

**THE TRANSACTIONS OF THE
ACADEMY OF SCIENCE OF ST.
LOUIS, VOL. XXI, JANUARY
1912, TO DECEMBER, 1912**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649101504

The transactions of the Academy of Science of St. Louis, Vol. XXI, January 1912, to December, 1912 by Various

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

VARIOUS

**THE TRANSACTIONS OF THE
ACADEMY OF SCIENCE OF ST.
LOUIS, VOL. XXI, JANUARY
1912, TO DECEMBER, 1912**

TRANSACTIONS
OF
THE ACADEMY OF SCIENCE
OF ST. LOUIS.

VOL. XXI
JANUARY, 1912, TO DECEMBER, 1912.

PUBLISHED UNDER DIRECTION OF THE COUNCIL.

ST. LOUIS.
NIXON-JONES PRINTING CO.

CONTENTS.

	PAGE:
TABLE OF CONTENTS.....	iii
LIST OF OFFICERS.....	v
LIST OF MEMBERS, Revised to December 31, 1912.....	vi
1. PATRONS.	
2. HONORARY MEMBERS.	
3. ACTIVE MEMBERS.	
ABSTRACT OF HISTORY.....	xviii
RECORD, January 1, to December 31, 1912.....	xxii
PAPERS PUBLISHED, January 1, to December 31, 1912;	
1. HENRY ELLSWORTH EWING.—The Origin and Significance of Parasitism in the Acarina.—Plates I-VII.—Issued June 18, 1912.....	1
2. GEO. A. LINDSAY.—The Annual Rainfall and Temperature of the United States.—Plate VIII.—Issued June 19, 1912.....	71
3. FRANCIS E. NIENHUIS.—The Nature of Electrical Discharge Positive Column Effects in a Metal Conductor.—Plate IX.—Issued July 3, 1912	79
4. TITLE PAGE, Prefatory Matter and Index of Vol. XXI, Record January 1, to December 31, 1912.—Plate A.—Issued May 5, 1913.	
LIST OF AUTHORS.....	89
GENERAL INDEX	90
INDEX TO GENERAL.....	93

LIST OF OFFICERS, 1912.

PRESIDENT.....	Edmund A. Engler.
FIRST VICE PRESIDENT.....	Francis E. Nipher.
SECOND VICE PRESIDENT.....	Arthur E. Ewing.
RECORDING SECRETARY.....	M. E. Hard.
CORRESPONDING SECRETARY.....	George T. Moore.
TREASURER.....	H. E. Wiedemann.
LIBRARIAN.....	Wm. L. R. Gifford.
CURATORS.....	Julius Hurter. Philip Rau. Joseph Grinden.
DIRECTORS.....	Otto Widmann. Adolf Alt.

MEMBERS.

1. PATRONS.

- Bixby, William Keeney Kinghighway and Lindell Bls.
Eliot, Henry Ware 4446 Westminster Pl.
†Harrison, Edwin
Mallinckrodt, Edward 25 Vandeventer Pl.
McMillan, Mrs. Eliza 25 Portland Pl.
McMillan, William Nort!rop . . . Century Bldg.

2. HONORARY MEMBERS.

- Arrhenius, Prof. Svante University of Stockholm,
Sweden.
Bahlsen, Prof. Dr. Leopold . . . University of Berlin, Germany.
Kitasato, Prof. Shibasaburo . . . University of Tokyo, Japan.
Lewald, Geh. Oberreg. Rath
Theodor Berlin, Germany.
Limburg, Sturm, Graf Berlin, Germany.
Orth, Geh. Rath Dr. Johann . . . University of Berlin, Germany.
Ostwald, Prof. Wilhelm University of Leipzig, Germany.
Ramsay, Sir William Royal Institute, London,
England.
Rutherford, Prof. Ernest University of Manchester,
England.
Springer, Frank U. S. National Museum,
Washington, D. C.
Trelease, William St. Louis, Mo.
Waldeyer, Geh. Rath Prof². Dr.
Wilhelm University of Berlin, Germany.
Wassermann, Prof. Dr. A. University of Berlin, Germany.
Wittmaek, Geh. Reg. Rath
Prof. Dr. L University of Berlin, Germany.

† Deceased.

3. ACTIVE MEMBERS.

Allerman, Gellert ¹	Swarthmore College, Swarthmore, Pa.
Allen, George L.	26 Westmoreland Pl.
Alt, Adolf	316 Metropolitan Bldg.
Altheimer, Benjamin	Melrose Apartments.
Ameiss, F. C.	3804 Olive St.
Ammerman, Charles	McKinley High School.
Armbruster, Wm. J.	3622 Shenandoah St.
Bugby, Julian ¹	New Haven, Mo.
Bain, Samuel McCutchen ¹	University of Tennessee, Knoxville, Tenn.
Baker, Robert H.	University of Missouri, Columbia, Mo.
Baldwin, Roger N.	3739 Windsor Pl.
Barek, Carl	Humboldt Bldg.
Barnard, George D.	Vandeventer and Locanda Aves.
Barroll, Joseph R.	4603 Berlin Ave.
Baumgarten, Walter	Humboldt Bldg.
Beckwith, Thomas	Charleston, Mo.
Beede, J. W. ¹	822 Hunter Ave., Bloomington, Ind.
Bemis, S. A.	Fourth and Poplar Sts.
Berninghams, J. A.	Central National Bank.
Bessey, Charles Edwin ¹	University of Nebraska, Lincoln, Neb.
Bessey, Ernst A. ¹	Michigan Agricultural College, East Lansing, Mich.
Blair, V. P.	Metropolitan Bldg.
Blankinship, Joseph William ¹	2329 Carlton St., Berkeley, Cal.
Blewett, Ben	Ninth and Locust Sts.
Bock, George W.	2901 Allen Ave.
Borgmeyer, Charles J.	St. Louis University.
Bostwick, Arthur E.	70 Vandeventer Pl.
Bradshaw, Preston J.	Liggett Bldg.
Brandenburger, Lewis A.	3614 Cleveland Ave.
Brandenburg, W. A.	1406 Syndicate Trust Bldg.

¹ Non-resident.