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SIXTEENTH ANNUAL REPORT
OF THE
NEW YORK
ZOOLOGICAL SOCIETY

CHARTERED IN 1895

OBJECTS OF THE SOCIETY
A PUBLIC ZOOLOGICAL PARK
THE PRESERVATION OF OUR NATIVE ANIMALS
THE PROMOTION OF ZOOLOGY

1 9 1 1



NEW YORK
OFFICE OF THE SOCIETY, 11 WALL STREET
JANUARY, 1912

C.

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 HYDE, DR. FREDERICK E.,
 HYDE, W. TRUSLOW,
 INCHES, GEORGE B.,
 JAMS, J. T.,
 IRONS, HENRY C.,
 IRVIN, MRS. RICHARD,
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 ISELIN, C. O'DONNELL,
 ISELIN, C. OLIVER,
 ISELIN, MISS GEORGINE,
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 ISHAM, SAMUEL,

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ISHAM, CHARLES B.,
 JACKSON, DR. GEORGE THOMAS,
 *JACKSON, R. G.,
 JACKSON, R. HAISEY,
 JACKSON, SAMUEL MACAULAY,
 JACOB, LAWRENCE,
 JACOBI, DR. A.,
 JACOBUS, JOHN S.,
 JACQUELIN, HERBERT T. B.,
 JAMES, ARTHUR CURTISS,
 JAMES, DR. ROBERT C.,
 JAMES, MRS. WALTER B.,
 *JANEWAY, DR. EDWARD G.,
 JENKINS, MRS. HELEN H.,
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 JENNINGS, FREDERICK B.,
 JENNINGS, PHILANDER R.,
 JENNINGS, WALTER,
 JESUP, RICHARD M.,
 JONES, WILLIAM FOULKE,
 JOHNSON, F. COIT,
 JOHNSON, GUY B.,
 JOHNSTON, J. HERBERT,
 JOHNSTON, SAMUEL D.,
 JOHNSTON, WILLIAM J.,
 JOLINE, ADRIAN HOFFMAN,
 JONES, MISS BEATRIX,
 JONES, MRS. CADWALLADER,
 JONES, H. BOLTON,
 JONES, DWIGHT A.,
 JONES, LEWIS Q.,
 JONES, TOWNSEND,
 JUDSON, H. L.,
 KAEGEBEHN, ALFRED,
 KAEGEBEHN, MISS BERTHA K.,
 KAHN, LOUIS,
 KAHN, OTTO H.,
 KAHN, DR. ROBERT J.,
 KAMENA, WILLIAM L.,
 KANE, MISS LOUISA LANGDON,
 KAST, DR. LUDWIG,
 KAUTZ-EULENBERG, MISS P. R.,
 KEAN, MRS. HAMILTON FISH,
 KEECH, FRANK B.,
 KEEN, FRANK H.,
 KEITEL, GUNTHER,
 KELLY, AUSTIN P.,
 KELLOGG, MRS. CHARLES,
 KELLY, EUGENE,
 KELLY, HORACE R.,
 KEMP, ARTHUR T.,
 KENNEDY, EDWARD G.,
 KENNEDY, MRS. JOHN STEWART,
 KENT, EDWIN C.,
 KEPPEL, DAVID,
 KEPPEL, FREDERICK,
 KEUFFEL, W. G.,

KEYSER, MRS. SAMUEL,
 KIDDER, JAMES HATHAWAY,
 KIMBALL, ALFRED R.,
 KING, AUGUSTUS F.,
 KING, BEVERLY S.,
 KING, MISS ETHEL,
 KING, JAMES GORE,
 KING, MRS. J. HOWARD,
 KING, MRS. LEROY,
 KIP, W. RULOFF,
 KINNEY, MORRIS,
 KITCHING, FRANK W.,
 KITTEDGE, SAMUEL DANA,
 KITZ, JOSEPH,
 KLAW, MARC,
 KLEE, BENJAMIN,
 KNIGHT, CHARLES R.,
 KNOEDLER, ROLAND F.,
 KOHLMAN, CHARLES,
 KOHLSAAT, MISS EDITH M.,
 KOLB, GUSTAVE F.,
 KOLB, FREDERICK,
 KOLB, JR., GEORGE C.,
 KREMER, WILLIAM N.,
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 KRUNSCHEID, C. D.,
 KUEMPEL, MAX,
 KUGELMANN, CHARLES,
 KUNHARDT, HENRY R.,
 KUSER, JOHN L.,
 KUTROFF, ADOLF,
 LACOMBE, HON. E. HENRY,
 LADENBURG, MRS. ADOLF S.,
 LAGAI, DR. GEORGE,
 LAIMBEER, JR., JOHN,
 LAING, EDGAR H.,
 LAMBERT, DR. ALEXANDER,
 LAMBERT, DR. A. V. S.,
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 LAMONT, MRS. THOMAS WM.,
 LANDON, MRS. E. H.,
 LANDON, FRANCIS G.,
 LANE, EDWARD V. Z.,
 LANE, JAMES WARREN,
 LANGE, MISS CARMEN,
 LANGE, J. D.,
 LANGLOTH, J.,
 LANGDON, JR., WOODBURY G.,
 LANGMANN, DR. GUSTAV,
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 LATTING, CHARLES P.,
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LAWRENCE, WALTER BOWEN,
 LAWRENCE, W. V.,
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 LEDOUX, DR. ALBERT R.,
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 LEE, J. BOWERS,
 LEE, TENNANT,
 LEE, WILLIAM H. L.,
 LEFFERTS, MARSHALL C.,
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 LESHNER, A. L.,
 LETKEMANN, H. V.,
 LEY, EMANUEL,
 LEWIS, MRS. AUGUST,
 LEWIS, FREDERIC ELLIOTT,
 LEWIS, PERCY PYNE,
 LEWIS, WADSWORTH RUSSELL,
 LEWIS, DR. WILLIAM J.,
 LEWISOHN, ADOLPH,
 LINCOLN, LOWELL,
 LITCHFIELD, E. HUBERT,
 LITCHFIELD, EDWARD H.,
 LITTAUER, WILLIAM,
 LIVINGSTON, WILLIAM S.,
 LOBENSTINE, WILLIAM C.,
 LOCKWOOD, ERNEST M.,
 LOCKWOOD, DR. GEORGE R.,
 LOGAN, FRANK J.,
 LOOHS, GUY,
 LORD, MRS. GEORGE DEFOREST,
 LOWELL, MISS CARLOTTA RUSSELL,
 LOWELL, JAMES B.,
 LOW, ETHELBERT IDE,
 LOWNDES, THE REV. ARTHUR, D.D.,
 LUCHSINGER, JACQUES,
 LUDEKE, A.,
 LUDEKE, HENRY A.,
 LUDLOW, REAR-ADMIRAL NICOLL,
 LUEDER, A.,
 LUSK, PROF. GRAHAM,
 LUTTGEN, WALTHER,
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 LYMAN, FRANK,
 LYON, EMORY L.,
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 McALPIN, GEORGE L.,
 McBURNEY, CHARLES I.,
 McCAGG, LOUIS B.,
 McCULLOH, J. S.,
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MCKINNEY, GLEN FORD,
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 MARTIN, JOHN S.,
 MARTIN, WILLIAM R. H.,
 MARTINEZ, MIGUEL R.,
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 MASTEN, ARTHUR H.,
 MASTERS, MISS,
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 MAXWELL, ROBERT,
 MAYNARD, MRS. WALTER,
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 MEEKER, HENRY E.,
 MEHL, HENRY,
 MELLE, CHARLES S.,
 MERKEL, AUGUST,
 MERRITT, HENRY C.,
 METCALFE, CAPTAIN HENRY,
 MEYER, CHARLES,
 MEYER, MISS HELOISE,
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 deMILLIAU, LOUIS JOHN,
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 MILMINE, C. E.,
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 MOFFAT, GEORGE BARCLAY,
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 MONTGOMERY, RICHARD M.,
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 MOORE, MISS K. T.,
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 MORAWETZ, VICTOR,
 MORGAN, MISS ANNE T.,
 MORGAN, MISS C. L.,
 MORGAN, EDWIN D.,
 *MORGAN, GEORGE H.,
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 MORGAN, WM. FELLOWES,
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 MORTON, A. L.,
 MORTON, MRS. HENRY SAMUEL,
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 MOSELEY, WILLIAM H.,
 MOTT, HENRY C.,
 MOTT, JOHN BOWNE,
 MOTT, JR., JORDAN L.,
 MOTT, LAWRENCE,
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 MUIHLELD, FRANK J.,
 MULLER, WILLIAM,
 MUNROE, HENRY W.,
 MURGATROYD, JOHN,
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 NELSON, DR. HOWARD S.,
 NELSON, WALLACE PLATT,
 NELSON, JAMES W.,
 NESMITH, JAMES,
 NEUMER, FERDINAND,
 NEUMOEGEN, M. L.,
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 NEWMAN, HUGO,
 NICHOLS, ACOSTA,
 NICHOLS, JOHN W. T.,
 NILES, ROBERT L.,
 NOBLE, ALFRED,
 NORTH, GEORGE B.,
 NORTHROP, J. H.,
 NORTON, GEORGE F.,
 NOYES, MRS. HENRY D.,
 OBERMAYER, CHARLES J.,
 OFFERMAN, JOHN,
 OGDEN, CHARLES W.,
 OHMEIS, JOHN,
 OHMEIS, P. M.,
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 OLIX, MRS. STEPHEN H.,
 OLYPHANT, ROBERT M.,
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 ONATIVIA, JOHN VICTOR,
 OPDYCKE, LEONARD E.,
 ORDWAY, SAMUEL H.,
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 OTTERSON, ARTHUR L.,
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 OVERTON, DR. FRANK,
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 PAGANELLI, T. RICHARD,
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 PALMER, S. S.,
 PALMER, DR. T. S.,
 PARISH, WAINWRIGHT,
 PARPART, WILLIAM E.,
 PARIZOT, CHH. H.,
 PARSONS, EDWIN,
 PARSONS, MRS. EDWIN,
 PARSONS, MISS GERTRUDE,
 PARSONS, H. DEB.,
 PARSONS, JOHN E.,
 PARSONS, MISS MARY,
 PARSONS, WILLIAM BARCLAY,
 PARSONS, WILLIAM H.,
 PARTRIDGE, EDWARD L.,
 PATERSON, R. W.,
 PAUL, JOHN J.,
 PEABODY, STEPHEN,
 PEARSON, F. S.,
 PECK, LEICESTER O.,
 PELL, STEPHEN H. P.,
 PENDLETON, FRANCIS KEY,
 PENFOLD, EDMUND,
 PENFOLD, WILLIAM HALL,
 PERCIVAL, L. A. D.,
 PERKINS, ROBERT P.,
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 PETER, EMIL,
 PETERS, SAMUEL T.,
 PETERS, WILLIAM RICHMOND,
 PFEIFFER, GEORGE,

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- PFIZER, JR., CHARLES,
 PHILLIPS, WM. W.,
 PICKHARDT, CARL,
 PHELPS, MRS. ANSEL,
 PIEL, GOTTFRIED,
 PIEL, MICHAEL,
 PIERCE, HENRY CLAY,
 PIERREPONT, MISS ANNA JAY,
 PIERREPONT, R. STUYVESANT,
 PIERSON, GEN. J. FRED.,
 PIKE, R. W.,
 PINCHOT, GIFFORD,
 PLATT, CHARLES H.,
 PLATT, FRANK H.,
 PLATT, MISS MARION ERSKINE,
 PLATTEN, J. W.,
 PLAUT, ALBERT,
 PLYMPTON, GILBERT M.,
 POEL, FRANK,
 POLK, WILLIAM M.,
 POLLOCK, GEORGE E.,
 POOR, HENRY V.,
 POPE, G. D.,
 PORTER, CLARENCE,
 PORTER, HORACE,
 PORTER, WILLIAM L.,
 POST, ABRAM S.,
 POST, MRS. CHARLES ALFRED,
 POST, EDWARD C.,
 POST, JR., GEORGE B.,
 POTTER, MISS BLANCHE,
 POTTER, EDWARD CLARKSON,
 POTTER, FREDERICK,
 POTTIS, WILLIAM BREVOORT,
 POUCH, A. B.,
 PRATT, GEORGE D.,
 PRATT, JOHN T.,
 PRENTICE, JOHN HILL,
 PRESS, T. CHANNON,
 PRESTON, VERYL,
 PRIME, MISS CORNELIA,
 PRINCE, EDWARD S.,
 PRINCE, PROF. J. DYNELEY,
 PROCTOR, WILLIAM,
 PRYER, CHARLES,
 PULITZER, MRS. JOSEPH,
 PUTNAM, J. BISHOP,
 PUTNAM, WILLIAM A.,
 PYLE, JAMES TOLMAN,
 PYNE, MRS. M. TAYLOR,
 PYNE, PERCY R., 2ND,
 QUINTARD, DR. EDWARD,
 RADFORD, HARRY V.,
 RANDALL, FRANK E.,
 RANDOLPH, EDMUND D.,
 RANDOLPH, WILLIAM W.,
 RANFT, RICHARD,
 RAPALLO, EDWARD S.,
 RASCOVAR, JAMES,
 RASMUS, W. T.,
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 RATHBORNE, RICHARD C.,
 RAUCH, WILLIAM,
 READ, WILLIAM A.,
 REDMOND, MISS E.,
 REED, CHARLES,
 REID, JOHN,
 REIMER, OTTO EUGENE,
 REINCKE, E. A.,
 REINHARDT, GEORGE N.,
 REMSEN, CHARLES,
 REYNOLDS, E. B.,
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 RIETT, MISS FLORENCE,
 RHINELANDER, CHARLES E.,
 RHINELANDER, FREDERIC W.,
 RHINELANDER, PHILIP,
 RICE, MRS. WILLIAM B.,
 RICHARD, MISS ELVINE,
 RICHARD, EDWIN A.,
 RICHARDS, EBEN,
 RICHARDS, E. C.,
 RICHMOND, WATTS L.,
 RIDDER, HERMAN,
 RIGGS, GEO. C.,
 RIKER, SAMUEL,
 RIPLEY, H. DILLON,
 RIPLEY, JULIAN A.,
 RIPLEY, LOUIS A.,
 RIVES, GEORGE L.,
 ROBBINS, CHANDLER,
 ROBBINS, MRS. HELEN C.,
 ROBERTS, G. THEODORE,
 ROBERTS, MISS M. M.,
 ROBERTSON, MRS. FANNY P.,
 ROBERTSON, ALBERT,
 ROBERTSON, R. H.,
 ROBINSON, EDWARD,
 ROBINSON, ELI K.,
 ROBINSON, G. H.,
 ROBINSON, HENRY A.,
 ROBISON, WILLIAM,
 ROCKWOOD, WILLIAM H.,
 ROE, CHARLES F.,
 ROE, FRANK O.,
 ROE, IRVING L.,
 ROELKER, ALFRED,
 ROGERS, E. L.,
 ROGERS, HUBERT E.,
 ROGERS, JAMES H.,
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 ROKENBAUGH, HENRY S.,
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- ROSSITER, ARTHUR W.,
 ROTH, FREDERICK G. R.,
 ROTHWELL, JAMES E.,
 ROWLAND, THOMAS,
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 RUPPERT, JACOB,
 RUPPERT, MRS. JACOB,
 RUPERTI, JUSTUS,
 RUSSELL, ARCHIBALD D.,
 RUSSELL, DR. JOHN F.,
 RUTHVEN, ALEXANDER G.,
 RYAN, J. D.,
 RYLE, ARTHUR,
 RYLE, GRAHAM,
 SACKETT, MISS GERTRUDE T.,
 SAGE, JOHN H.,
 SAGE, MRS. RUSSELL,
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 SANDS, MISS ANNE A.,
 SANDS, BENJAMIN AYMAR,
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 SAUTER, JR., FRED.,
 SCHLAAF, HERMANN,
 SCHLAEFER, ANDREAS F.,
 SCHAEFER, EDWARD C.,
 SCHAEFER, HENRY,
 SCHANCK, GEORGE E.,
 SCHANG, FREDERICK,
 SCHAUPE, C. F.,
 SCHAUFFLER, DR. A. F.,
 SCHAUFFLER, MRS. A. F.,
 SCHEFER, CARL,
 SCHIEFFELIN, MRS. H. M.,
 SCHIEFFELIN, WILLIAM JAY,
 SCHIRMER, RUDOLPH E.,
 SCHMIDT, ADOLPH T.,
 SCHMIDT, F. LEOPOLD,
 SCHMIDT, WILLIAM H.,
 SCHNABEL, R. A.,
 SCHNIEWIND, F.,
 SCHOLLE, A. H.,
 SCHRAG, CHARLES A.,
 SCHREIBER, LOUIS,
 SCHREYVOGEL, CHARLES,
 SCHULTZE, CHARLES,
 SCHULTZE, FRED.,
 SCHUYLER, MISS LOUISA LEE,
 SCHWARCZ, MAX M.,
 SCHWARZ, HENRY F.,
 SCOTT, DONALD,
 SCOTT, HON. FRANCIS M.,
 SCOTT, FRANK H.,
 SCOTT, WILLIAM,
 SCOTT, STUART,
 SCRIBNER, ARTHUR H.,
 SCOVILLE, ROBERT,
 SCRYMSEY, JAMES A.,
 SEDGWICK, ROBERT,
 SEE, A. B.,
 SELIGMAN, ALFRED L.,
 SELIGMAN, JEFFERSON,
 SENEY, MRS. CHARLES H.,
 SETON, ALFRED,
 SEXTON, LAWRENCE E.,
 SEYBEL, DANIEL E.,
 SHAPIRO, D.,
 SHARDLOW, MRS. JOSEPH,
 SHAW, CHARLES HERBERT,
 SHAW, JAMES G.,
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 SHEFFIELD, MRS. JAMES R.,
 SHELDON, EDWARD W.,
 SHELDON, GEORGE R.,
 SHELDON, WILLIAM C.,
 SHOEMAKER, HENRY W.,
 SHOPE, JULIAN B.,
 SHURTLEFF, ROSWELL MORSE,
 SIBLEY, MRS. H. W.,
 SICKLES, MAJ.-GEN. DANIEL E.,
 SIGEL, JACOB,
 SILLECK, JR., HENRY G.,
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 SILLMAN, HARPER,
 SIMPSON, JOHN W.,
 SINCLAIR, MRS. JOHN,
 SINGER, ARTHUR J.,
 SKEEL, DR. FRANK D.,
 SKIDMORE, WILLIAM L.,
 SLADE, FRANCIS LOUIS,
 SLAUGHTER, R. B.,
 SLOCUM, J. J.,
 SMILEY, DANIEL,
 SMILLIE, CHARLES F.,
 SMILLIE, JAMES C.,
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 SMITH, DR. A. ALEXANDER,
 SMITH, AUGUSTINE J.,
 SMITH, ERSKINE M.,
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 SMITH, MRS. F. HOPKINSON,
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 SMITH, NATHANIEL S.,
 SMITH, ROLAND W.,
 SMITH, ROBERT K.,
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 *SMITH, WILLIAM ALEXANDER,
 SMITHERS, CHARLES,
 SMITHERS, F. S.,
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 SOLTSMANN, E. G.,

