Assoc. Geol. Soc. Trans. 10, 118 (1960).

¹¹ C. BLAKE, in *Biological Survey of the Mount Desert Region*, conducted by W. PROCTOR, vol. 5, 233 (1933).

¹² H. S. PURI, J. Washington Acad. Sci. 47, 305 (1957).

¹³ E. LIENENKLAUS, Z. Deutsche Geol. Ges., Berlin 46, 158 (1894).

¹⁴ G. RUGGIERI, Att. d. Soc. Ital. d. Sci. Nat. 98, 204 (1959).

¹⁵ A. E. REUSS, Natur. Abh. (Haidinger's) 3, 41 (1850).

¹⁶ E. LIENENKLAUS, Abh. schweiz. Paläont. 22, 201 (1896).

¹⁷ G. S. BRADY, in *Les Fonds de La Mer*, vol. I (1) XIV, 241 (1871).

¹⁸ G. SEGUENZA, *Il Naturalista Siciliano*, anni II-V (1882-1886).

¹⁹ J. BOSQUET, Verh. d. Comm. Geol. Berschr. Kaart v. Nederl. 2, 13 (1854).

²⁰ G. RUGGIERI, Giorn. Geol. ser. 2, 23, 99 (1953).

²¹ A. F. ABUSHIK et al., Microfauna SSSR 9, All-Union Sci.—Res., Geol.-Prosp. Petrol. Inst. (VNIGRI), Leningrad, Trans., new series 115, 232 (1958).

²² O. SPEYER, Ber. Verh. Naturk. Cassel 13, 1 (1863).

²³ J. BOSQUET, Mem. Soc. Roy. Sci. Liege 4, 353 (1847).

²⁴ J. BOSQUET, in W. C. H. STARING, *De Bodem van Nederland* (1860), p. 362.

²⁵ F. CHAPMAN and C. D. SHERBORN, Geol. Mag. 10, 345 (1893).

COGITATIONES

About Young's Modulus in Arterial Rheology

In view of the present increase in blood-vessel diseases, the study of the mechanical properties of arteries has gained renewed interest. On the other hand, the considerable development of rheology in the last few years has equipped the physiologist with a number of mathematical and physical tools which were not formerly available.

In Switzerland, a great many investigations in this field have been undertaken at the Physiological Institute

of the University of Fribourg^{1,2}. In 1959 MÜLLER³ described a mechanical model of the aorta. Since this model, unfortunately, turned out to be useless, we were asked to search for another solution.

MÜLLER's model was not isomorphic because the structure did not fully satisfy the morphological data, and consequently the applied conception of the Young's Modulus was inadequate.

¹ V. HARDUNG, Helv. physiol. Acta 11, 194 (1953).

² M. JAEGER, Helv. physiol. Acta 20, 7 (1962).

³ A. MÜLLER, Helv. physiol. Acta 17, 131 (1959).