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- SORCHON, MRS. VICTOR,
 SPALDING, KEITH,
 SPARROW, EDWARD W.,
 SPEAR, JR., JAMES,
 SPEDDEN, FREDERIC O.,
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 SPENCER, EDWARDS,
 SPEYER, MRS. JAMES,
 SPITZNER, GEORGE W.,
 SPOFFORD, MRS. J. L.,
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 SPRAGUE, MRS. FRANK,
 SPRING, MISS ANNA RIKER,
 SPURR, E. W.,
 SQUIBB, DR. EDWARD H.,
 STAFFORD, WILLIAM FREDERICK,
 STAFFORD, MRS. WILLIAM FREDERICK,
 STANDISH, MYLES,
 STANTON, JOHN R.,
 STARKE, MRS. A. G.,
 STARR, LOUIS MORRIS,
 STEARNS, LOUIS,
 STEBBINS, JAMES H.,
 STECKER, ADAM A.,
 STEELE, MRS. CHARLES,
 STEERS, HENRY,
 STEINBECK, EDWARD,
 STEINMETZ, JOHN A.,
 STEPHENS, OLIN J.,
 STETSON, REV. C. R.,
 STEVENS, ALEXANDER H.,
 STEVENS, FREDERIC W.,
 STEVENS, RICHARD,
 STEVENS, THEODOSIUS F.,
 STEWART, JAMES,
 STEWART, MRS. PERCY HAMILTON,
 STEWART, WILLIAM R.,
 STILLMAN, MRS. C. C.,
 STILLMAN, JAMES A.,
 STIMSON, DR. DANIEL M.,
 STOECKEL, CARL,
 STOKES, H. B.,
 STONE, MISS ANNIE,
 STOUT, JOSEPH S.,
 STOW, GEORGE G.,
 STRANGE, A. B.,
 STRAUSS, FREDERICK,
 STREAT, JAMES,
 STREETEII, JR., D. D.,
 STRONG, JR., BENJAMIN,
 STRONG, THERON G.,
 STROOCK, LOUIS S.,
 STURGES, MISS,
 STURGES, HENRY C.,
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 SWENSON, S. A.,
 TABER, MISS MARY,
 TAFT, HENRY W.,
 TALCOTT, JAMES,
 TALMAGE, MRS. E. T. H.,
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 TATUM, A. H.,
 TAYLOR, DWIGHT W.,
 TAYLOR, GEORGE,
 TAYLOR, MRS. HENRY OSBORN,
 TAYLOR, HENRY R.,
 TAYLOR, HERBERT C.,
 TAYLOR, JAMES B.,
 TAYLOR, KNOX,
 TAYLOR, LOYD,
 TAYLOR, MOSES,
 TAYLOR, STEVENSON,
 TENNEY, C. H.,
 TERRY, JOHN T.,
 THACHER, ARCHIBALD G.,
 THACHER, MRS. GEORGE W.,
 THACHER, THOMAS,
 THAW, BENJAMIN,
 THAYER, MRS. EZRA RIPLEY,
 THAYER, HARRY BATES,
 THOMAS, DR. ALLEN M.,
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 THORNE, MRS. EDWIN,
 THORNE, JONATHAN,
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 THORNE, NEWBERRY D.,
 THORNE, MRS. SAMUEL,
 THORNE, MRS. W. V. S.,
 THORNE, W. V. S.,
 THORP, W. EDWIN,
 TIFFANY, LOUIS C.,
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 TILLEY, GEORGE D.,
 TILT, BENJAMIN B.,
 TILTON, JOSEPH W.,
 TIMKEN, J. HENRY,
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 TODD, H. H.,
 TOLER, MRS. VIRGINIA,
 TOMBY, BORGFELDT,
 TOUSEY, WILLIAM,
 TOWNSEND, MISS AMY C.,
 TOWNSEND, EDWIN S.,
 TOWNSEND, HOWARD,
 TOWNSEND, ISAAC,
 TOWNSEND, J. HENRY,
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 TOWS, COE DOWNING,
 TROSTEL, JR., FERDINAND,
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- TUCKERMAN, ALFRED,
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 TURNBULL, ARTHUR,
 TURNBULL, MRS. RAMSAY,
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 TURNURE, GEORGE E.,
 TUTTLE, DR. G. M.,
 TWEDDELL, WILLIAM H.,
 TWINING, E. S.,
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 VAN BEUREN, M. M.,
 VAN CORTLANDT, AUGUSTUS,
 VANDERBILT, ALFRED G.,
 VANDERPOEL, MRS. JOHN A.,
 VAN DER SUISSSEN, DR. G. J.,
 VAN EMBURGH, D. B.,
 VAN INGEN, MRS. EDWARD,
 VAN INGEN, MRS. E. H.,
 VAN NEST, G. WILLETT,
 VAN NOSTRAND, B. T.,
 VAN WINKLE, EDGAR B.,
 VAN SINDEREN, HOWARD,
 VARCOE, HAROLD,
 VECCHIO, LOUIS,
 VICTOR, A.,
 VIETOR, THOMAS F.,
 VINCENT, FRANK,
 VOGEL, HERMAN,
 VON DREELE, WILLIAM H.,
 VONDERMUHL, ALFRED,
 VON LENGERKE, JUSTUS,
 WADDINGTON, GEORGE,
 WAGNER, H. WILLIAM C.,
 WAGSTAFF, C. DUBOIS,
 WAINWRIGHT, J. HOWARD,
 WALCOTT, FREDERIC C.,
 WALDON, S. D.,
 WALES, EDWARD H.,
 WALLER, JR., ROBERT,
 WALSH, SAMUEL A.,
 WALTER, EDGAR,
 WALTER, F. E.,
 WALTER, MARTIN,
 WANNINGER, CHARLES,
 WARBURG, PAUL M.,
 WARD, ARTEMAS,
 WARD, MRS. GEORGE CABOT,
 WARD, HENRY C.,
 WARDNER, HENRY STEELE,
 WARDWELL, ALLEN,
 WARNER, W. E.,
 WARREN, MRS. J. HOBART,
 WARREN, LLOYD,
 WATERBURY, JOHN L.,
 WATERBURY, MISS,
 WATSON, CHARLES F.,
 WATSON, REV. J. HENRY,
 WEATHERBEE, EDWIN H.,
 WEBER, DR. LEONARD,
 WEBB, F. EGERTON,
 WEBB, MRS. WILLIAM SEWARD,
 WEBER, CHARLES,
 WEEKS, JAMES,
 WEIR, MRS. C. GOUVERNEUR,
 WELLS, OLIVER J.,
 WENDELL, EVERT JANSEN,
 WENDELL, MRS. JACOB,
 WERNER, C. H.,
 WERTHEIM, H. P.,
 WESTOVER, M. F.,
 WETMORE, EDMUND,
 WHEELER, EVERETT P.,
 WHEELER, WALTER S.,
 WHELOCK, MRS. G. G.,
 WHITE, A. M.,
 WHITE, HAROLD T.,
 WHITE, HORACE,
 WHITE, JR., JOHN JAY,
 WHITE, LEONARD D.,
 WHITEHOUSE, J. HENRY,
 WHITEHOUSE, WILLIAM F.,
 WHITING, DR. CHARLES A.,
 WHITING, MISS GERTRUDE,
 WHITMAN, CLARENCE,
 WHITMAN, JR., WILLIAM,
 WHITRIDGE, F. W.,
 WICKERSHAM, GEORGE W.,
 WILKINS, F. H.,
 WILLETS, JOHN T.,
 WILLIAMS, MRS. G. G.,
 WILLIAMS, JR., RICHARD H.,
 WILLIAMS, MRS. PERCY H.,
 WILLIAMS, R. H.,
 WILLIAMS, THOMAS,
 WILLIAMS, WALDRON,
 WILLIAMS, WILLIAM,
 WILLOUGHBY, MISS MARY CAREW,
 WILLS, CHARLES T.,
 WILSON, PROF. EDMUND B.,
 WILSON, GEORGE T.,
 WINANT, FREDERICK,
 WINCKELBACH, L. O.,
 WINTHROP, EGERTON L.,
 WINTHROP, JR., EGERTON L.,
 WINTHROP, JR., MRS. EGERTON L.,
 WINTHROP, ROBERT DUDLEY,
 WISNER, CHARLES,
 WITHERBEE, FRANK S.,
 WITTHAUS, DR. RUDOLPH A.,
 WOERISHOFFER, MRS. ANNA,

*Deceased.

WOLF, ARTHUR D.,
 WOLFF, EMIL,
 WOOD, ARNOLD,
 WOOD, GILBERT CONGDON,
 WOOD, J. WALTER,
 WOOD, MRS. JOHN D.,
 WOOD, WILLIAM CONGDON,
 WOODCOCK, EDWIN,
 WOODHOUSE, J. S.,
 WOODRUFF, ALBERT C.,
 WOODWARD, ROBERT B.,
 WOODWARD, SR., MRS. WILLIAM,
 WORCESTER, WILFRED J.,
 WORRALL, P. B.,

WRIGHT, J. DUNBAR,
 WRIGHT, MRS. J. HOOD,
 WRIGHT, JOHN HOWARD,
 WRIGHT, MRS. MABEL OSGOOD,
 WUNDERLICH, II.,
 WYCKOFF, DR. PETER BROWN,
 YORKWITZ, ALBERT,
 YOUNG, A. MURRAY,
 YOUNG, MRS. A. MURRAY,
 YOUNG, GEORGE W.,
 YOUNG, JOHN ALVIN,
 ZABRISKIE, ANDREW C.,
 ZINSSER, AUGUST,
 ZINSSER, JR., AUGUST,

Corresponding Members

GILFEDDER, T. P.,
 JOHNSTON, SIR HARRY H.,

STURTEVANT, LIEUT. C. G.,

Summary of Membership

Benefactors	7
Founders in Perpetuity	15
Founders	20
Associate Founders	9
Patrons	37
Life Members	235
Annual Members	1,566
Honorary and Corresponding Members.....	13
	<hr/>
	1,902

Qualifications for Regular Membership

Annual Members	\$ 10	Associate Founders ...	\$ 2,500
Life Members	200	Founders	5,000
Patrons	1,000	Founders in Perpetuity.	10,000
Benefactor	\$25,000		

Form of Request

I do hereby give and bequeath to the "NEW YORK ZOOLOGICAL SOCIETY," of the City of New York,.....

REPORT OF
THE EXECUTIVE COMMITTEE
TO THE BOARD OF MANAGERS

THE year of 1911 has been one of the most notable in the history of the New York Zoological Society. During the spring the Board of Estimate and Apportionment gave their approval to the plan for the construction of a new Aquarium at Battery Park by granting the initial funds to begin work on the foundations. At the same time the City took action on another matter of almost equal importance to the Society, by inaugurating the Bronx River Parkway, which will assure the permanence of the river and lake system of the Zoological Park.

Before discussing these matters in detail, however, your Committee desire to place on record their deep sense of loss by the death of one of their most prominent members, the late Captain John Sanford Barnes, U. S. N., who passed away on November 22, 1911.

ENDOWMENT.

During the year 1911, the Endowment Fund was increased by the following subscriptions:

James J. Hill	\$ 10,000
Lispenard Stewart	10,000
Mortimer L. Schiff	5,000
Mrs. Morris K. Jesup.....	500
Mrs. A. D. Juilliard.....	500
Miss Helen M. Gould.....	200
Miscellaneous	100
Total endowment on December 31, 1911, was	\$283,062

The Executive Committee call the attention of the Board of Managers to the importance of increasing this fund to not less than one-half million dollars, so as to provide funds for the extension of the work of the Society. The income of the Society



YOUNG FEMALE GORILLA.

Exhibited at the Zoological Park in September and October, 1911.

from its membership, and from the present Endowment Fund has been sufficient, with rigid economy, to provide for the present general expenses, but before any scientific work, either in research or publication, can be undertaken, a far larger amount will have to be provided. With an annual income of less than \$30,000 from funds which are available for the purposes of the Society, it is obvious that our work is greatly restricted. Of this fund a little over \$3,000 comes from Sustaining Memberships, which will not be available after 1913, so that we shall require about \$75,000 of additional endowment to retain our present income.

The American Museum of Natural History, founded in 1869, now has an annual income from its contributed funds of \$108,770.52, and the Metropolitan Museum of Art in this city enjoys an income much larger. It is therefore obvious that the Zoological Society must have a larger endowment before it is in the same sound financial position as these institutions. Increases to the Income Account will have to come primarily from endowment rather than from annual memberships, because none of these institutions have succeeded in maintaining an active membership, paying yearly dues, of a sufficient size to produce an adequate net income from this source. Our annual membership compares favorably in point of numbers with that of the older institutions when the date from organization, viz., 1895, is considered.

MEMBERSHIP, JANUARY 1, 1912.

	Annual	Total
New York Zoological Society.....	1,566	1,902
American Museum of Natural History	1,945	2,656
Metropolitan Museum of Art.....	2,366	3,151

The need for additional income is becoming annually more pressing, and has greatly crippled the Society in its work for game preservation, and with the opportunities for biological research in connection with the new Aquarium, will come an increasing demand on these funds.

Your Committee, therefore, request the members of the Board of Managers to use their best endeavors to obtain either subscriptions to the Endowment Fund, or bequests, which at some future time will add to the funds of the Society.

The membership of the Society on January 1, 1912, shows an increase over that reported on January 1, 1911, and is as follows:—

Benefactors	7
Founders in Perpetuity	15
Founders	20
Associate Founders	9
Patrons	37
Life Members	235
Annual Members	1,566
Honorary and Corresponding Members.....	13
	<hr/>
Total 1911	1,902
Total 1910	1,796

The net gain during the year is thus 106, which is satisfactory in view of the fact that the loss through death and resignation to the membership during the year amounted to sixty-eight.

This increase in the membership of the Society is due chiefly to the efforts of the Ladies' Auxiliary, and your Committee direct the attention of the Board of Managers to the debt which is due to the ladies of the Auxiliary for their helpful and energetic assistance throughout the year. It is a great pleasure to record the fact that the ladies have conducted the Auxiliary entirely by themselves, and have done much to promote interest in, and contributions to, the Society.

The Administration Building, which is now serving virtually as the headquarters of the Society, and affords unique facilities and advantages to members, is beginning to show its effect. If these two forces continue to operate in the same manner during the coming year, it is hoped that the membership of the Society will pass the two thousand mark. In spite of the large population of the City of New York, there seems to be a practical limit to the type of people that is available for membership. The names of the new members as elected from time to time, appear in the Bulletin, and they will be found elsewhere in this Report.

It is with regret that we have to announce the following deaths during the year, in addition to that of Captain Barnes:—

FOUNDER.

Samuel P. Avery.

PATRONS.

Cornelius N. Bliss,

Charles H. Senff.

LIFE MEMBERS.

Miss Cora F. Barnes,	J. Hampden Robb,
Col. James J. Higginson,	Francis A. Watson,
Richard P. Lounsbury.	

FINANCES.

Income Account.—The balance to the credit of this fund on January 1, 1911, (less invested funds and advanced payments of Sustaining Membership for 1912 and 1913) amounted to..... \$5,498.40

Advance payments, Sustaining Membership 1911..	520.00
The income received from Annual Members during the year amounted to	14,230.00
Miscellaneous receipts	86.06
Sustaining Members (not including advance payments)	3,040.00
Sale of bond in accordance with provisions of Mr. Rockefeller's gift	990.00
Income from the Endowment Fund during the year (including balance from 1910), placed to the credit of the Endowment Fund Income Account, but available for transfer to this account.....	11,432.49
Total	\$35,796.95

The total amount expended against this fund during 1911 amounted to \$26,163.91

Leaving a cash balance on hand December 31, 1911, of \$9,633.04, to which should be added advance payments of Sustaining Memberships for 1912, \$600.00, making a total balance of \$10,233.04, made up as follows:

Income Account balance—

In Bank	\$3,529.83
Less due to other funds.....	123.73
	<hr/>
	\$ 3,406.10

Endowment Fund Income Account balance, available for transfer to this account.....	6,826.94
	<hr/>
	\$10,233.04

As stated heretofore the Sustaining Memberships have now only two more years to run, and before this period expires the Income Account must be increased sufficiently to provide an offset



SERIES OF NEW BEAR DENS.
Will be completed in 1912.



HOUSE FOR WILD EQUINES.
Will be completed in 1912.

to this loss. The Society in carrying out its policy of living strictly within its means, is greatly cramped in its work, and this fund more than any other, needs attention.

Endowment Fund Income Account.—The Endowment Fund Income Account is a fund created by your Committee to receive the income from the Endowment Fund as distinguished from the income from dues and other sources. From time to time transfers are made to the Income Account, as funds are needed. During the past year the only transfer necessary was \$4,000. In the statement of the Income Account preceding this, the two funds are considered together.

Endowment Fund.—During the year a total of \$26,300 has been added to the Endowment Fund. In addition the Life Membership fees, amounting to \$1,800, have been placed in this fund. The policy of paying the Life Membership fees into this fund, adopted on January 1, 1911, will be continued.

During the year \$35,258.78 of the Endowment Fund were invested by the Treasurer in the following bonds:—

\$20,000 Vandalia R. R. 4% Series "B" Bonds.

5,000 Missouri & Illinois Bridge & Belt R. R. Co., first mortgage 4% Bonds.

10,000 Chicago, Milwaukee & Puget Sound, first mortgage 4% Bonds.

1,000 New York, Lackawanna & Western 4% Terminal Impt. Bonds.

The total investments of the Endowment Fund are all at about the net rate of four and one-half per cent.

Stokes' Bird Fund.—The Stokes' Bird Fund on January 1, 1911, had a cash balance of \$353.90, and during the year interest in the amount of \$205.98 accumulated. Of this special fund, \$350 were expended for the preservation of bird life, under the order of your Committee. On December 31, 1911, there remained a balance of \$209.88 to the credit of this fund, all of which will be expended immediately for the protection of birds.

The principle of this fund is invested in five Illinois Central Railway, 4% Gold Bonds.

Library Fund.—The balance to the credit of the Library Fund on December 31, 1911, amounted to \$1,081.61, which is all that remains of a gift received two years ago for the purpose of adding to the collection of books. This amount is so limited that it is only practical to buy very important books as they appear

from time to time, and is obviously insufficient to provide the Society with anything like the working library required.

National Collection of Heads and Horns.—The National Collection of Heads and Horns is a fund which needs attention, as the only receipts during the year amounted to \$413.53, which added to the balance on hand January 1, 1911, provided the sum of \$1,594.97 for the extension of this collection. All of this was expended, leaving on hand only a nominal balance of \$27.64 at the end of the year.

During the ensuing year an effort will be made to increase the following small list of annual contributors to this fund:—

Dr. Robert L. Loughran, Henry A. Caesar, Archibald Rogers, M. F. Westover, A. St. John Newberry, Bascom Little, William R. Coe, W. F. Gibson, Thomas Rowland, George Shiras, 3d, Townsend Lawrence, John J. Paul, W. H. Chase, G. M. Laughlin, Jr., John T. Pirie, Jr.

Animal Fund.—The receipts for the Animal Fund have been as follows:—

Received from Special Subscriptions.....	\$ 110.00
Received from Sales of Animals.....	2,136.75
Received from Park Privileges.....	16,803.40
Balance January 1, 1911, (including cash in hands of Chief Clerk)	32,226.23
Total receipts	\$51,276.38
Expended for animals during 1911—	
Birds	\$7,039.95
Mammals	6,310.46
Reptiles	2,643.31
Insects	135.92
	\$16,129.64
Express and other charges	1,802.51
Travelling and other ex- penses	338.89
	18,271.04
Balance, December 31, 1911.....	\$33,005.34

Aquarium Privilege Account.—The balance to credit of this account on January 1, 1911, was \$748.87.

During the year \$657.81 were received from the sale of publications, and \$470 expended; leaving a net balance on hand of \$936.68 on December 31, 1911.

This fund, while small, has proved a very satisfactory one and has been of material assistance to the administration of the Aquarium, especially in the matter of publications.

Maintenance of the Park.—For the year 1911 the City provided the sum of \$174,632 for the maintenance of the Park. With this amount and with very rigid supervision of all expenditures by the Park staff, the Society again succeeded in maintaining the Park throughout the year without a deficit. The satisfaction of the City authorities with the administration of the Park by the Society, is shown by the fact that for 1912 an increase of \$7,733 has been granted, making a total of \$182,365 for the Park during 1912.

Maintenance of the Aquarium.—The maintenance provided for the Aquarium for the year 1911 was \$48,000, and your Committee is glad to be able to return to the City at the end of the term, an unexpended balance of \$439.79.

The maintenance appropriation for 1912 is to be \$48,500.

In the administration of the maintenance funds of the Park and Aquarium, much difficulty has been experienced during the year in complying with the new requirements of the City limiting the mode of the expenditure of these funds. The requirements for the standardizing of salaries and the division of the total fund into a number of sub-divisions from which no transfers can be made, impose upon the Society a difficult task. Your Committee has protested against the application of these rules in the expenditures of the funds granted it by the City, although at all times expressing their willingness to co-operate with the City authorities in all reasonable requirements for the better administration of the City funds.

Aquarium Improvement Fund.—On December 31, 1911, a balance of \$344.50 remained to the credit of the Aquarium Improvement Fund. A small balance which remained in the former Aquarium Improvement Fund reverted to the City.

Ground Improvement Fund.—On January 1, 1911, there was a balance of \$56,367.71 to the credit of the Ground Improvement Fund received during 1910. This fund was originally provided for the following purposes:—



NEW EAGLE AND VULTURE AVIARY.
Completed and occupied in 1912.

(1) Zebra House	\$36,000.00
(2) Erection of Bear Dens, Removal of Moose House, Yak Shelter and Yards.....	11,000.00
(3) Eagle and Vulture Aviary.....	20,000.00
(4) Miscellaneous, New Walks, Fences, &c.....	17,500.00

Total \$84,500.00
all of which has been contracted for or expended, with the exception of the following balances, which are unappropriated:—

(1) Zebra House	\$8,250.60
(2) Erection of Bear Dens, Removal of Moose House, Yak Shelter and Yards.	2,333.00
	<u>10,583.60</u>

In October, 1911, an additional fund of \$155,000 was provided by the City for the following purposes:—

(1) Zebra House Yards.....	\$15,000.00
(2) Public Service Building.....	30,000.00
(3) Power Plant, Work Shop, &c.....	35,000.00
(4) Winter Houses for Pelicans and other birds...	5,000.00
(5) Miscellaneous, including planting, fencing, yards, small installations, &c., &c., and other permanent improvements.....	35,000.00
(6) Development of Park East of Bronx River, including one Public Service Pavilion, planting, walks, fencing, paths, &c., &c., and other permanent improvements.....	15,000.00
(7) New Walks and reconstruction of existing walks	15,000.00
(8) Rocking-Stone Restaurant Extension.....	5,000.00

all of which remained on the first of the year unexpended, with the exception that from these funds appropriations had been made as follows:—

(5) Miscellaneous, including planting, fencing, yards, small installations, &c., &c., and other permanent improvements	\$2,592.00
(7) New Walks and reconstruction of existing walks	5,000.00
	<u>7,592.00</u>

which leaves a total balance on December 31, 1911, to the credit of these two funds of \$157,991.60.

ACCOUNTS.

The accounts for 1911 are being audited by Marwick, Mitchell, Peat and Company, whose printed report will be attached hereto.

The Privilege Accounts have been thoroughly audited and found correct in every respect, as appears in a special statement appended hereto.

CORPORATE STOCK.

New application for funds.

A request for funds from Corporate Stock has been made to the Board of Estimate and Apportionment for the year 1912, in the amount of \$195,000, for the following:—

- (1) Construction of Buildings and Yards for Hospital and Quarantine.
- (2) Building and Heating Plant for Animal Service Buildings.
- (3) Construction of Ape House.
- (4) Improvement of Elephant and Lion House Roofs, and Cover of Flying Cage.
- (5) Construction of Boat House Dock and Improving Bronx Lake.
- (6) Construction of Fordham Entrance.
- (7) Development of Park East of Bronx River, planting, walks, fencing, paths, &c.
- (8) Miscellaneous, including fencing, yards, small installations, &c., and other permanent improvements.

It is believed that at least a large portion of the above will be received during 1912.

NEW AQUARIUM BUILDING.

On July 17, 1911, the Board of Estimate and Apportionment passed the following resolution in regard to the new Aquarium Building to be erected at Battery Park on the site of the present Aquarium:—

RESOLVED, that pursuant to the provisions of Section 47 of the Greater New York Charter, as amended, the Board of Estimate and Apportionment hereby approves of the issue of corporate stock of the City of New York to an amount not exceeding Two Hundred Thousand dollars (\$200,000), to provide means for the construction of the foundation and

walls of the wings for the New Aquarium Building in Battery Park, under the jurisdiction of the Department of Parks, Boroughs of Manhattan and Richmond, and that when authority therefor shall have been obtained from the Board of Aldermen, the Comptroller be, and is hereby authorized to issue said corporate stock of the City of New York in the manner provided by Section 169 of the Greater New York Charter, the proceeds thereof to the amount of the par value of the stock to be applied to the purposes aforesaid.

The above resolution was adopted by the Board of Aldermen on July 31, 1911, and took effect September 19, 1911. No portion of this has, as yet, been expended.

A request for \$600,000 will be made during the coming spring to the Board of Estimate and Apportionment, which can be added to the \$200,000 already in hand, and used to build the foundations and a portion of the new building.

The plans are being prepared by the architect, Mr. J. Stewart Barney, and your Committee propose to associate with Mr. Barney as Engineer, Mr. William Barclay Parsons, who will have charge of the construction of the building.

IMPORTANT GIFTS TO THE PARK.

During the year several valuable gifts were received, including a Cape hunting dog, three leopards, spotted hyena, two lion cubs and several monkeys received from Mr. Paul J. Rainey. Mr. Emerson McMillin presented an oil painting entitled, An Old Prospector, and a copy of the original edition of Wilson's American Ornithology. A valuable collection of maps was received from Mr. C. William Beebe, and two mule deer were donated by Col. Anthony R. Kuser.

ANIMAL COLLECTIONS.

During the year the collection of mammals was strengthened by the arrival of a number of particularly rare and interesting forms. The most notable were a gorilla, a spectacled bear from Ecuador, an Andean black bear, a Cape hunting dog, two wombats, two snow leopards, a spotted hyena and a blessbok. The collection of birds received a great number of species new to the Park, and our list of species on exhibition made a great advance. At this time it is probable that the total number of species on exhibition is equal to the greatest number exhibited

elsewhere. As usual, our total number of specimens is far in advance of all other collections of living wild animals.

A census of the animals in the Zoological Park, taken on January 1, 1912, shows the following figures, in the number of species and specimens:—

	Species	Specimens
Mammals	234	710
Birds	880	3,022
Reptiles.	137	1,106
	1,251	4,838

NEW BUILDINGS AND INSTALLATIONS.

Three animal installations of importance were begun during the year, two of which were practically completed. The Eagle and Vulture Aviary has been long awaited, and with the opening of spring it will be ready for occupation. The Society has already assembled a very fine collection of rare and interesting birds with which to fill the aviary the moment it comes into our possession.

The Zebra House is now receiving its roof, and will be ready for occupancy in the early spring. This building, and its two adjacent houses for hardy wild horses, will leave little more to be desired for the accommodation and exhibition of wild equines.

The ten new bear dens, chiefly for small species, were completed in December and form a very necessary and valuable extension to our bear installation. The addition gives us a total of twenty-one bear dens, and for the first time renders it possible to bring all our bears into one group. The small tropical species will be specially cared for in winter, by housing in the fronts of their dens.

NATIONAL COLLECTION OF HEADS AND HORNS.

A superb collection has been received from Mr. Clarence H. Mackay, for the National Collection of Heads and Horns, consisting of twelve giant Alaska moose heads, ten elk, and four bison heads. This collection is now exhibited in the Administration Building and forms one of the most notable gifts ever received by the Society.

Mr. John C. Phillips presented a collection of thirty-six pairs of selected horns, which filled many existing gaps in the National

Collection. A white rhinoceros head was received from Col. Theodore Roosevelt; a remarkable white-tail deer head from Maine and a record pair of walrus tusks from Mr. Henry A. Caesar, and a pair of Labrador caribou antlers from Mr. H. Hesketh Prichard.

The need of spacious and additional galleries for the Heads and Horns Collection is beginning to be felt and can probably be best provided by extending the Administration Building toward the east.

LIBRARY.

The small fund available for the library has been carefully husbanded and the books that have been purchased during the year were of the most necessary character. Whenever more funds become available, the Committee will take up seriously the acquisition of more zoological works and books of travel containing observations on the wild life of the world. A librarian was engaged for a period of four months to arrange and catalogue the contents of the library, so that the books are now available for use.

PUBLICATION DEPARTMENT.

During 1911 the Annual Report, six numbers of the *Bulletin*, *Zoologica* No. 7, and a revised edition of the Guide Book were printed. The demand for the *Bulletin* has increased until several numbers have become exhausted. The fact that numbers one, six and thirty-five are out of print and several others nearly so, has made it necessary to increase the bi-monthly edition five hundred copies. As a provision for the future, fifty copies from every issue will be stored in the Library at the Administration Building. The Guide Book was completely revised, reset and freshly illustrated. The abundance of illustrations has greatly increased the sales.

FORESTRY DEPARTMENT.

The work of this department during the year consisted, as in previous years, in keeping the grounds and buildings in order, supplying food, hauling refuse, policing the Park and regulating the crowds of visitors, and in the installation of a great number of small improvements; such as a bathing pool for the large polar bear Silver King; planting and fencing; grading ground south of the Crotona Entrance; erecting a musk-ox shelter; cleaning the Beaver Pond; enclosing two cages in the Ostrich

House with wood and glass; laying of concrete walks; installation of private water pump for sprinkling purposes; substituting concrete and steel for wood in the Reptile House and Aquatic Bird House; overhauling the Primate House and Small Mammal House.

The usual amount of live stock, vegetables and ornamental plants were produced by the nursery. The greenhouses are becoming wholly inadequate to produce the supply of plants required for indoor decoration and bedding.

MEDICAL DEPARTMENT.

The general health of the mammals during the year 1911 has been excellent. There have been fewer cases of illness than in former years and the death-rate remains at the low mark of the past few years. There has been no epidemic of any kind during the past year, while gastro-enteritis among the hoofed animals, tuberculosis among the primates, and distemper and intestinal parasites among the carnivores have been less troublesome than formerly.

The records of the medical department for the past ten years are being reviewed for the purpose of preparing a treatise on the diseases of wild animals in confinement, soon to be published by the Zoological Society.

PHEASANT EXPEDITION.

On May 26, 1911, C. William Beebe, the Curator of Birds of the Zoological Park, returned from his trip around the world, having completed a thorough survey of the known species of pheasants.

He visited the Kensington Museum in London to inspect the material available there, then visited the southern slopes of the Himalayas and entered far into the mountains at several points. From there he went to Burma, Java, China and Japan.

The entire expenses of the expedition and the preparation of the Monograph, which will cost in all between \$50,000 and \$75,000, have been met by one of the Managers of the Society, Colonel Anthony R. Kuser, of Bernardsville, New Jersey, whose action was dictated by a great love of birds and a desire to do something noteworthy for the New York Zoological Society and for science.

Illustrations for this work are being prepared by Charles R. Knight and Louis Agassiz Fuertes in this country, and Major

Henry Jones, Archibald Thorburn and George E. Lodge in England.

BRONX PARKWAY COMMISSION.

A most important step in the development of the Park, has been the grant by the Board of Estimate and Apportionment of sufficient funds to begin the preliminary survey and work for the great Bronx River Parkway, which will extend from Bronx Park to the new Kensico Lake, a distance of thirteen miles, connecting there with the state roads northward. If the Commission is enabled to carry out its plans, the valley of the Bronx and its waters will be protected from pollution, and the permanence of the lake and river system of the Zoological Park will be secured. This will be of incalculable value to the Park and to the public at large.

This initial appropriation amounted to \$35,000. Three-fourths, viz., \$26,250, has been appropriated by the City of New York, and one-fourth, viz., \$8,750, by the County of Westchester. The Commission is at present engaged in the completion of the survey and the preparation of maps.

EAST SIDE EXTENSION.

After long and tedious negotiations and at the urgent insistence of the officers of the Society, the forest lands lying to the east of the Park, which were acquired by the City through condemnation proceedings, have been transferred to the Park Department of the Borough of the Bronx, and the old village of Bronxdale with its disreputable shanties, has been at last eliminated.

A plan has been prepared showing a systematic development of roads and paths for the whole district lying east of the Bronx River and covering both the portions under the control of the Zoological Society and that remaining in the hands of the Park Department. It is believed that in the near future the City will prefer to turn this over to the management and control of the Zoological Society, so that it may be properly policed and its superb timber protected.

BOARD OF MANAGERS.

Acting under the authority conferred by the By-Laws, your Committee elected Mr. Watson B. Dickerman to the Board of Managers of the Class of 1913, to fill the vacancy caused by the

resignation of Mr. Nelson Robinson; and Mr. Mortimer L. Schiff to the Class of 1913 to fill the vacancy caused by the resignation of his father, Mr. Jacob H. Schiff.

At the Annual Meeting the members of the Society elected Mr. Lewis Rutherford Morris to the Class of 1915, to fill the vacancy caused by the death of Captain John S. Barnes.

The following is a calendar of events for the year 1912:—

Meetings, Board of Managers.

Annual Meeting	Annual Dinner
January 16, 1912.	February 22, 1912.
Park Meeting	
May 20, 1912.	

Meetings, Executive Committee

January 4, 1912,	May 2, 1912,
February 1, 1912,	June 6, 1912,
March 7, 1912,	October 3, 1912,
April 4, 1912,	November 7, 1912,
December 5, 1912.	

Ladies Day
May 6, 1912.

Members Day
May 20, 1912.

Sportsmen's Day
June 6, 1912.

NEW YORK AQUARIUM.

In the year 1911 the collections of the Aquarium were somewhat more varied in character than usual. It was found possible to bring tropical fishes from Key West, Florida, which added a considerable number of species that had hitherto not been exhibited at the Aquarium. One of the shipments from Key West was a gift of Mr. Danforth Ferguson of New York. Tropical collections were obtained from Bermuda as usual.

There could, of course, be no general increase of exhibits without increasing the tank space in the building, but all exhibition space was fully occupied. The fish-hatchery was kept in operation during the greater part of the year.

The United States Bureau of Fisheries presented a pair of fur-seals from the Pribilof Islands, and in March the Aquarium received six yearling elephant seals from Guadalupe Island, off the west coast of Mexico, where they were taken by the United States Fisheries S. S. *Albatross*. Two of these animals were sent to the National Zoological Park in Washington.

The Aquarium was opened to the public at night from May 30 to September 30, and the large crowds of visitors showed that the opportunity to see the collections by night was appreciated by the public.

AQUARIUM.

The leave of absence granted to Mr. Charles H. Townsend, to enable him to accept temporarily the position of Acting Director of the American Museum of Natural History expired on February 15, 1911, and was extended to June 15, 1911, to enable him to conduct a scientific expedition on the United States S. S. *Albatross*. Towards this expedition the Society contributed \$1,000, and received a large collection of lizards and six of the rare elephant seals, now almost extinct. The seals were placed on exhibition at the Aquarium and grew rapidly, consuming enormous quantities of food. Two specimens have been presented to the United States Fisheries Commission at Washington and are now on exhibition at the National Zoological Park.

During Dr. Townsend's absence, Mr. Raymond C. Osburn, the Assistant Director, conducted the administration of the Aquarium to the entire satisfaction of your Committee. Mr. Townsend resumed his duties as Director on June 15, 1911.

PLANS FOR 1912.

During the year 1912, the Society proposes to erect an Ape House on Baird Court, on the former site of the Rockefeller Fountain. This new structure is required for the reception of our splendid collection of anthropoid apes, now numbering four chimpanzees and five orang-utans, some exceptionally intelligent. A special building is needed to secure the continued health and proper exhibition of these animals, which are too valuable to be exhibited in their present quarters, in which adequate quarantine, training and keepers' rooms are lacking.

A modern hospital and quarantine is being planned to occupy a portion of the Service Yards to the north of the barns, and when completed will enable the Society to prevent possible infection by quarantine, and to provide proper quarters for sick animals.

Your Committee also proposes to construct an Atelier in which work in taxidermy and the mounting of animals can be conducted. It seems only just that in a Zoological Park containing such a vast number of live animals, that the same opportunities should be furnished to the taxidermist which are now provided for sculptors and artists.

Plans for a Pelican House, which will be used for the storage of large water birds during the cold weather, are in the hands of the Park Department. The money has been provided and this structure will be built during the coming year.

A Shelter Pavilion must be constructed on the east side of Bronx River for the protection of the crowds in stormy weather; and the yards for the Zebra House will be taken in hand as soon as the building itself has been completed.

It is probable that in the immediate future your Committee will take up the question of providing permanent entrances at the corners of the Zoological Park, beginning with the Pelham Avenue Entrance. These entrances will ultimately form part of a stone and steel fence entirely surrounding the Park.

Plans for the enlargement and extension of the Rocking Stone Restaurant are also under consideration, and it is only a question of time when the Administration Building will have to be enlarged to provide more commodious galleries for the exhibition of the increasing collection of heads and horns.

GAME PROTECTION.

During the year, the Society took an active part in the support of the Bayne bill prohibiting the sale of game in New York state. Dr. Hornaday, the Director of the Zoological Park, was especially active, and the successful passage of the bill is largely due to his efforts.

ACKNOWLEDGMENTS.

The usual acknowledgments to the officers of the Society and the various departments, especially to the different members of the staff of the Park Department of the Borough of the Bronx, are due from your Committee. We cannot too strongly empha-

size the cordial relations which have been maintained between the Park and Aquarium and the City authorities.

The devotion of the Directors of the Park and of the Aquarium and their respective staffs, has continued to be a source of strength to the Society, and of satisfaction to your Committee. We take pleasure in closing this report of progress by assuring the Board of Managers that the Society was never in a stronger position, either in its internal harmony or in its external relations with the City of New York and the public at large.

Respectfully submitted,

MADISON GRANT, *Chairman,*

PERCY R. PYNE,
SAMUEL THORNE,
LEVI P. MORTON,
WILLIAM WHITE NILES,

WM. PIERSON HAMILTON,
FRANK K. STURGIS,
LISPENARD STEWART,
HENRY FAIRFIELD OSBORN,
ex-officio.

Resolution

of the

Executive Committee of the Board of Managers
of the New York Zoological Society
passed December 12, 1911

Capt. John Sanford Barnes

who died at the City of New York, November 22, 1911, became one of the Managers of the New York Zoological Society, and a member of the Executive Committee in January, 1897, and served actively until his death.

Captain Barnes deserves no small share of the credit of the successful organization of the Society, and in its early struggles his cheerful enthusiasm and confidence were a constant source of inspiration and help to his associates, especially in the negotiations with the municipal authorities leading to the foundation of the Zoological Park.

The Executive Committee experience in his death the loss of a friend, a counsellor and a great hearted gentleman, slow and cautious in criticism and ever prompt and generous in approval and praise. His loss to the Society, and to the City, is one that is deeply felt, and his colleagues desire to record their profound sense of personal bereavement and their appreciation of his tireless service in the cause of science, and in the work of the Zoological Society.

Treasurer's Reports.

FOR THE YEAR ENDING DECEMBER 31, 1911.

Income Account.

Schedule 1.

Unexpended Balance as at December 31, 1910.

Cash in Bank:

Available for expenditure during 1911.....	\$6,018.40	
Received from Sustaining Members in advance:		
For year 1912.....	\$520.00	
For year 1913.....	520.00	1,040.00

Investments:

New York, Lackawanna & Western Terminal 4% Bonds	9,900.00	\$16,958.40
--	----------	-------------

INCOME FOR YEAR.

Annual Dues	\$14,230.00	
Sustaining Membership, including advance payments for 1912 and 1913.....	3,200.00	
Aquarium Publications (Sales).....	19.85	
Interest received and accrued.....	126.21	
Transfer from Endowment Fund Income Account	4,605.55	22,181.61

\$39,140.01

EXPENDITURES FOR YEAR.

Stationery, printing and office supplies.....	\$1,277.97	
Annual Report and separates.....	1,658.41	
Publications for members.....	444.70	
Bulletin	1,756.24	
Photographs and slides.....	818.79	
Mailing circulars	1,560.96	
General office expenses.....	2,557.25	
Treasurer's office expenses.....	745.50	
Secretary's salary	5,000.00	
Salary and expenses of librarian.....	509.67	
Aid to employees	379.00	
Audit of accounts.....	722.86	
Employers' insurance	774.08	
Engineering expenses	355.00	
Expenses, Annual Meeting.....	1,081.25	
Expenses of receptions.....	535.80	
Service, Administration Building.....	163.96	
Van Mater case.....	162.45	
Albatross expedition	1,000.00	
Game protection	308.00	
Models for Zebra House.....	800.00	
Aquarium specimens	1,191.80	
Aquarium expenses	210.50	
Heads and horns	48.05	
Transfer to National Collection of Heads and Horns.....	100.00	
Transfer to Endowment Fund.....	100.00	
Miscellaneous expenses	1,780.34	
Adjustment of Aquarium Fund, Bank Overdraft.....	121.33	\$26,163.91

Carried forward \$26,163.91

<i>Brought forward</i>		\$26,163.91
Unexpended Balance as at December 31, 1911,		
<i>Cash in Bank:</i>		
Available for expenditure during 1912.....	\$3,529.83	
Received from Sustaining Members in advance for year 1913	600.00	4,129.83
<i>Investments:</i>		
New York, Lackawanna & Western Terminal 4% Bonds (One bond sold during year for \$990).....	\$8,910.00	
Accrued Interest on Bonds.....	60.00	8,970.00
		<hr/>
		\$39,263.74
Less		
Amount due to City and Aquarium Funds.....		123.73
		<hr/>
		\$39,140.01
H. R. MITCHELL,	PERCY R. PYNE,	
<i>Chief Clerk.</i>	<i>Treasurer.</i>	
January 1, 1912.		

Maintenance Fund.

Schedule 2.

RECEIPTS.

° Received from the City account Maintenance Appropriation of \$174,632.00 for the year.....	\$158,606.04	
Due from the City on account of Maintenance.....	15,973.70	
Unexpended balance to revert back to the City.....	52.26	\$174,632.00

EXPENDITURES

Maintenance of buildings and care of collections.....	\$48,476.55
Maintenance and care of grounds.....	48,062.16
General administration	17,425.39
Food for animals	36,074.83
Fuel	7,120.04
Tools and hardware	2,588.36
Lumber	1,894.02
Paints and oils	1,501.46
Uniforms and badges	1,311.67
Electric lighting	1,287.11
Plumbing supplies	977.21
Office supplies and printing.....	898.39
Janitor's supplies	779.11
Sanitation	682.61
Telephone service	602.32
Sand and cement.....	600.34
Freight and express	419.67
Postage and telegraph	542.77
Furnace repairs and replacements.....	363.72
Fencing and netting	278.85
Office furniture and fixtures.....	252.90
Repairs	294.14
Signs and labels	224.70
Ice	166.95
Medical attendance (employees)	165.00

Carried forward \$173,020.17

<i>Brought forward</i>	\$173,920.17	
Electrical supplies	162.63	
Drugs and medicines	162.07	
Stable supplies and repairs.....	135.04	
Rubber hose	131.63	
Glass and glaziers' supplies.....	120.70	
Horses and vehicles	90.25	
Park baskets	82.20	
Nursery supplies	57.35	
Mats and floor coverings.....	48.70	
Engineering supplies	30.84	
Nursery stock and seeds.....	30.55	
Awnings and shades	11.05	
Surgical instruments and appliances.....	7.56	
Miscellaneous supplies	489.00	
Unexpended balance to revert back to the City.....	52.26	\$174,632.00

H. R. MITCHELL,
Chief Clerk.

PERCY R. PYNE,
Treasurer.

January 15, 1912.

Ground Improvement Fund.

Schedule 3.

SHOWING STATUS OF APPROPRIATION No. 5.

Unexpended balance of Appropriation No. 4 brought forward.....	\$3,099.78
Reductions on various contracts, old account.....	1,416.96

RECEIPTS.

Appropriated by Board of Estimate and Apportionment:		
Available, July, 1908.....	\$ 65,000.00	
Available, August, 1909.....	10,000.00	
Available, August, 1910.....	84,500.00	
Available, October, 1911.....	155,000.00	314,500.00
Premium on bonds to December 31, 1911.....		1,260.02
		<u>\$320,276.76</u>

EXPENDITURES.

<i>By the Zoological Society:</i>	
Bear Den walk, steps and railing.....	\$ 198.50
Baird Court Boundary and Concourse.....	48.52
Crematory and fuel shed.....	489.76
Axis and Sika Deer Fences.....	1,337.63
Guard rails	1,789.79
Boundary fences	3,303.58
Elephant House walks and yards.....	1,797.94
Forestry and planting	11,450.08
Miscellaneous	5,450.58
West farms block	1,066.56
New walks	1,020.08
Llama yards	377.48
Reconstruction of walks	2,637.45
Filling Duck Aviary	572.10
Boston Road Public Comfort Station.....	10.00
North end of Baird Court.....	947.61
Public Comfort Station, Elephant House.....	1,978.20
<i>Carried forward</i>	<u>\$34,475.86</u>

<i>Brought forward</i>	\$34,475.86	
Zebra and Wild Horse installation.....	2,638.28	
Small Deer House walks and yards.....	324.35	
Polar Bear Den.....	975.19	
New Bear Dens.....	390.13	
Administration Building	140.38	
Eagle and Vulture Aviary.....	935.53	
Beaver Pond	1,465.99	
Buffalo fence	130.00	
Eagle and Vulture Aviary and Zebra House walk.....	502.75	\$41,978.36
<hr/>		
<i>By the Zoological Society through Park Department:</i>		
Reconstruction of walks	\$ 2,925.97	
Forestry and planting	9,400.63	
Elephant House walks and yards.....	1,809.58	
Boundary fences	323.58	
Guard rails	580.57	
New walks	290.74	
Miscellaneous	1,693.48	
West Farms block.....	35.00	
Llama yards	122.52	
Small Deer House yards.....	191.00	
Axis and Sika Deer Fences.....	362.37	
Crematory and fuel shed.....	110.24	
North end of Baird Court.....	577.49	
Electric conduit	760.95	
Administration Building	1,944.92	
Public Comfort Station, Elephant House.....	164.80	
Zebra and Wild Horse installation.....	879.44	
Furnishings and fittings for Administration Building.....	1,572.29	
Polar Bear Den.....	366.20	
New Bear Dens	27.49	
Administration Building (vault)	87.48	
Beaver Pond	25.10	
Bear Den walk, steps and railing.....	15.90	
Buffalo fence	366.70	34,634.44
<hr/>		
<i>Through Park Department:</i>		
Contract, Jos. Balaban, Zebra House.....	\$25,181.00	
Contract, George Hildebrand, Eagle and Vulture Aviary	18,867.00	
Contract, H. F. English, Public Comfort Station, Elephant House	10,357.00	
Contract, Abraham & Straus, Furnishing Administration Building	7,544.26	
Contract, Repairing Bronx River Dam.....	6,514.00	
Contract, Construction of Bear Dens.....	7,777.00	
Contract, Granite Coping, Baird Court.....	772.00	
Miscellaneous expenditures through Park Department Claim of J. V. Schaefer, Jr., Co., allowed by Finance Department for extra on Administration Building	1,409.86	81,037.69
<hr/>		
Balance available for expenditure, December 31, 1911.....	172,626.27	
		\$320,276.76

H. R. MITCHELL,
Chief Clerk.

PERCY R. PYNE,
Treasurer.

January 1, 1912.

Animal Fund.

Schedule 4.

Unexpended balance as at December 31, 1910:			
Cash in Bank (Farmers Loan & Trust Co.)	\$32,166.23		
Less overdraft with Bronx Borough Bank	40.00	\$32,126.23	
Cash on hand.....		100.00	\$32,226.23
Income from December 1, 1910 to December 31, 1911:			
<i>Special Subscriptions:</i>			
Frank L. St. John.....	\$100.00		
Andrew Gray Weeks	10.00	\$ 110.00	
Admissions		11,611.15	
Checking		39.70	
Sale of Animals.....		2,136.75	
Miscellaneous		107.55	
Rent		45.00	
Transfer from Privilege Department.....		5,000.00	\$19,050.15
			<u>\$51,276.38</u>
EXPENDITURES			
Mammals	\$ 6,310.46		
Birds	7,039.95		
Reptiles	2,643.31		
Insect Collection	135.92	16,129.64	
Express and other charges.....	\$ 1,802.51		
Travelling and other expenses.....	338.89	2,141.40	
Unexpended balance as at December 31, 1911:			
Cash in Bank (Farmers Loan & Trust Co.).....	\$32,424.79		
Cash in Bank (Bronx Borough Bank).....	480.55		
Cash on hand.....	100.00	33,005.34	
			<u>\$51,276.38</u>

H. R. MITCHELL,
Chief Clerk,

PERCY R. PYNE,
Treasurer.

January 1, 1912.

Stokes' Bird Fund.

Schedule 5.

Unexpended balance as at December 31, 1910:			
Cash in Bank	\$ 353.90		
Investment: Illinois Central Railway 4% Gold Bonds..	5,056.46	\$5,410.36	
INCOME FOR YEAR.			
Interest received and accrued.....		239.31	
			<u>\$5,649.67</u>
EXPENDITURES FOR YEAR.			
Donations towards preservation of bird life.....		350.00	
Unexpended balance at December 31, 1911:			
Cash in Bank.....	\$ 209.88		
Investment: Illinois Central Railway 4% Gold Bonds	5,056.46	\$5,266.34	
Accrued Interest on Bonds.....		33.33	5,299.67
			<u>\$5,649.67</u>

H. R. MITCHELL,
Chief Clerk,

PERCY R. PYNE,
Treasurer.

January 1, 1912.

National Collection of Heads and Horns.

Schedule 6.

Unexpended balance as at December 31, 1910:		
Cash in Bank		\$1,181.44
INCOME FOR YEAR.		
<i>Special Subscriptions:</i>		
W. H. Chase	5.00	
Edward Russ	10.00	
M. F. Westover	3.00	
A. St. John Newberry	5.00	
Henry A. Caesar	5.00	
Thos. Rowland	10.00	
W. Frazer Gibson	5.00	
George Shiras, 3rd.....	10.00	
John T. Pirie, Jr.	5.00	
John J. Paul	15.00	
Archibald Rogers	5.00	
G. M. Laughlin, Jr.	5.00	
Wm. R. Coe	10.00	
Henry Phipps	200.00	\$293.00
Interest	20.53	
Transfer from Income Account.....	100.00	413.53
EXPENDITURES FOR YEAR.		
		\$1,594.97
Heads and Horns.....	\$1,454.75	
Express and other charges.....	112.58	1,567.33
Unexpended balance as at December 31, 1911:		
Cash in Bank.....		27.64
		\$1,594.97
H. R. MITCHELL, <i>Chief Clerk.</i>	PERCY R. PYNE, <i>Treasurer.</i>	
January 1, 1912.		

Library Fund.

Schedule 7.

Unexpended balance as at December 31, 1910:		
Cash in Bank		\$1,752.45
INCOME FOR YEAR.		
Interest		40.75
EXPENDITURES FOR YEAR.		
		\$1,793.20
Subscriptions to periodicals	\$ 57.94	
Books, pamphlets, etc.	632.95	
Express and other charges.....	8.31	
Miscellaneous supplies	12.39	711.59
Unexpended balance as at December 31, 1911:		
Cash in Bank		1,081.61
		\$1,793.20
H. R. MITCHELL, <i>Chief Clerk.</i>	PERCY R. PYNE, <i>Treasurer.</i>	
January 1, 1912.		

Aquarium Maintenance Fund.

Schedule 8.

RECEIPTS.

Received from the City account Aquarium Maintenance		
Appropriation of \$48,000 for the year.....	\$38,755.02	
Due from the City on account of Aquarium Maintenance..	8,805.19	
Unexpended balance to revert back to the City.....	439.79	\$48,000.00

EXPENDITURES.

Pay Rolls	\$32,168.16	
Coal	4,276.03	
Telephone	194.21	
Electric Light	1,141.68	
Ice	87.55	
Uniforms	79.75	
Cartage of Fishes and Tanks.....	377.33	
Stationery and Books	148.01	
Fish Food	3,203.07	
Furniture	23.00	
Incidental Expenses (office)	164.15	
Contingencies	315.08	
General Supplies	1,826.26	
Materials for repairs and replacements by Departmental		
Labor	745.10	
Repairs and replacements by contract or open orders....	1,522.46	
Gas	1,288.37	
Unexpended balance to revert back to City.....	439.79	\$48,000.00

C. H. TOWNSEND,
Director.

PERCY R. PYNE,
Treasurer.

Aquarium Improvement Fund.

R. B. F., R. D. P. No. 1.

Schedule 8-A.

Unexpended balance as at December 31, 1910.....	\$23.00
Unexpended balance reverted back to the City.....	23.00

Aquarium Improvement Fund.

Corporate Stock, C. D. P. No. 4.

Schedule 8-B.

Unexpended balance as at December 31, 1910.....	\$344.50
<i>No Expenditures.</i>	
Balance available for expenditure, December 31, 1911.....	344.50

MORRIS MAYER,
Bookkeeper, Department of Parks,
Manhattan and Richmond.

Endowment Fund.

Schedule 9.

Funds as at December 31, 1910, as per last report:		
Cash in Bank	\$ 4,610.29	
Investments at cost	230,287.50	
Balance due by Endowment Fund Income Account.....	1,865.01	\$236,762.80
<i>Special Subscriptions:</i>		
James J. Hill	\$10,000.00	
Lispenard Stewart	10,000.00	
Mortimer L. Schiff	5,000.00	
C. F. Dieterich	5,000.00	
Hugh J. Chisholm	5,000.00	
George C. Clark	5,000.00	
Percy R. Pyne	5,000.00	
Mrs. Morris K. Jesup	500.00	
Mrs. A. D. Juilliard	500.00	
Miss Helen M. Gould	300.00	46,200.00
Life Membership Subscriptions		1,800.00
Transfer from Income Account		100.00
		<hr/>
Funds at December 31, 1911:		\$284,862.80
<i>Investments at cost:</i>		
\$20,000 Westchester Racing Association 5% First Mortgage Bonds	\$20,000.00	
3,000 Second Mortgage, Clara N. Gibert and others, 6% over land and buildings, Broadway and 17th Street	3,000.00	
5,000 Colorado & Southern 4% Bonds.....	4,750.00	
5,000 Michigan Central R. R. Co. 4% Bonds.....	4,950.00	
10,000 New York City 1957 4% Corporate Stock.....	9,925.00	
10,000 St. Paul, Minneapolis & Manitoba 4% Bonds.....	9,800.00	
50,000 U. S. Steel Sinking Fund 5% Bonds.....	51,812.50	
50,000 American Telephone & Telegraph 4% Bonds.....	45,000.00	
25,000 Rhode Island Suburban Ry. Co. 4% Bonds.....	21,250.00	
20,000 New York City 1958 4% Corporate Stock.....	19,875.00	
10,000 New York City 1957 4% Corporate Stock.....	9,962.50	
10,000 New York City 1958 4% Corporate Stock.....	9,962.50	
20,000 Chicago & Northwestern Ry. Co. General Mortgage 4% Bonds	19,750.00	
20,000 Vandalia Railroad Co. Consolidated Mortgage 4% Bonds	19,400.00	
5,000 Missouri & Illinois Bridge & Belt R. R. Co. 1st Mortgage 4% Bonds	5,000.00	
10,000 Chicago, Milwaukee & Puget Sound, 1st Mortgage 4% Bonds	9,525.00	
1,000 New York, Lackawanna & Western 4% Terminal Improvement Bond	990.00	\$264,952.50
Cash in Bank		19,566.52
Balance due by Endowment Fund Income Account.....		343.78
		<hr/>
		\$284,862.80

H. R. MITCHELL,
Chief Clerk.

PERCY R. PYNE,
Treasurer.

January 1, 1912.

Endowment Fund Income Account.

Schedule 10.

Unexpended balance as at December 31, 1910:		
Cash in Bank		\$1,173.03

INCOME FOR YEAR.

Interest collected from Endowment Fund		
Investments	\$12,124.47	
Interest accrued on Endowment Fund Invest-		
ments	3,628.34	\$15,752.81
	<hr/>	
Less proportion of income included in price of		
securities purchased to be refunded to En-		
dowment Fund	2,208.79	13,544.02
	<hr/>	<hr/>
		\$14,717.05

EXPENDITURES FOR YEAR.

Transferred to Income Account.....		\$ 4,605.55
Unexpended balance as at December 31, 1911:		
Cash in Bank	\$6,826.94	
Accrued Interest on Endowment Fund		
Investments	3,628.34	\$10,455.28
	<hr/>	
Less, Due to Endowment Fund	343.78	10,111.50
	<hr/>	<hr/>
		\$14,717.05

H. R. MITCHELL,
Chief Clerk.

PERCY R. PYNE,
Treasurer.

January 1, 1912.

AUDITORS' CERTIFICATE

We have audited the books and accounts of the New York Zoological Society for the year ended December 31, 1911, and certify that the foregoing Schedules "1" to "10" are in accordance with the books, and, in our opinion, correctly record the transactions relating to the funds of the Society for the year, and the condition of the various funds as at December 31, 1911. Schedule "3" includes records of expenditures amounting to \$24,634.44 and \$81,037.69 made through the Park Department of the City of New York. We have not verified the expenditures so made, but we have incorporated them in the statements submitted so that these may be complete. The subscriptions, donations and dues reported as received have been properly accounted for, and the securities and cash in bank and on hand at December 31, 1911, as shown in the accounts of the funds presented herewith, were all duly checked and found in order.

MARWICK, MITCHELL, PEAT & Co.,
Chartered Accountants.

79 Wall Street, New York,
March 29, 1912.

New York, April 16, 1912.

*The President and Board of Managers of
The New York Zoological Society.*

Dear Sirs:

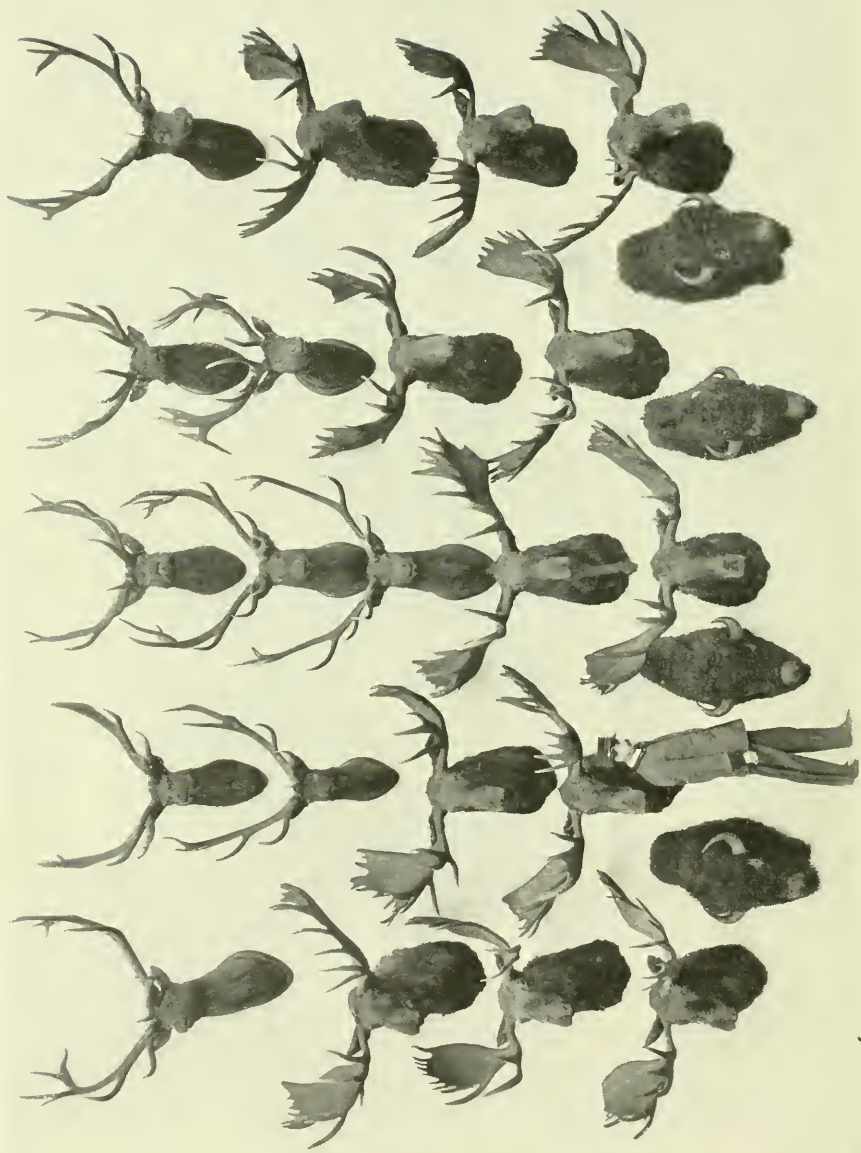
We beg to report we have examined the annual audit of the books and accounts of the New York Zoological Society for the year ending December 31, 1911, as made by Messrs. Marwick, Mitchell, Peat & Company, Chartered Accountants, and herewith submit the same to you as a complete and satisfactory audit of said books and accounts, all expenditures and receipts of the various accounts being clearly set forth and the cash on hand and at the various depositories having been verified and found correct. Also all securities in which the funds of the Society are invested have been examined and found as reported.

Expenditures made through the Park Department of the City of New York have not been verified by this audit as such moneys have not passed through the hands of this Society, but are in due course checked and verified by the Comptroller of the City.

During the year especial attention has been given by your Committee to the further systemization of the accounts of the Privilege Departments, and we now beg to report the auditors state they have found an efficient and satisfactory checking system in use in this department, and that the books and records are well and carefully kept. After consultation with the auditors your Committee have adopted certain additional safeguards which it is thought will still further improve the present methods of protection.

Respectfully submitted,

HUGH D. AUCHINCLOSS,
WILLIAM W. NILES,
C. LEDYARD BLAIR,
Committee.



THE MACKAY COLLECTION.
Presented to the National Collection of Heads and Horns by Clarence H. Mackay.

REPORT OF THE
DIRECTOR OF THE ZOOLOGICAL PARK
TO THE BOARD OF MANAGERS.

THE year 1911 was marked by substantial advancement along several lines. The installations for animals gained important additions, the animal collections were greatly strengthened by new accessions, and the health of the animals continued to be satisfactory.

NEW INSTALLATIONS FOR COLLECTIONS

The Zebra House.—The old moose range has been dedicated to the wild horses and zebras of the world; and the site is well adapted to the purpose it is now about to serve. The Zebra House itself, an excellent brick structure, one hundred and seventy-four feet long by thirty-six feet wide, contains twelve box stalls and a series of yards connecting therewith on the east. In addition to this, two log barns are situated a few rods westward, each of which is surrounded by large corrals. These barns are intended for wild horses and other wild equines that have been acclimatized here and are known to be able to withstand our winters without detriment to their health and comfort.

The Zebra House, exclusive of the yards, has been erected by Joseph Balaban, at a cost of \$25,181 for the original contract, to which additions have been made.

The Eagle and Vulture Aviary.—In accordance with an imperative duty and a long-cherished plan, early in 1911 the Director and Civil-Engineer Beerbower designed an adequate aviary to accommodate the eagles and vultures of the world. Up to this time, a fine collection of the larger birds of prey has been scattered throughout the Park, from the Ostrich House to the Aquatic Bird House, without distinctive character, and therefore quite unappreciated. Moreover, the temporary quarters of the birds of prey at the Aquatic Bird House always have been lamentably inadequate.

Occupying the semicircular hillside that originally was used as a caribou range, there now stands an aviary that is fully up to the standard of our other installations. It is 208 feet long, and its depth from front to rear is, in the main, thirty-three feet. It consists of thirteen cages, seven of which are very large and six are of smaller size. The interior of the central, and largest cage is twenty-four feet wide, thirty-three feet deep and thirty-two

feet high. At the rear, each cage is provided with an adequate shelter pavilion of concrete.

The seven large cages are for the condors, eagles, lammergeyer, eared vulture and king vulture, and the smaller ones are for the commoner vultures, hawks and falcons. When the eagles and vultures are removed from the cages connected with the Aquatic Bird House, those cages will be devoted exclusively to the collection of owls.

In the rear of the Eagle Aviary, a substantial brick building has been erected in which to provide winter quarters for the tropical birds of prey which can not endure the full rigors of winter in the latitude of New York.

The Eagle and Vulture Aviary and shelter building have been erected by George Hildebrand, at a total cost of \$18,867.

The Additional Bear Dens.—Ten additional bear dens were erected last year, and completed in December, at a date too late to transfer to them the tropical species that eventually they will accommodate. There are two large dens for Alaskan brown bears, and eight smaller dens for small bears and single individuals. Early in the spring of 1912, these dens will be filled, and in them will be found the spectacled bear, Malay sun bears, the Andean black bears, Japanese black bear, and others of small size.

ATTENDANCE OF VISITORS

During 1911, the attendance of visitors at the Zoological Park, as recorded by the turnstiles, was as follows:

	In 1911	In 1910
January	40,012	47,649
February	70,797	47,679
March	77,150	126,936
April	119,867	103,349
May	234,187	195,997
June	151,681	125,705
July	170,978	198,486
August	146,519	169,657
September	219,046	184,161
October	113,005	137,423
November	74,413	70,595
December	64,250	33,705
Totals	1,481,905	1,441,342

DEPARTMENT OF MAMMALS

W. T. Hornaday, Curator; Raymond L. Ditmars, Assistant Curator.

During the year 1911, the most noteworthy event was the sending of a small expedition to Equatorial West Africa in charge of Mr. R. L. Garner, in quest of gorillas. Mr. Garner was successful in obtaining in the French Congo Territory, and bringing alive to the Zoological Park, a female gorilla between two and three years of age that stood thirty-four inches in height. Owing to the misfortune of missing the bi-monthly Hamburg-American steamer touching at Cape Lopez, sailing directly to New York, Mr. Garner was forced to return via France, which involved two long ocean voyages instead of one. Despite the utmost care that could be bestowed upon the gorilla, its refusal of all food save plantains, and its generally morose and sullen disposition, finally brought the animal into a feeble state of health. It landed here, in poor physical condition, on September 23. From this it had not sufficient physical stamina to recover, and it died on October 5, practically of malnutrition. The cheerful chimpanzee and optimistic orang readily harmonize with their surroundings, and live; but the gorilla sulks almost continuously and soon dies.

The expedition sent out by Newland, Tarlton and Company, from British East Africa to the Lado District on the upper Nile, to capture two white rhinoceroses for the Zoological Society, finally failed on account of climatic and other conditions quite beyond Captain Grogan's control. Another attempt is now being made by Captain Grogan, with more conditions in his favor, and therefore we hope for his success.

The most notable gift of animals received during the year came from Mr. Paul J. Rainey, whose hunting in British East Africa yielded to us a fine pair of lion cubs, a cape hunting dog, a spotted hyena, three leopards and several rare monkeys. These animals all arrived in excellent condition, and were most welcome additions to our collections.

The other important mammalian accessions during the year were the following:

One young male orang-utan, one young female chimpanzee, one red howler monkey, one black howler monkey, one Hagenbeck mangabey, three Diana monkeys, five bearded monkeys, one chacma baboon, two tarsiers, one Malayan fruit bat, one bushy-tailed ichneumon, two pandas, two arctic foxes, one Andean black bear, two raccoon dogs, one hyena dog, one spotted hyena, four leopards, two snow leopards, one margay cat, five California



TASMANIAN WOLF



CAPE HUNTING DOG.
Presented by Paul J. Rainey.

sea lions, one llama, two prong-horned antelope, two mule deer, one blessbok, one Tasmanian wolf, two Tasmanian devils and two wombats.

The following is a list of the most important births during the past year:

6 American Wapiti.	2 Black-Tailed Deer.
3 White-Tailed Deer.	4 Axis Deer.
3 Sika Deer.	5 Fallow Deer.
1 Hog Deer.	6 Red Deer.
1 Sambar Deer.	1 Beatrix Antelope.
1 Eld Deer.	5 American Bison.
1 Congo Sitatunga.	2 Aoudads.
1 Rocky Mountain Goat.	1 Prjevalsky Wild Horse.
2 Himalayan Tahrs.	3 Grizzly Bears.
1 Grant Zebra.	3 Syrian Bears.
3 Hybrid Russian Brown Hairy-Eared Bears.	2 Black Bears.
4 Raccoons.	1 Litter Timber Wolves.
	4 Litters Egyptian Porcupine Mice.

The following surplus mammals were sold during the year 1911:

2 Hybrid Russian Brown Hairy-Eared Bears.	2 Black Bears.
3 Raccoons.	2 Male American Bison.
7 American Wapiti.	2 White-Tailed Deer.
9 Red Deer.	2 Barasingha Deer.
	9 Eld Deer.

The musk-ox herd has been maintained in perfect health, and the growth of these animals has been rapid and satisfactory. The young walrus continues to thrive, but its rate of growth is somewhat slower than we expected. The acclimatized zebra colt and the Prejevalsky horse born last year are both developing satisfactorily.

The collection of apes is in good condition. Two of the female orang-utans have grown to be quite large, and soon will attain adult size. The exhibition of these animals under training, to show their mental traits, has attracted much attention. In warm weather the performance takes place daily in the large northeastern outside cage of the Primate House, and

its continuous success reflects much credit on Keepers Engeholm and Spicer, who have trained the animals. A false floor of wood, raised four feet above the concrete floor of the cage, brings the performance into view of the crowd of visitors that usually is in attendance, well in advance of the performance.

The health of the mammals of the Park has been quite as good as in any previous year. The elephants, rhinoceroses and hippopotamus have all developed satisfactorily. The development of the African elephant, from the French Congo Territory, has fully established that animal as the type specimen of a clearly-defined pygmy species, and for it the name *Elephas pumilio*, bestowed by Professor Noakes before the animal left Hamburg for America, has been permanently adopted. One of the most striking features of this animal is the very great length of its tusks for an elephant of such small stature. The annoying skin disease and the weak leg joints which for three years or more afflicted this animal, have all been completely cured, and "Congo" is now in quite perfect physical condition.

The census of mammals living in the Zoological Park on January 1, 1912, was as follows, after all specimens of domestic breeds had been eliminated from the collections:

MAMMALS OF THE ZOOLOGICAL PARK

December 31, 1911

(*Osborn's Classification*)

	Species.	Specimens.
MARSUPIALIA	7	21
CHIROPTERA	1	1
CARNIVORA	67	145
Pinnipedia	1	1
RODENTIA	44	156
ENDENTATA	2	5
PRIMATES	38	87
ARTIODACTYLA (Even-toed Ungulates) ..	60	272
PERISSODACTYLA (Odd-toed Ungulates) .	10	15
PROBOSCIDEA	3	5
HYRACOIDEA	1	2
	<hr/>	<hr/>
Total	234	710

DEPARTMENT OF BIRDS

C. William Beebe, Curator; Lee S. Crandall, Assistant Curator.

Having reached what seems to be the limit of the numerical capacity of the accommodations provided for the housing of the bird collection, the gain in numbers during 1911 is insignificant as compared with that of other years. A considerable gain, however, has been made in species, one hundred and eight having been added. This has been accomplished by a further reduction in the number of individuals of certain species, these being replaced in most cases by the addition of single specimens of several other kinds.

The scarcity of water during the water famine that prevailed during the summer was the indirect cause of a severe epidemic of duck cholera, which greatly reduced the flock of wild fowl quartered on Lake Agassiz. The birds afflicted were principally mallard ducks and Canada geese, of which about one hundred succumbed. Fortunately, the scourge did not spread to other bodies of water in the Park where the most interesting and valuable species are kept.

Early in the spring the first steps were taken toward the establishment of a colony of black-crowned night herons on one of the sheltered islands in Lake Agassiz, six birds being liberated there with wing-feathers clipped. When the birds moulted the cut feathers in the fall, they refused to leave the bountiful supply of fish provided for their consumption. Their constant flying about attracted others of their kind, so that we now have a flock of considerably over twenty birds, which seem to intend spending the winter with us. Every effort will be made to induce the herons to nest here in the spring, when we hope that the permanence of the colony will become assured.

Our two greater birds of paradise are still in perfect condition, and have acquired the conspicuous yellow plumes that are so fatal to the existence of this species in a wild state.

On September 17th, four turkey vultures were set free; and two have remained with us, occasionally soaring over Bird Valley, or coming down to some favorite perch to await their daily ration of meat. A covey of nine wild bob-white has been seen several times in the Park, often within a few yards of the Director's office.

Wild black and wood ducks resort regularly in autumn and winter to the Wild-Fowl Pond, where they associate with their



EARED VULTURE.

wing-clipped kindred. Thus it will be seen that success is gradually attending our efforts to make the Zoological Park a haven for wild birds, as well as a place of exhibition for what is now the largest collection of captive birds in the world.

Zoologically, the most important acquisition of the year was a pair of Carolina parrakeets (*Conuropsis carolinensis*), which came as a gift from the Zoological Gardens of Cincinnati, through Mr. S. A. Stephan, Superintendent. Our inquiries have shown it to be probable that not a single bird of this species now remains alive in the wild state, and only eleven in captivity.

Our exchange arrangement with the Zoological Society of London has been maintained month by month, and has added to our collections a number of unusual species, such as the red lory (*Eos rubra*); eastern pratincole (*Glareola orientalis*); Hey rock partridge (*Ammoperdix heyi*), Himalayan siskin (*Hypacanthis spinoides*); maroon oriole (*Oriolustralli*); and cinnamon sparrow (*Passer cinnamomeus*). The pratincoles represent the sub-order *Cursorii* of the order *Charadriiformes*, a sub-group never before represented in the collection. The maroon oriole is noticeable not only for its rarity but for the beauty of the deep wine color of the adult, a plumage which it is hoped our bird will assume at the next moult. Four specimens of the Bonham rock partridge (*Ammoperdix bonhami*) were secured by purchase, so that we now have two of the three species of this fine genus.

The series of shore birds has been greatly augmented by the importation of a number of uncommon European species, among which are the spotted redshank (*Totanus fuscus*); European golden plover (*Charadrius apricarius*); bar-tailed godwit (*Limosa lapponica*) and European oyster-catcher (*Haematopus ostragaleus*).

The collection of ducks, which has been concentrated on the Wild-Fowl Pond is of unusual interest, including twenty-nine hardy species which spend the winter out-of-doors, exclusive of the tropical teal, tree-ducks, etc., which are kept in the Aquatic Bird House. Among the most interesting are the members of the genus *Marila*—the canvasback (*M. vallisneria*); redhead (*M. americana*); European pochard (*M. ferinosa*); scaup (*M. marila*); lesser scaup (*M. affinis*); tufted duck (*M. fuliginosa*) and the white-eye (*M. nyroca*). These birds belong to the sub-family *Fuligulinae* or sea ducks, and afford visitors much amusement by their remarkable diving powers.

Other additions worthy of note are the white-necked stork (*Ciconia nigra*); a very fine example of the black-necked stork (*Xenorhynchus asiaticus*); the black spur-winged goose (*Plectropterus niger*); the milky eagle-owl (*Bubo lacteus*) and the eared vulture (*Otogyys auricularis*), a large and powerful bird of rather gruesome appearance.

A fine series of Cuban birds has been accumulated. It includes the Cuban flicker (*Colaptes chrysocaulosus*); eye-browed woodpecker (*Centurus superciliaris*); Cuban green woodpecker (*Xiphidiopicus percussus*); Cuban banded woodpecker (*Nesocoleus fernandinae*); Cuban cuckoo (*Saurotheria merlini*); D'Orbigny blackbird (*Ptiloxena atrorolacea*) and the Lawrence owl (*Gymnasio lawrencei*).

The Curator returned from his seventeen months' quest for pheasants on May 27, 1911, successfully completing the first round-the-world scientific expedition which the Society has undertaken.* The five earlier ornithological expeditions of the Curator, respectively to Cobb Island, Florida, Mexico, Venezuela and British Guiana were all made at his own expense. This Pheasant Expedition was made at the suggestion and by the financial aid of Colonel Anthony R. Kuser, and the monograph now under way will be published within two years under the auspices of the Zoological Society.

Since the Curator's return, his scientific observations and experiments upon the bird collections have again been taken in hand. On December 5, 1911, *Zoologica* No. 7 was published under the title of The Undescribed Juvenal Plumage of the Yucatan Jay. Other numbers are in course of preparation. *Zoologica* Number 2, "The Ecology of the Hoatzin," has been reprinted entire in the Smithsonian Report for 1910, and the *Bulletin* article on the Sonneberg Aviaries has been reprinted in Bird Notes for December.

Important new installations, which now are in actual process of completion, are the Eagle and Vulture Aviary, the Tropical Eagle and Owl House and Hospital, and a series of breeding cages for rare birds. These will all be completed early during the coming year.

*For a preliminary account of the Expedition, see *Zoological Society Bulletin* No. 46.

CENSUS OF BIRDS LIVING IN THE ZOOLOGICAL PARK,

January 1, 1912.

<i>Orders.</i>	<i>Species.</i>	<i>Specimens.</i>
Rheiformes,	Rheas	2 2
Struthioniformes,	Ostriches	2 2
Casuariiformes,	Cassowaries and Emus.	3 3
Tinamiformes,	Tinamous	6 15
Galliformes,	Quail and Pheasants...	85 232
Turniciformes,	Hemipodes	2 8
Columbiformes,	Pigeons and Doves....	54 218
Ralliformes,	Coots and Gallinules...	11 28
Lariformes,	Gulls and Terns.....	14 44
Charadriiformes,	Plovers and Sandpipers.	21 57
Gruiformes,	Cranes, Seriemas, etc...	15 33
Ardeiformes,	Ibises, Storks and Herons	27 55
Palamedeiformes,	Screamers	2 3
Phoenicopteriformes,	Flamingoes	2 4
Anseriformes,	Swans, Geese and Ducks	68 545
Pelecaniformes,	Comorants and Pelicans	8 23
Cathartidiformes,	New World Vultures...	8 28
Serpentariiformes,	Secretary Birds	1 2
Accipitriformes,	Hawks and Eagles; Old World Vultures	24 45
Strigiformes,	Owls	17 46
Psittaciformes,	Parrots, Macaws and Cockatoos	69 174
Coraciiformes,	Kingfishers, Hornbills, etc.	4 8
Trogoniformes,	Trogons	1 1
Cuculiformes,	Touracos and Cuckoos..	5 15
Scansoriformes,	Barbets and Toucans...	11 17
Piciformes,	Woodpeckers	9 28
Passeriformes,	Thrushes, Sparrows and all Perching Birds...	409 1,386
		<hr/> 880 3,022

Summary: Orders, 27; Species, 880; Specimens, 3,022.

Gain over 1910: Orders, 1; Species, 108, Specimens, 11.



CAGE ARRANGED FOR EXHIBITING RATTLESNAKES.
Natural Rock-Work with Painted Background shows a Typical Rattlesnake Den in the
Reptile House.

DEPARTMENT OF REPTILES

Raymond L. Ditmars, Curator; Charles E. Snyder, Head Keeper.

Although the Reptile House has been taxed to its capacity for some years, and the collection of reptiles has always been kept at a high standard, a number of features were added during the past year, which were of a nature to make the building more attractive and draw the attention of the visitor to important specimens either of economic value or danger to man.

The series of economic reptiles has been changed from time to time so as to represent in turn the reptilian fauna of the United States, that of continental Europe, of the West Indies and other parts of the world.

In order to attract visitors' attention to the poisonous snakes of the United States and of other countries, and to convey an idea of the character of country they inhabit, we have made a successful trial of the modelling and painting of panoramic backgrounds with accessories in the large snake cages. The effect of perspective thus attained adds so materially to the already pleasing interior of the Reptile House that we are rapidly pushing this work, and by the end of the summer will have the entire series of large cages on the north side of the main hall of the Reptile House treated in this way. The panoramic paintings are the work of Mr. Ernest A. Costain.

The first scene attempted represents a ledge in the mountains of Sullivan County, N. Y., containing a typical rattlesnake den. Another shows a rocky shelf on the Palisades of the Hudson River, inhabited by a colony of copperhead snakes. One of the most attractive of these cages represents a glade in a bamboo jungle. The ground is occupied by Indian cobras, while the leafy bower overhead is inhabited by several brilliantly-colored tree snakes. Our visitors are thus enabled to examine the dangerous reptiles in surroundings comparatively natural, note the similarity of their colors to the tone of the vegetation, and the consequent difficulty of immediately discovering the reptile close at hand. The snakes appear to enjoy their new surroundings, particularly because they are given opportunities to hide when they choose, although this latter habit makes it necessary to place a considerable number in a cage, in order that there always may be a certain number of specimens in view.

Among the important accessions during the year, the following are worthy of mention :

Crocodylians.—An Indian gavial, a Nile crocodile, a Congo crocodile, a broad-nosed crocodile, three South American crocodiles, and one nine-foot American alligator.

Chelonians.—Ten snake-necked turtles, five Central American turtles, eight giant musk turtles from Yucatan, two leopard tortoises, six radiated tortoises, and two star tortoises.

Lizards.—A series of the representative lizards of the Agamine group from India, a series of lizards collected by Dr. Charles H. Townsend, in Lower California; two stump-tailed lizards (Australia), six Cunningham skinks, one exanthematic monitor, two Egyptian monitors, one Gould's monitor and twelve large South American iguanas.

Serpents.—Four boa constrictors, three anacondas, two Madagascar tree boas, one bushmaster, one fer-de-lance, two jararacas, gift of New York Tanning Extract Company; one green rattlesnake (*C. lepidus*), and a series of rattlesnakes collected in southern California by Dr. C. H. Townsend, among these being *C. mitchelli*.

Amphibians.—Two Indian bull-frogs, two white axolotls and a series of newts, toads and frogs from continental Europe.

The most important arrivals at the Reptile House, during the past year were two anacondas, collected by Mr. R. R. Mole, of Port-of-Spain, Trinidad. One of these was the heaviest snake ever received in the Park, although she was several feet shorter than our record Malayan python. This anaconda arrived on the 20th of May. She was then nineteen feet long, thirty-six inches in circumference at the thickest part of the body, and weighed 232 pounds. The male specimen was about seventeen and one-half feet long.

The collection of local reptiles was greatly strengthened by the annual collecting trip made by the Curator during the past summer. Over 200 specimens were captured, representing fourteen species. By this expedition the rattlesnake series was increased by the addition of seven adult examples and over forty young.

Births.—The large female anaconda that arrived from Trinidad, gave birth on the 20th of July to forty-eight young. These young snakes measured thirty-eight inches long, and soon commenced feeding. We are successfully rearing the entire litter. A considerable number of these snakes will be offered in exchange for other reptiles during the spring of 1912. Another

interesting addition to the reptile collection was the birth of twenty-eight specimens of the Fer-de-Lance. The East Indian Russell's viper gave birth to fifteen young, and a number of litters of copperhead snakes and rattlesnakes were born. Several batches of serpents' eggs were successfully incubated.

The following is a census of the Reptile Department, as compiled on December 31, 1911:

REPTILES OF THE ZOOLOGICAL PARK

	Species.	Specimens.
Chelonia	36	276
Crocodylia	6	37
Lacertilia	28	235
Ophidia	49	348
Batrachians	18	210
	137	1,106

THE INSECT COLLECTION

Raymond L. Ditmars, Curator.

During the summer of 1911 the Insect Collection increased to a total of forty cages. This collection is very popular. Several thousand cocoons of various species of silk-spinning moths, both of the old and the new world, were on exhibition. Visitors had daily opportunities to watch the perfect insects emerge from their cocoons and spread their wings. The more important cocoons came from Japan, eastern China, India, Mexico, Central America and the United States. Some of the moths were bred, and the broods of feeding caterpillars were exhibited as special features.

In a series of three cages was an exhibit showing the different stages of the commercial silk worm—the feeding larvae, a bank of cocoons of different grades and colors, and mounted specimens of the moths. The finest moths emerging from the various cocoons were mounted, dried and placed on tablets of cotton, over which was fitted glass covers. On the back of each mount was placed a descriptive label, giving the name and habitat of the specimen. These mounts have proven popular as souvenirs, and seem to serve a double purpose. They are of value from an educational point of view, because they may be handled by children without injuring the specimens. Through the sale of these mounts (at very reasonable prices), visitors

become more interested in the various species. The exhibit at the bureau of information at the Lion House is so successful that the sale of specimens covers the cost of our collecting expeditions for insects, and the purchase of all foreign specimens, thus making the Insect Collection quite self-sustaining.

Among the large and beautiful moths exhibited during the past year were the Indian atlas moths (*Attacus edwardsi* and *A. atlas*); the Indian and African luna moths (*Actias selene* and *A. mimosae*); the Japanese silk moths (*Antheria yama-maia* and *A. mylitta*); the Mexican silk moth (*Attacus orizaba*); and the North American silk-spinning moths such as the *Cecropia*, *Polyphemus*, *Cynthia*, *Promethea* and *Luna*.

Owing to the continued success of the series of singing insects, this feature will be made a permanent one; and it suggests a new source of interest for the school children. It is among the *Orthoptera*—the order of insects embracing the cricket and the locusts—that we find the predominating species of singing insects. Over a dozen species of these were displayed during the summer.

The life history of the mosquito, and of its numerous enemies, stands as a permanent and very instructive exhibit during the summer months. It is our intention to exhibit in full detail and with descriptive labels, any type of insect exciting local interest through unusual abundance, or a tendency to harm tree foliage or farm products. Following this plan, the appearance of the seventeen-year locust, in the late spring and early summer of 1911, received special attention, and a number of expeditions were made to districts where the swarms were of the greatest magnitude. During the latter part of May, countless thousands of the *Cicada septendecim*, which requires a period of seventeen years to pass through the larval form, appeared over a great portion of the eastern United States. The woods resounded with a continuous hum made by the males, while the ground, whence immature forms had emerged to immediately cast their skin, was honey-combed with burrows. Considerable damage followed the appearance of this swarm, caused by the ovipositor of the female "locust" in inserting her eggs under the bark of the terminal portion of the limbs of trees. In a number of areas, the fruit trees were quite seriously affected, the apple trees suffering most. A detailed description of the return of the seventeen-year locust in 1911, appears in the *Zoological Society Bulletin* of July, 1911, (No. 46). A complete life history of this *Cicada* was placed on exhibition, together with a number of

photographs showing different phases of the metamorphosis of this insect.

While the spiders, centipedes and scorpions cannot be rated under the head of true insects, they are near allies of this class of invertebrates, and so closely associated with them in popular literature that we place them in our insect collection. Thus the poisonous "insects," such as the big tropical spiders of northern South America, the African scorpions and the like, were much in evidence. Our big spiders are alert, but not particularly vicious, and in the series of cages enclosing them, there are several interesting studies of the tube-building skill of the South American specimens. Nearly every one of the cages contains a strong silk tunnel in one corner, from the top to the bottom, the walls of which are extremely white and strong, and difficult to tear with one's fingers.

During the winter the census of the Insect Collection is much reduced, and all the cages, with the exception of those containing cocoons, are removed to the Reptile House. As the collection now stands, there are several thousand cocoons on hand, a fine display of the poisonous species and a number of aquatic insects. With the arrival of the spring, a few collecting trips will place this collection on the same basis as last summer.

HEADS AND HORNS COLLECTION

In its present quarters the National Collection of Heads and Horns is so densely crowded together upon the walls, and, therefore, so badly arranged, that constant apologies for its appearance have become necessary. Interest in the collection continues unabated, but the necessity for more adequate accommodations is constantly remarked. It is no longer possible to hang anything more in the two picture galleries of the Administration Building, and already the walls of the smoking-room and the main stairway have been completely filled by the additions of the past year.

There is good reason for the belief that in order to make this collection available to the millions of visitors who come to the Park, the City of New York will grant an appropriation of \$75,000 for the erection of a heads and horns building. In view of the length of time that necessarily must elapse between the granting of the appropriation and the occupancy of the building, it is desirable that the fund should be secured at the earliest possible moment. The lapse of time, and the rapid disappearance of the most important wild-animal species of the world, only

serve to emphasize the timeliness and wisdom of the Zoological Society in promoting the display of the National Collection.

The particularly fine white rhinoceros head presented by Colonel Theodore Roosevelt early in 1911, may fairly be regarded as the most rare and valuable single specimen that thus far has come into the collection. It is the second finest specimen obtained by the Roosevelt expedition—the best one being in the National Museum at Washington. Inasmuch as heads of the white rhinoceros are not purchasable with money, the zoological value of our fine and beautiful mounted specimen is easily understood.

A very notable addition to the Heads and Horns Collection came in the form of a gift from Mr. Clarence H. Mackay, consisting of an unrivaled collection of mounted heads of the giant moose of Alaska, Wyoming elk and American bison. This collection has been described and figured in the *Zoological Society Bulletin* for September, 1911. Until a building for the Heads and Horns Collection has been provided, the Mackay Collection, or at least the greater portion of it, will hang in the smoking-room of the Administration Building, adjoining the halls occupied by the main collection.

Dr. John C. Phillips, of Boston, presented to the collection a series of thirty-six specially selected pairs of horns that were chosen with particular reference to filling gaps existing in our series of African horns. From Mr. Henry A. Caesar came, as a gift, a white-tailed deer head from Maine, which may fairly be regarded as the world's record for that species. Mr. W. Hesketh Prichard presented to the Collection a pair of caribou antlers from Labrador—the first specimen from that locality that we have received.

GROUND IMPROVEMENTS AND MAINTENANCE WORK OF THE DEPARTMENT OF CONSTRUCTION AND FORESTRY.

Hermann W. Merkel, Chief Constructor and Forester; E. H. Costain, Assistant Forester.

The Ground Improvement Work for the year 1911 consisted almost entirely of a great number of small improvements.

The first work undertaken was the building of an incline approach to the feed barn. This work was found necessary on account of the difficulty of getting very heavy loads into the barn. We were fortunate in being able to obtain all of the fill, consisting of 405 yards of soil, delivered and placed free of charge, so that the entire cost of this improvement, including

the 2,500 square feet of telford and tar-macadam road, amounted only to \$342.05. This amount has already been saved by the avoidance of the extra handling of hay, oats, corn and other supplies that heretofore has been necessary.

A sixteen-foot extension was built upon the ice cream plant in order to make possible the increased amount of work necessary in that place. The cost was \$230.

At the expense of \$150, a two-inch water-main was laid to the new Bear Dens.

The water area of the Duck Aviary, which was greatly reduced by filling last year, was concreted, and a new sewer connection was made. This enables the Duck Aviary to be flushed frequently and kept clean. The expense of this work was \$266.

Early in the season it became apparent that Silver King, the Rainey polar bear, was in need of a bathing pool. Accordingly a pool ten feet by twenty feet in size, surmounted by cage work of great strength, was built and connected with the water and sewer lines, for the sum of \$1,000.

The building of the Eagle Aviary and Zebra House necessitated the laying of new water pipes, at a cost of \$175.

The strip of ground adjacent to the Crotona Entrance, which had been in unsatisfactory condition ever since the establishment of the Park, was graded, planted and fenced in, and about 310 yards of good soil were hauled here at no cost to the city. The fence is of a type new to the Park, and has proven very satisfactory. The cost of this work was \$650.

In order to provide additional shelter for the herd of musk-oxen a log shelter was built on the east side of the Rocky Mountain Goat House, at an expense of \$200.

Near the end of the working season of 1911, the Beaver Pond was taken in hand. About 500 yards of sticky, black mud were removed from the bottom and sides, laying bare the hard clay sub-soil; and about sixty feet of the upper end of the pond, and the entire bottom, were filled in with 1,100 yards of good solid earth. The entire bottom of the pond was then paved with stone, upon which was deposited a layer of crushed stone, necessitating the use of 520 yards of material. Very little remains to be done with the Beaver Pond to place this installation in an entirely satisfactory condition. The entire cost of this work will probably not exceed \$2,500.

In the Ostrich House two more cages were enclosed in wood and glass, costing \$100, for the purpose of placing two more African ostriches on a fresh-air basis throughout the year.

A new concrete loading platform was built in the rear of the Service Building, at an expense of \$200.

The walks to the new Bear Dens, which are to be finished with concrete, were graded, and the foundations were put in place. This work will be finished early in the spring.

Several new corrals were built in the lower Buffalo Range, costing about \$900.

The Zebra yards and walks, and the walk in front of the Eagle Aviary were graded, necessitating the hauling of about 3,500 yards of soil. Although no telford has yet been laid, a large quantity of stone is on hand, and everything is in readiness for the completion of these yards and walks in the spring.

A small shelter shed was built in one of the goat corrals, ten by twenty feet, at a cost of \$100.

An eight-inch partition wall was built in one of the large rooms in the basement of the Administration Building, and a fire-proof vault was erected in the basement hallway of the same building.

On account of the order issued last year by the Water Department, prohibiting the use of city water for sprinkling purposes during the water famine, a small gasoline pump was installed on the shore of Lake Agassiz. This enabled us not only to keep the vegetation of the concourse and the Italian garden in a flourishing condition, but also permitted the use of the Italian fountain on the concourse, and for a time this was the only public fountain playing in Manhattan or the Bronx.

MAINTENANCE WORK

As in previous years, the maintenance work consisted chiefly in keeping the grounds and buildings in order, supplying food, hauling refuse, policing the Park, and regulating the crowds of visitors.

The work of substituting concrete and steel for wood was continued in the Reptile House and the Aquatic Bird House. In the Aquatic Bird House the entire central and east side cages were supplied with concrete floors and foundations, completing this work as far as this building is concerned. The roof of this building also received extensive repairs. In the Reptile House the series of large serpent cages were supplied with concrete floors and supports. In one large cage in the Lion House, wherein the floor had entirely decayed, a cork and asphalt brick floor was substituted for the wooden floor. If this proves entirely satisfactory, other cages will be so equipped.

The entire Primate House was given a thorough and much needed overhauling. Four cages were supplied with floors of cork tiling, which thus far seems to be very satisfactory.

At the Small Deer House several of the stall partitions and fronts were found to be entirely too weak for the strong, horned animals within. These were replaced, or else greatly strengthened.

All of the cages in the Small Mammal House were overhauled, painted and repaired, and the sewer of this building, which had become clogged up with poplar roots ten feet below the surface of the ground, was dug up, cleaned and re-laid.

Early in the year it was discovered that the hickory bark borer, the most pernicious insect pest that attacks the various hickories, was found to be present in the Park, and, in fact, in all the parks of the borough. A thorough examination was at once made of all the hickories, and those that were found to be infected were immediately removed and burned up. The park authorities were notified of the presence of the pest, but it is greatly feared that most of the hickory trees in the Zoological Park will succumb to the ravages of the borer unless concerted action is taken by the City Park Department, and also private owners. This might be brought about by the action of the Commissioner of Agriculture, who has power under the law to take effective steps for the prevention of the spread, and the eradication of plant diseases. With the exception of the presence of this pest, the presence of the white fly on the rhododendrons and the occasional ravages of the leopard moth, our trees are in good condition.

The seventeen-year locust, which proved itself a nuisance in many sections of New York and New Jersey, was not present in the Park.

The roof of the Elephant House continues to be in an unsatisfactory condition, and much damage to the building has been caused thereby. The matter has been receiving special attention.

The usual amount of live stock, vegetables and ornamental plants were produced at the Nursery. The greenhouses are becoming wholly inadequate to supply the demand for plants for indoor decoration and bedding.

DEPARTMENT OF ADMINISTRATION

H. R. Mitchell, Chief Clerk and Manager of Privileges; George A. Dorn, Cashier.

The additional office room given to this department when the Director moved to his new quarters in the Administration Building has been of great assistance to us in meeting the ever increasing demands of the department. Our most urgent need at this time is of more space for the storage of guide books, postal cards, souvenir books and other supplies, which, in order to show a satisfactory income, must be made up in very large editions. There are at this moment awaiting proper storage, about 25,000 guide books and souvenir books, and twenty-four large cases of postal cards, which cannot be unpacked because of the lack of room. It is proposed to provide for this storage in the west end of the Service Building as soon as the new Privilege Building is completed, in which new and better quarters for the cook will be provided.

Early in the year it was found necessary to add to the equipment by the purchase of another automobile truck, and, after careful consideration of the service required, a small gasoline machine of a capacity of 1,500 lbs. was decided upon. The machine was delivered and put into service about the first of April, and covered a remarkable amount of ground during the season. The year's business could not possibly have been handled without this extra equipment.

In the latter part of the year, this department was so unfortunate as to lose the services of a valuable and trusted employee, Mr. Wm. I. Mitchell, who, after eight years' service as office assistant and cashier, resigned to accept a position elsewhere. Mr. Mitchell's thorough familiarity with all the details of the various activities of the department made his services extremely valuable, and his leaving regrettable. The following resolution with reference to his services was adopted by the Executive Committee:

"RESOLVED, that in recognition of the faithful, efficient and responsible services of Mr. William I. Mitchell, as Cashier of The New York Zoological Park during a period of eight years, now terminated by his acceptance of an engagement elsewhere, the Executive Committee of The New York Zoological Society hereby tenders him a gold watch and one hundred dollars, with the good will of the Committee."

Mr. George A. Dorn, who has been with the Bronx Borough Bank for the past two years, and was well recommended by them,

accepted the position of Cashier, and entered upon his duties shortly before the close of the year.

Privileges.—It is now perfectly evident that in our plans and provisions for catering to the needs of the visiting public, we have considerably under-estimated the rate at which attendance would increase. As a consequence, demands for increased service come from all directions. Our facilities have by no means kept pace with our actual needs from year to year, and we are now beginning to realize that practically all our present quarters will be outgrown within a few years.

The problem now confronting us is to find locations where adequate provisions can be made for the satisfactory and proper serving of large crowds on Sundays and holidays throughout the crowded summer season, without permitting this service to encroach seriously upon other and more important features, or become so conspicuous as to suggest commercialism. The solution seems to be to develop some new centers of attraction that are now nothing but open or undeveloped spaces, and when rebuilding in a permanent way the present temporary stands, to so locate and plan them that service can be expanded in at least one direction.

Privilege Building.—For several years the Privilege Department has been in very great need of a service building, to provide headquarters for its various branches, and machinery for manufacturing needs. Tentative plans for such a building have been under consideration for some time. Late in the year a suitable appropriation was secured for this purpose, and serious study was immediately commenced on the general plans and specifications. It was hoped that work under a contract might be commenced during the open fall weather, and progress so far as to permit interior work being done during the winter. This, however, was found to be impossible, owing to the many complex problems that required to be carefully worked out. It will be out of the question to let a contract sufficiently early to complete the building in time for it to be of any service during the season of 1912.

The building proposed will be about 30 by 110 feet, two stories high, of brick construction, and will be given up entirely to the purposes of the Privilege Department, with the exception of providing quarters in the south end for the Maintenance Department cook room. It will be located on the extreme eastern side of the Service Yard, running at right angles with the present

Service Building, and the east wall will form a portion of the Service Yard enclosure. On the first floor, in addition to the cook room, will be located rooms for soda dispensers, ice plant and ice cream machinery, syrup making and chill rooms. There will be a cellar under each end; that under the cook room providing separately a vegetable cellar and one for coal storage and a heating plant. At the other end the cellar will provide space for storage and an engine room. About a third of the second floor will be occupied by the laundry, and the remainder by a mixing room, pop-corn, salt and general storage. It is confidently expected that the advantages furnished by this plant will greatly increase the efficiency and quality of our service in all branches.

Rocking-Stone Restaurant.—A fund of five thousand dollars for extensions and alteration to the Rocking-Stone Restaurant became available late in the year 1911. Our original request for the much-needed improvement called for double this amount, every cent of which was required to do the work necessary to provide for the additional service which ought to be provided at this time. However, it is proposed to go as far as possible with the fund allowed. Plans are now practically ready which will double the size of the present inside dining-room, as well as the open-air dining-room in the front pavilion, and add measurably to kitchen and pantry facilities.

Soda Water.—Our facilities for serving soda water at the various stands in the Park were not by any means sufficient to take care of the demands made on them on Sundays or during any really heavy attendance. The addition of table service at all the stands last season, while furnishing greater convenience to patrons on week days, proved to be somewhat of a hindrance on Sundays and holidays because of our inability to arrange for separate service for waiters elsewhere than at the same counter where the public were being served. In order to temporarily relieve this condition, and get through the season without more radical changes, several small movable stands were built for use on Sundays only. These were placed for temporary use at crowded points on Baird Court, and orangeade and large quantities of lemonade were dispensed from them. As high as 200 gallons were sold in a single day, to that extent relieving the rush at the regular stands.

Souvenir Books and Postal Cards.—During the previous year the price of the thirty-two-page colored souvenir book had

been reduced from fifty to twenty-five cents, greatly increasing sales. The gain over the previous year amounted to about forty per cent. It had been planned to issue new limited editions of a fifty-cent and one-dollar booklet; but this plan had to be given up because of the large amount it was necessary to invest in the new edition of the guide books. We hope to be able to get them out during 1912, as there is a persistent demand for a higher class souvenir book. During 1911, all arrangements were made, and work begun, on the largest issue of souvenir postal cards we have yet attempted. The series consists of 20,000 each of seventy-two subjects, in four colors, or nearly a million and a half in all. At the close of the year the old stock of postals was almost exhausted, and preparations are under way for receiving and putting up the new cards, which will be sold in three sets of twenty-four cards at twenty-five cents each.

Guide Book.—The tenth edition of the guide book was exhausted about the middle of July. Although the preparation of a new edition had been under way for some time, unavoidable delays made its delivery impossible until late in the month of August, so that we were entirely without copies for four or five weeks. The new edition, known as the Spectacled-Bear Edition, was carefully and completely revised, and about twenty pages of new matter, with many new illustrations, were added. Sales from the new issue during the last month of the year were fully up to previous records. The total for the year would have passed all previous records, but for the lack of books during part of July and August.

Boat-House Restaurant.—The Boat-House Restaurant continued to gain in patronage during the year. The table d'hôte dinner, the service of which on Sunday and holiday evenings was begun last season, was continued throughout the year, and was the means of bringing the Boat House to the attention of a large number of new patrons.

Quite a number of club dinners were served with such satisfaction as to add materially to the restaurant's popularity.

Boating.—The rebuilding of the dam on Bronx River at 182nd Street, forming Bronx Lake, which was finished late in 1910, greatly facilitated the handling of the boating business during the past season. This work made it possible to maintain a good level for the lake throughout the dry season of mid-summer, and carry on the boating business without the annoyances and

dangers encountered during previous seasons. In order to encourage boating on week days, it was decided to put into effect special rates for all days except Sundays and holidays. This arrangement proved to be a success, and materially increased the business on week days. Before the close of the season it became apparent that another launch was needed to take care of the increasing business; therefore arrangements were made for the purchase of another electric launch, of the same type as those now in use, early in the coming season.

New Boat-House Dock.—The wooden dock constructed at the time the Boat-House was built, five years ago, is now badly decayed, and much in need of repairs. The building of a new permanent concrete dock is an urgent necessity, and it was hoped funds for this purpose could be secured so that the work could be done after the close of the boating season.

Some repairs will, no doubt, have to be made to the present dock in order to get through the season of 1912, if, as now seems probable, an appropriation for the work is not forthcoming in the very near future.

When built, the new dock should provide some shade by the erection of a pergola-like structure along the edge of the dock.

Gate Receipts.—The receipts at the entrances from admissions on pay days has become the source of a satisfactory income for the increase of the animal collections, the gross receipts from the sale of tickets on pay days going direct to the credit of the animal fund. The figures for the year 1911 were fully up to those of previous years.

Riding Animals.—The receipts from this source can be considerably increased by the addition of a riding elephant to the present attractions. The Director has consented to the use of the female of the pair of African elephants for this purpose when sufficiently matured, and it is hoped that arrangements can be made for its use during the coming season.

Band Concerts.—Our application to the Board of Estimate and Apportionment for a modest sum for the cost of band concerts in the year 1911 having been denied, it was decided not to give concerts during the summer. For two or three years previous the expense of these concerts was borne by the Privilege Department, in the hope that the needed appropriation would be forthcoming. In our judgment, the large attendance at the park during the summer fully justified the expenditure from city funds

of a reasonable sum for Sunday concerts, and we hope the time is not far distant when such an allowance will be made.

Bureau of Information.—The bureau of information, opened last season in the alcove in the Lion House, was continued again this year in charge of Miss Newman, who, with the thorough knowledge of the Park, gained by her year's experience, was of great assistance to visitors in directing them to exhibits of special interest, and answering queries carefully and intelligently. The sales of publications at this Bureau made a very satisfactory gain during the year.

Audit of Privilege Accounts.—The volume of business and the funds handled in the Chief Clerk's office annually in connection with the privileges alone has grown to such proportions that it has been decided to have a semi-annual audit of these accounts made by some firm selected by the proper officers of the Society. Two such audits were made, covering the year 1911, and the accounts certified to as correct. Some changes were suggested in regard to the system of bookkeeping in this department, which are now under consideration, and may be put into effect another season.

DEPARTMENT OF PUBLICATION AND PHOTOGRAPHY

Elwin R. Sanborn, Editor and Photographer

Bulletin.—That the *Bulletin* performs a useful function is proven by the constantly increasing demand for it. So numerous have been the calls that several numbers are now entirely out of print, and other issues are threatened. The fact that the entire issues of Numbers 1, 6 and 35 have become exhausted, and other numbers nearly so, has made it necessary to increase the bi-monthly edition, 500 copies. In order that future editions shall not be entirely depleted, fifty copies from each will be stored in the Library at the Administration Building. The same provision will be made with other publications. The article entitled, "The Society's Expedition for Pheasants," was reprinted to supply the demand for it; and several copies of the *Bulletin* were increased from sixteen to twenty pages. The March and November numbers, devoted to the Aquarium, were unusually interesting.

An attractive cover will be provided for the July and subsequent numbers of the *Bulletin*.

Guide Book.—Having been printed for several seasons without material changes, the *Guide Book* was completely revised, extended down to date, reset, new plates were made and the volume was freshly illustrated from cover to cover. The problem

with the *Guide* was to increase the amount of material without greatly extending the number of pages. This was accomplished by separating the book into signatures, removing the old cuts and substituting from two to four new pictures for each of the old ones. Heretofore this volume had been illustrated partly with cuts made for other publications, and not always with satisfactory results. As remodeled the new *Guide* contains more than twice the number of pictures contained in any previous edition, and at once it became so popular that the sales for the first two months paid for one-half its cost. The total number of copies issued has been 148,000.

Annual Report.—The regular edition of the 15th Annual Report was issued without material changes, except that the order of the Treasurer's Statements was re-arranged and made permanent.

Zoologica.—One number of this publication appeared in 1911, Volume 1, No. 7. It was devoted to a paper entitled, The Undescribed Juvenal Plumage of the Yucatan Jay, by C. William Beebe and Lee S. Crandall, illustrated by a plate in four colors.

Publicity.—The membership of the Society was increased during the past year by issues of illustrated folders, three of which were printed. Through the efforts of the Ladies' Auxiliary, the folder published for them yielded gratifying returns.

Photography.—In addition to the extensive series of photographs furnished the Field Columbian Museum, American Museum of Natural History and several other educational institutions, the National Museum has purchased a large number for use in mounting specimens. Sculptors, painters, publishers and taxidermists are constantly availing themselves of our pictorial material, and innumerable requests are being made for pictures for the making of trade-marks, seals and dies. The usual work of keeping the indexes of albums, cuts and negatives has been thoroughly and systematically carried on. The gradual accumulation of an immense amount of material has necessitated a simple and accurate method of filing, not only for the purpose of carefully protecting our cuts and negatives, but also in order that all data may be instantly available. The Society has provided for a temporary photograph gallery in the new Pelican House which will be erected in 1912. The entire roof and southern elevation will be constructed of ribbed glass, similar to that used in the east end of the Reptile House. Glass of this character has singular power of concentrating the rays of light

from the outside, and as they pass through the ribs, of increasing their actinic quality. With reflecting surfaces of white, instantaneous exposures will be possible. A rapid exposure in a gallery of this type yields a finer result than the same exposure out of doors. The reason is obvious. In strong, direct light there are large patches of light and shade only; while with strongly diffused light of highly active quality, each detail is distinctly modeled, giving a rounder and more perfect image, and a better rendering of color value.

Appended is a list of photographs made during 1911:

Prints for publication.....	1,069
Prints sold	1,209
Prints for albums and files.....	1,100
	3,378

DEPARTMENT OF ENGINEERING

George M. Beerbower, Civil Engineer.

The most important work of our engineer has been in designing and superintending the construction of the new Bear Dens, the Eagle Aviary, the Shelter House for tropical birds of prey, the Pelican House, a new concrete bridge to be erected north of Bronx Lake, and concrete steps for the new Bear Dens. In addition to this he contributed materially to the plans for the new Service Building; he has laid out and established grades for new walks around all the new installations and the new service yard, prepared the budget exhibit, and revised and brought down to date the record maps of the Park.

Along with duties and services such as those enumerated, there is each year the usual accumulation of miscellaneous tasks that are not chargeable to any important work, but at the same time are imperatively necessary. Mr. Beerbower's presence in the Park is of such daily importance to our general progress that it is not always an easy matter to proceed without him while he is on his annual vacation. For this reason, his vacation usually is taken in several different periods, rather than in one continuous absence for his full allotment of time.

DEVELOPMENT OF THE PARK EAST OF THE BRONX RIVER

The improvement of 180th Street along the extreme southern boundary of the Park, in West Farms, coupled with the construction of the New York, Westchester & Boston R.R., skirting a portion of our eastern boundary, has completely changed the aspect of the southeastern corner of our grounds.

The two improvements mentioned above have caused the abandonment of the old street long known as West Farms Road, which originally traversed the southeastern corner of the Park, and passed out eastward into the region known as Van Nest. It is now possible to thoroughly improve and utilize, as never before, the southeastern region referred to. To this end a complete re-study of the necessities of the eastern side of the Bronx River is being made, with a view to the elimination of all unsightly features, and bringing thoroughly into harmony with the other portions of the Park a region which is now in a state akin to disorder. The abandonment of the old road is destined to prove of great benefit to the development of the area referred to.

In connection with the improvement of the original grounds of the Zoological Park, the development of the recently added area will undoubtedly be taken in hand by the Park Department, and within a comparatively short time the whole eastern area will assume conditions very different from those which now prevail.

As a beginning, the low, wet, open grounds in the extreme southeastern corner of the Park, are being filled to a depth of two feet—practically without expense to the city—and when completely filled and levelled, this area will probably be established as a baseball ground. The old West Farms Road will, as far as possible, be obliterated. A commodious shelter pavilion will be constructed about 400 feet north of the dam; the riverside walk will receive a new surface, and a concrete bridge will be built in the upper end of the east-side grounds, across the brook that enters the Bronx River through the nursery. While these improvements are being carried on, it is reasonably certain that the Park Department will construct a spacious driveway throughout the entire length of the newly acquired addition to Bronx Park, beginning at West Farms and terminating at Pelham Avenue. In Bronxdale, all the unsightly buildings recently acquired by the city have been removed, and within a reasonable time, the whole appearance of that section will be transformed by filling, grading and planting.

PERMANENT IMPROVEMENTS PROPOSED FOR 1912

Buildings and Yards for Hospital and Quarantine.—Up to the present time we have been carrying on the Zoological Park without any permanent plant in which to quarantine newly-arrived animals that may be suspected of carrying diseases, or

a permanent hospital in which to treat diseased or injured animals. We are also lacking a proper dissecting-room, cold-storage room for the preservation of dead animals previous to autopsies, and proper winter storage rooms for animals that in winter require to be taken out of their yards and kept in heated buildings until spring. All of the various buildings that have been in use for the purposes enumerated above consist of temporary wooden sheds, of a very inadequate nature, highly inflammable in construction, and capable of being kept in sanitary condition only by the greatest effort. It is quite time that this Zoological Park should have a proper outfit of permanent buildings for the purposes indicated above, such as usually is found in zoological gardens and parks of the first rank. We have previously refrained from asking for these buildings because of the imperative necessity of first providing buildings and other installations for the animals on exhibition. The ground to be occupied by these buildings is located in what is known as the Service Yard, which already is surrounded by a permanent brick wall of first-class construction, and the buildings proposed would be entirely hidden from the view of the public. The construction intended for these buildings is of a very simple and inexpensive character; but it must at all hazards be permanent and thoroughly sanitary.

Heating Plant for Animal-Service Buildings.—The manner in which the buildings named above have been grouped together on the plan renders it both possible and desirable to heat all of them from a small central plant. The most economical plan would be to erect a small, independent building, to shelter the boilers and provide room for the necessary storage of coal. From this central plant a series of hot water pipes will radiate to the various buildings and supply all buildings within a radius of 200 feet.

CONTRACT WORK IN GROUND IMPROVEMENTS

Conducted under the direction of the Park Department of the Borough of the Bronx. Thomas J. Higgins, Commissioner; Martin Schenck, Chief Engineer.

Additional Bear Dens.—In order to provide adequate and safe accommodations for several young Alaska brown bears that rapidly were attaining serious proportions, and also to provide suitable accommodations for the small tropical bears temporarily housed in the Small-Mammal House, a contract was awarded, in 1911, to the J. W. Fiske Iron Works for the construction of two large bear dens and eight small ones. The contract price was

\$7,700, and the new dens were located against a ledge of rock facing the original series. These dens were erected and completed to the satisfaction of the Society in December, 1911, and will be occupied early in the spring of 1912.

Eagle and Vulture Aviary.—On February 15, 1911, a contract for an extensive and thoroughly modern aviary, suitable for eagles and vultures, was awarded to George Hildebrand, in the sum of \$18,867. Work began on February 15, 1911, and was very nearly completed by the end of the year. The new aviary, which will be fully described in subsequent publications, contains seven very large cages, and six smaller ones—all carefully designed to serve to the best purpose the various species that they are to contain. This fine improvement adds a feature of great interest to Bird Valley, and greatly strengthens the series of installations for the exhibition of birds.

Zebra House.—In the spring of 1911, a contract for the construction of a spacious and thoroughly modern Zebra House, in keeping with the other animal buildings of the Zoological Park, was awarded to Joseph Balaban, in the sum of \$25,181, and the work of construction began immediately. The yards were not included in the contract, for the reason that at the time the contract for the building was made, a fund for the construction of the yards had not been appropriated by the city. Later on, an appropriation for the construction of the yards, and the walks around them, was secured, and this work will be undertaken very early in the spring of 1912. At the latest, the Zebra House and adjacent yards should be ready for occupancy by July 1, 1912.

Respectfully submitted,

WILLIAM T. HORNADAY,
Director.

REPORT OF THE
DIRECTOR OF THE AQUARIUM
TO THE BOARD OF MANAGERS

DURING the first four months of 1911, the Aquarium was in charge of Dr. R. C. Osburn, assistant, under the general supervision of the Director, who was then serving as acting director of the Museum of Natural History. While the latter was absent from the City from February 19 to May 8, in charge of the United States Steamship *Albatross* expedition to the Gulf of California, Dr. Osburn was detailed as acting director of the Aquarium. After his return, the director resumed his duties at the Museum until June 14, when he returned to the Aquarium.

The most important additions to the collections were specimens of fur seal, elephant seal and tropical fishes from Florida. Two shipments from Key West added a number of species hitherto not exhibited at the Aquarium, among them being a 200-pound jewfish. One of these consignments was the gift of Mr. Danforth Ferguson of Halesite, Long Island, N. Y., a most welcome and important contribution. Tropical fishes were also obtained from Bermuda. There could, of course, be no general increase in the exhibits without increasing tank space, which is not possible in the present building.

The United States Bureau of Fisheries presented the fur seals which came from the Pribilof Islands. The six elephant seals from Lower California were sent from the Pacific coast by the *Albatross* expedition at the expense of the New York Zoological Society. Two of these were presented by the Society to the United States Bureau of Fisheries and placed in the National Zoological Park at Washington.

An interesting addition to the exhibits was a collection of thirty-three large albino lake trout, presented by the New York



BROWN PARROT-FISH (*PSEUDOSCARUS GUACAMIA*).



SPOT SNAPPER (*NEOMENIS SYNAGRIS*).

Conservation Commission, through Dr. T. H. Bean, State Fish Culturist. Three of these have been donated to the new Philadelphia Aquarium. The Commission also presented thirty short-nosed sturgeons, raised in fresh-water ponds.

Dr. C. B. Davenport presented a young specimen of the rare redbfish, (*Pseudopriacanthus*), caught at Cold Spring Harbor, Long Island. Since its arrival last summer it has lived in the sea-horse tank, thriving on the small *Gammarus* crustaceans used as food for those fishes, and has nearly trebled in size. A complete list of gifts to the exhibits and to the library will be found under heading of Accessions. The exhibits of the Aquarium as a whole, are purchased through funds provided by the New York Zoological Society.

The Aquarium still has two of the striped bass (*Roccus lineatus*) which were supposed to be three years old when the Aquarium was opened in 1896. Neither specimen weighs more than twenty pounds. The California sea-lion has been in the building over four and a half years, and has nearly doubled its size. It is a remarkably healthy and lively animal. An elephant seal nearly two years old was lost through the mischief of a visitor who gave the animal a lead pencil to play with. The pencil was swallowed and lodging in the intestines caused its death.

The keeping of seals in a building as warm as it is necessary to keep the Aquarium in winter, has not been attended with very satisfactory results. The seal pools will probably be stocked with other animals better adapted to an indoor life, until accommodations can be provided that will insure the welfare of the seals. In a larger building it would be quite possible to arrange quarters for seals where they could have the lower air temperature that is necessary for such warm-blooded animals.

The collection of local fishes and invertebrates was maintained in good condition through the efforts of our regular collector and through seining trips made by the Aquarium employees to the lakes of the various parks in Greater New York. Many specimens were also brought in from the off-shore fishing banks by the fishing steamer *Taurus*.

The fish-hatchery was kept in operation during the winter and spring months for the public exhibition of the methods in use in the artificial hatching and rearing of fishes. The United

States Bureau of Fisheries supplied eggs of the quinnat and silver salmons from Washington and Oregon, whitefish from the Great Lakes and yellow perch from Maryland. The Southside Sportsmen's Club and the Tuxedo Club furnished eggs of the brook, rainbow and steelhead trout from their private hatcheries.

Public school teachers and their classes were aided in every possible way, and the usual number of balanced aquaria stocked for use in their schools. With ample space set aside for the use of teachers and their classes in a larger building, this phase of public instruction should become a much more important and regular feature of our work.

It was possible to aid a number of scientific men in their research by supplying them small marine forms for carrying on their work; some of which was done in the laboratory of the Aquarium. Mr. George C. Scott, Instructor in the College of the City of New York, was supplied with specimens of dogfish and laboratory space for carrying on his studies upon the circulation of the blood in fishes.

Dr. Jacques Loeb, who has been making inquiries relative to the role of salts in the maintenance of life, received killifishes at regular intervals. Prof. C. F. W. McClure of Princeton received embryos of salmonoid fishes in various stages of development for study on the origin and development of the lymphatic system.

Dr. R. C. Osburn discovered the presence of a species of crayfish, (*Cambarus limosus*), new to New York, in the lakes of Central Park and Prospect Park, where it is abundant. This species, which is common in the drainage of the Delaware, Susquehanna and Potomac rivers, has not previously been recorded outside of this range. An entirely new and very striking color variety of this species has been discovered by him along with the normal form. The Aquarium Numbers of the Zoological Society *Bulletin* issued during the year were prepared by Dr. Osburn.

Assistance was rendered to city authorities and individuals in Boston, Buffalo, Philadelphia and San Francisco in connection with plans for proposed public aquariums in those cities.

No special improvements in the building were made during the year except such as were necessary for additional office space. For the most part the repairs required were of a minor character and were chiefly due to the corrosion of piping and pumps

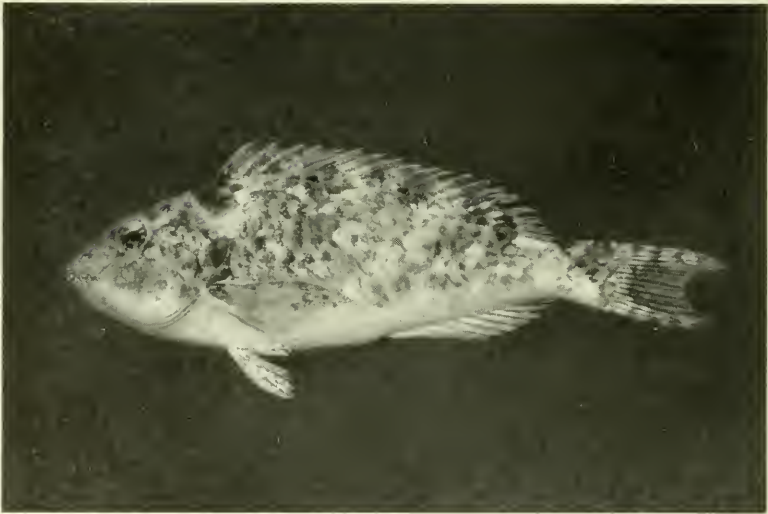
by sea-water. The ice machine was thoroughly overhauled in preparation for the warm weather. The large underground reservoir of stored sea-water has now been in use three and a half years. This supply of pure water, circulating constantly through the tanks containing marine species, has become an indispensable feature of the equipment of the institution. The cost of keeping it warm enough for tropical forms has been a thousand dollars a year less than under the old system of pumping cold water from the harbor, while its purity as a medium for marine animals has greatly reduced the cost of stocking with specimens. Several thousand gallons of water are added to it each year to replace losses caused by leakage and evaporation. With a more perfect system of piping and valves the moderate waste by leakage can eventually be eliminated. The frequent bursting of the chemical lead steam-coil used in heating sea-water is now avoided by the introduction of a galvanized steam cylinder covered with lead.

The explosion of dynamite at Communipaw, Jersey City, February 1, 1911, caused much damage to the skylights and windows of the Aquarium building, breaking more than fifty panes of glass. The heavy glass of the skylights fell to the floor in many places, but although several hundred people were in the building, fortunately no one was injured. The prompt action of the attendants prevented any rush for the doors, and order in the building was scarcely interrupted. The cost of re-glazing amounted to \$208.96.

The Aquarium was opened to the public at night from May 30, 1911, to September 30, 1911, and the average night attendance during this period was 1,479. Night opening was made possible through a balance available on account of the Director's salary, and six men were added to the force during that time. The additional cost for lighting was paid by a transfer from allowance for fuel. The Aquarium participated in the City Budget Exhibit in October, and loaned the same exhibits to the Chicago Municipal Exposition. The attendance for the year was 2,011,544, an average of 5,511 a day. The appropriation for the year was \$48,000, which is just \$1,500 more than it was nine years ago. The sale of postcards, bulletins and other Aquarium publications during the year amounted to \$631.81. The illustra-



SCAMP (*MYCTEROPERCA FALCATA*).



MUD PARROT-FISH (*SPARISOMA FLAVESCENS*).

tions presented in this Report are hitherto unpublished photographs of tropical fishes which are usually to be seen at the Aquarium. The same cuts will be used in the illustration of the Aquarium tank labels.

Mr. W. E. Damon, a member of the Aquarium Committee, died November 30, 1911, at the age of seventy-three.

Attendance at the New York Aquarium in 1911:

January	Visitors	99,989	Daily average	3,225
February	“	100,942	“ “	3,605
March	“	148,047	“ “	4,775
April	“	161,106	“ “	5,370
May	“	192,645	“ “	6,214
June	“	209,009	“ “	6,966
July	“	272,427	“ “	8,787
August	“	230,407	“ “	7,432
September	“	211,479	“ “	7,049
October	“	140,589	“ “	4,535
November	“	132,309	“ “	4,410
December	“	112,595	“ “	3,632
Total Visitors		2,011,544	Daily average	5,511

The total number of persons who have visited the Aquarium since it was opened fifteen years ago exceeds thirty millions, or an average of over five thousand a day.

For several years daily records of the temperature and salinity of the waters of the Harbor have been kept at the Aquarium, where it is still used in some of the floor pools.

The records have a scientific value as showing the low salinity of the harbor water in comparison with that of the open sea. It is usually less than half as salt, and is foul with sewage and manufacturing wastes.

The highest salinity is observed in August; the lowest in April.

Record of monthly mean temperatures and specific gravities at the New York Aquarium during the period from 1903 to 1911. (From daily observations made by Mr. W. I. DeNyse.)*

	1903		1904		1905		1906		1907		1908		1909		1910		1911	
	Temp. Water.	Spec. grav.	Temp. Water.	Spec. grav.	Temp. Water.	Spec. grav.	Temp. Water.	Spec. grav.	Temp. Water.	Spec. grav.	Temp. Water.	Spec. grav.	Temp. Water.	Spec. grav.	Temp. Water.	Spec. grav.	Temp. Water.	Spec. grav.
January	34	1.014	35	1.013	39	1.014	39	1.012	41	1.011	43	1.016	38	1.016	40	1.015
February . .	37	1.010	33	1.014	33	1.016	36	1.012	35	1.014	38	1.012	43	1.014	37	1.014	39	2.016
March . . .	40	1.008	36	1.013	36	1.014	38	1.011	36	1.013	39	1.010	43	1.013	40	1.012	40	1.015
April . . .	46	1.009	40	1.009	43	1.011	43	1.010	42	1.010	45	1.009	48	1.010	45	1.011	43	1.011
May . . .	56	1.014	52	1.010	52	1.014	52	1.013	50	1.011	54	1.010	55	1.011	53	1.012	51	1.013
June . . .	61	1.013	61	1.010	62	1.015	62	1.013	56	1.013	65	1.014	64	1.015	58	1.012	61	1.015
July . . .	66	1.013	70	1.013	68	1.015	69	1.013	65	1.015	71	1.016	73	1.017	66	1.015	68	1.016
August . . .	68	1.013	71	1.014	71	1.016	72	1.014	70	1.016	74	1.016	73	1.017	70	1.016	69	1.017
September .	68	1.013	68	1.014	69	1.014	71	1.015	69	1.015	71	1.017	71	1.018	70	1.017	68	1.017
October . .	62	1.011	59	1.013	62	1.014	63	1.016	62	1.012	67	1.018	64	1.017	65	1.017	64	1.015
November .	52	1.014	51	1.013	51	1.015	54	1.014	51	1.010	57	1.018	53	1.018	55	1.016	56	1.014
December .	40	1.014	59	1.015	44	1.014	43	1.014	45	1.011	49	1.017	45	1.017	44	1.017	49	1.013

*Density observations were made with samples of water brought to a temperature of 60 degrees Fabr.

Albatross Expedition.—In February an arrangement was made with the United States Bureau of Fisheries by which the New York Zoological Society, the American Museum of Natural History, the New York Botanical Garden and the United States National Museum cooperated in a voyage of the United States Fisheries Steamship *Albatross* to the Gulf of California. The expedition was in charge of Dr. C. H. Townsend, Director of the Aquarium, and the *Albatross* was in command of Comdr. G. H. Burrage, U. S. N.

The vessel sailed from San Diego, California, February 28, 1911, and the voyage was concluded at San Francisco April 28, 1911. About one month was devoted to marine investigations and inquiries respecting the fisheries of Lower California, and a large collection of fishes and invertebrates was obtained chiefly by deep sea dredging, some of the hauls being as deep as two miles (1,760 fathoms). Another month was spent in a zoological and botanical reconnaissance of the coastal region of the Peninsula and the outlying islands. Large collections were made of mammals, birds, reptiles and plants, among which were many species new to science.

An incident of the cruise that aroused the interest of zoologists generally, was the re-discovery of a herd of elephant seals on Guadalupe Island, specimens of which were secured. The elephant seal, a species long supposed to be extinct and about which comparatively little is known, was carefully observed and photographed by Director Townsend, who published a special account of it in *Zoologica* (Scientific Contributions of the New York Zoological Society). He has also prepared an account of the fishery, hydrographic and general results of the voyage for publication by the United States Bureau of Fisheries. Special faunal papers are in preparation for publication by the American Museum of Natural History. A brief account of the scientific results was published in the Zoological Society *Bulletin* for July, 1911.

List of Gifts
TO THE ZOOLOGICAL SOCIETY

From January 1, 1911, to January 1, 1912.

- ADAMS, MRS. JOHN D., New York City:
Blue-and-Yellow Macaw.
- ADLER, MISS GUSSIE, New York City:
Alligator.
- AKERSTROM, RUTH, New York City:
Angora Guinea Pig.
- ALEXANDER, MRS. HELEN, Brooklyn, N. Y. C.:
2 Green Finches, 1 Linnet.
- ALEXANDER, DR. W. T., New York City:
2 Canvas-Back Ducks, 1 Black Duck.
- AMERICAN MUSEUM OF NATURAL HISTORY, New York City:
Pied-Bill Grebe.
- ANTROBUS, New York City:
Opossum (2 specimens).
- ASTLETT, H. A., New York City:
White-Backed Trumpeter (2 specimens).
- AUDUBON SOCIETY, New York City:
Woodcock.
- BALLOU, CHARLES H., Newton, N. J.:
Green Snake.
- BARNES, MISS CHARLOTTE H., New York City:
Pig-Tailed Monkey (2 specimens).
- BARNES, RICHARD I., New York City:
Box Tortoise.
- BARTLETT, WILLIAM J., Panama, S. A.:
Ocelot.
- BECHTEL, WILLIAM A., New York City:
1 Canary, 1 Red-Crested Cardinal.
- BECK, R. N., Commander O. L., S.S. "Boniface," Brooklyn, N. Y. C.:
Collared Peccary.
- BEDFORD, A. M., New Rochelle, N. Y.:
Alligator.
- BEDFORD, C. E., New York City:
Silver Pheasant.
- BEVEN, V. D., New York City:
Silver Pheasant.
- BISHOP, MRS. M., New York City:
Alligator (2 specimens).
- BOURK, MRS. A., New Rochelle, N. Y.:
Tovi Parrakeet.
- BROAS, MRS. C. B., New York City:
Barbary Turtle Dove (2 specimens).
- BRONSON, EDGAR BECHER, New York City:
1 Spectacled Bear, 1 South American Condor.
- BROWN, BARNUM, New York City:
Black Spotted Snake (2 specimens).

- BROWN, L. P., New York City:
Snapping Turtle.
- BUILLEIER, PETER J., New York City:
Alligator.
- BURDOCK, OFFICER, S.S. "Philadelphia," New York City:
Natterjack Toad (4 specimens).
- BURTON, H. N., Brazil, S. A.:
Red Howler Monkey.
- BUTTFIELD, A. B., Plainfield, N. J.:
Lizard (3 specimens from the Island of Jersey).
- CATHNESS, JAMES B., Chief Officer, S.S. "Stalia," Brooklyn, N. Y. C.:
Pigeon Hawk.
- CAMPBELL, R. H., Bayonne, N. J.:
Raccoon.
- CINCINNATI ZOOLOGICAL GARDENS (through S. A. Stephan, Supt.), Cincinnati, O.:
Carolina Parakeet (2 specimens).
- COE, MISS M. S., New York City:
Black-Cap Warbler.
- COOPER, HENRY S. FENIMORE, Cooperstown, N. Y.:
Soft-Shelled Turtle (3 specimens).
- COOPER, PAUL FENIMORE, Cooperstown, N. Y.:
Gopher Tortoise.
- CORBES, WILLIAM, New York City:
1 Box Turtle, 2 Painted Turtles.
- CRAUFURD, MRS. M. H., New York City:
Sapajou Monkey.
- CRESWELL, J. S., Stillwater, Minn.:
Ocelot.
- CROSBY, MRS. MARGARET A., New York City:
North Carolina Opossum.
- DAY, MRS. W. J., New York City:
Blue-Fronted Amazon Parrot.
- DEPARTMENT OF AGRICULTURE, Washington, D. C.:
2 American Egrets, 2 Yellow-Crowned Night Herons, 4 Spoonbills. Total, 8 specimens.
- DEPARTMENT OF FOREST, FISH AND GAME (through John B. Burnham, State Game Protector), Albany, N. Y.:
Golden Eagle.
- DOERR, ARTHUR CHABLES, College Point, N. Y.:
Red-Tailed Hawk.
- DOHN, RICHARD, New York City:
7 specimens of Old World Fish (Comprising the following species: *Barbus conchonus*, *Barbus victo*, *Barbus vittatus*, *Barbus phutonio*, *Gambusia affinis*, and *Xiphophorus helleri*.)
- DOUGHTY, MISS SARAH L., New York City:
Alligator.
- DUEL, MRS. ARTHUR B., New York City:
1 Sulphur-Crested Cockatoo, 1 Gray-Breasted Parakeet, 2 Cockatiels, 2 Roseate Cockatoos. Total, 6 specimens.
- DUNWORTH, PETER, New York City:
American Robin.
- ELLWOOD, RICHARD J., New York City:
European Starling.
- ENSLEY, CLARENCE B., Brooklyn, N. Y. C.:
Raccoon.
- FAIRVIEW GARDEN SCHOOL ASSOCIATION, THE, Yonkers, N. Y.:
2 Alligators and a batch of Silk Worms.

- FEILER, MARTIN, South River, N. J.:
Blacksnake.
- FERCILLAND, E., Brooklyn, N. Y. C.:
Green-Winged Macaw.
- FERGUSON, HARRY L., Cody, Wyo.:
Gray Wolf pup.
- FORD, H. W., New York City:
Alligator.
- FORT, MRS. L. A., New York City:
Herring Gull.
- FRANZ, J., New York City:
Bullfinch.
- GAILAN, WALTER L., Alexandria, Va.:
Golden Eagle.
- GARFUNKEL, MAX, New York City:
Red-Tailed Hawk.
- GARGULO, MRS., Portchester, N. Y.:
1 Costa Rican Amazon Parrot, 1 Yellow-Naped Amazon Parrot.
- GORDON, MRS. S., New York City:
Guinea Fowl.
- GOULD, GEORGE J., New York City:
Pine Snake.
- GRAZLADEI, MISS JOSEPHINE, New York City:
Gray-Breasted Parakeet.
- GRIFFITH, WILLIAM C., S.S. "Almirante," New York City:
2 Mongoose, 15 Lizards (*Genus anolia*), 2 White-Breasted Pigeons. Total,
19 specimens.
- GROVE, MRS. C., New York City:
Horned Toad (2 specimens).
- HAAS, MISS HELEN L., New York City:
Alligator.
- HAINER, GEORGE, Hoboken, N. J.:
European Starling.
- HALTER, CLARENCE, New York City:
1 Box Tortoise, 1 Water Snake, 1 Hog-Nosed Snake. Total, 3 specimens.
- HARRIS, JAMES S., Hoboken, N. J.:
Ring-Tailed Sapaïou.
- HEGENMILLER, KANE, Pa.:
Great-Horned Owl.
- HENRICH, MRS., New York City:
Canary (2 specimens).
- HERRSCHAFT, WILLIAM K., New York City:
Virginia Cardinal.
- HILDRETH, MRS. W. E., New York City:
Red-and-Blue Macaw.
- HINSDALE, F. A., New York City:
Greenfinch.
- HOGG, JAMES A., New York City:
Green Monkey.
- HOLLISTER, MRS. GEOGRE C., New Rochelle, N. Y.:
Screech Owl.
- HOLMES, FREDERICK T., Waterbury, Conn.:
Spotted Salamander.
- HUEWEL, A. COLLIN, New York City:
Red Fox.
- HURLBUT, C. J., Homer, N. Y.:
Cacomistle.

- ITHACA GUN COMPANY, THE, Ithaca, N. Y.:
Red-Tailed Hawk.
- JAGELS, Mrs. C. H., Summit, N. J.:
Alligator.
- JAMBROSS, JOSEPH, New York City:
White-Faced Sapajou Monkey.
- JELTSCH, HANS E., New York City:
Yellow-Headed Amazon Parrot.
- JONES, Mrs., New York City:
Canary.
- JORDEN'S CAFE, Greenpoint, Brooklyn, N. Y. C.:
Chacma Baboon.
- KATO, G. P., Jersey City, N. J.:
Ring-Necked Pheasant.
- KEELER, EDWIN, Bisbee, Ariz.:
30 Arizona Grasshoppers, 3 Beetles, 1 Tarantula. Total, 34 specimens.
- KEMP, Mrs. A. S., New York City:
Blue-Fronted Amazon Parrot.
- KEMP, Miss MARGARET, New York City:
Alligator (2 specimens).
- KENT, EDWIN C., New York City:
Barred Owl (3 specimens).
- KERSCHNER, FRANK, New Brighton, N. J.:
Red-Tailed Hawk.
- KOHLLOFF, PAUL, Larchmont, N. Y.:
Bat.
- KUBER, A., New York City:
Red-Shouldered Hawk.
- KUSER, COLONEL ANTHONY R., Bernardsville, N. J.:
2 Great-Billed Rheas, 3 White-Throated Seed-Eaters, 7 Red-Billed Blue Magpies, 3 Pileated Sparrows, 2 European Magpies, 2 Brazilian Blue Grosbeaks, 2 Bare-Eyed Cockatoos, 7 Saffron Finches, 1 Greater Sulphur-Crested Cockatoo, 6 Blue-Bearded Jays, 3 Cockatiels, 12 Pygmy Ground Doves, 1 Red-and-Blue Macaw, 4 Golden-Headed Parrakeets, 1 Blue-and-Yellow Macaw, 6 Argentine Cowbirds, 2 Scarlet Ibis, 1 Bay-Winged Cowbird, 1 Brazilian Kiskadee Flycatcher, 1 Chestnut-Fronted Blackbird, 4 Brown-Naped Wood Rails, 1 Saturnine Mockingbird, 1 Razor-Billed Curassow, 2 Calandria Mockingbirds, 1 Obsolete Tinamon, 2 Bahia Doves, 1 Spotted Tinamon, 2 Orange-Winged Doves, 1 Laughing Falcon, 2 Southern Palm Tanagers, 18 Picazuro Pigeons, 3 Western Burrowing Owls, 1 Red-Tailed Hawk, 2 Screech Owls, 2 Purple Grackles, 3 Flickers, 1 Hudsonian Curlew, 3 Blue Magpies, 1 European Nutcracker, 1 Meadowlark, 3 Virginia Cardinals, 22 Bluebirds, 2 Robins, 3 Undulated Grass Parrakeets, 1 Black Cuckoo, 5 Mockingbirds, 9 Hermit Thrushes, 1 Scarlet Tanager, 3 Brown Thrashers, 11 Blue Jays, 1 European Crossbill, 5 Purple Finches, 2 Catbirds, 4 Indigo Buntings, 1 White-Crowned Sparrow, 2 Song Sparrows, 1 Junco, 2 Myrtle Warblers, 1 White-Breasted Nuthatch, 7 Gray-Breasted Parrakeets, 1 Vieillot Fireback Pheasant, 1 Mongolian Pheasant, 3 Formosan Pheasants, 2 Versicolor Pheasants, 4 Black-Crested Pheasants, 2 Reeves-Ring-Neck hybrid Pheasants, 7 Mourning Doves, 3 Inca Doves, 4 Wood Ducks, 2 Ross Geese, 2 Mule Deer. Total, 236. specimens.
- LAMB, Miss KATHERINE, Cresskill, N. J.:
Northern Flicker (2 specimens).
- LARQUE, Mrs. ELEANOR THEODORA, Bernardsville, N. J.:
White-Faced Sapajou.
- LEONARD, WILLIAM E., Dexter, N. Y.:
Black Duck (2 specimens.)

- LEWIS, MRS. B. L., New York City:
Canary.
- LITTLE, MRS., Union Hill, N. J.:
Gray Fox.
- LINCOLN PARK ZOO (through C. B. D'Vry, Director), Chicago, Ill.:
1 Banded Rattlesnake, 2 Wyoming Rattlesnakes, 1 Striped Snake. Total, 4 specimens.
- LUCAS, WILLIAM A., New York City:
Great-Horned Owl.
- LUTHI, THEODORE, New York City:
Screech Owl.
- McCOLGAN, E., Baltimore, Md.:
4 Cockatiels, 2 Gray-Breasted Parrakeets, 2 Black Fantail Pigeons. Total, 8 specimens.
- McCORMACK, JAMES, New York City:
Alligator.
- McCoy, GEORGE W., Babylon, L. I.:
Barn Owl (6 specimens).
- McLEAN, Miss, New York City:
Canary.
- MACK, WILLIAM, New York City:
Mud-Puppy (2 specimens).
- MANNHARDT, L. ALFRED, New York City:
2 Water Snakes, 3 Garter Snakes, 1 Pilot Black Snake, 5 Bullfrogs. Total, 11 specimens.
- MARTIN AND NAYLOR COMPANY, Gloversville, N. Y.:
White Weasel.
- MILLER, ALBERT T., Jersey City, N. J.:
Alligator (2 specimens).
- MILLS, V. S., Kingsbridge, N. Y.:
1 Copperhead Snake, 1 Milk Snake, 3 Red Newts. Total, 5 specimens.
- MORRIS, C. H., McConnellsville, O.:
Red-Tailed Hawk.
- MORTON, Miss A., New York City:
Brown Thrasher.
- MOSER, ALFRED A., Westfield, N. J.:
Raccoon.
- MÜLLER, JOSEPH, New York City:
Alligator (2 specimens).
- MUTUAL WAGON COMPANY, New York City:
Whip-poor-will.
- NATIONAL ZOOLOGICAL PARK (through Dr. Frank Baker, Superintendent), Washington, D. C.:
Black-Crowned Night Heron (12 specimens).
- NEW YORK TANNING EXTRACT COMPANY, THE, New York City:
2 Jararacas, 2 Marine Toads.
- OFFINGER, MARTIN W., Mount Vernon, N. Y.:
Opossum.
- PAINTER, KENYON V., Cleveland, O.:
1 White-Necked Robin, 3 Mexican House Finches, 1 White-Lined Tanager.
- PARKER, WILLIAM, New York City:
Canary.
- PENFIELD, JAMES T., Wakefield, N. Y.:
Osprey.
- POST, MRS. CHARLES J., New York City:
Yellow-Shouldered Amazon Parrot.
- PRESCOTT, CAPTAIN C. D., S.S. "El Oriente," New York City:
2 Duck Hawks, 1 American Bittern.

- PULLEN, C. D., New York City:
Garter Snake.
- PYNE, MRS. M. TAYLOR, New York City:
1 Great Green Macaw, 1 Radiated Tortoise.
- RAINEY, PAUL J., New York City:
3 East African Baboons, 1 Campbell's Monkey, 5 Bearded Monkeys, 2 Lion
Cubs, 4 Leopards, 1 Spotted Hyaena, 1 Hunting Dog. Total, 17 specimens.
- READ, R. B., Purchase, N. Y.:
1 Hog-Nosed Snake, 3 Black Snakes.
- RICHARDS, MRS., Mount Vernon, N. Y.:
Robin.
- RUIS, JACOB, Richmond Hill, L. I.:
Screech Owl.
- RINGLING BROTHERS, New York City:
1 Common Genet, 1 Kusimanse, 1 Bushy-Tailed Ichneumon.
- ROBERT, CHARLES, New York City:
Alligator.
- ROCKLIFFE, MRS. C. A., New York City:
Sparrow Hawk.
- RODGERS, H., White Plains, N. Y.:
Opossum.
- ROHLFS, WILLIAM, New York City:
Virginia Deer.
- ROOSEVELT, COLONEL THEODORE, Oyster Bay, L. I.:
Red-Billed Hill-Tit (8 specimens).
- ROSENBERG, G., New York City:
Screech Owl.
- ROSENBERGER, EDWARD, City Island, N. Y.:
Brown Snake (38 specimens).
- RUBERT, MRS. GEORGE E., New York City:
Squirrel Monkey.
- RULISON, G. W., New York City:
Horned Toad.
- RUSSELL, MISSES LILLA and PANSY, Brooklyn, N. Y. C.:
Brazilian Marmoset (2 specimens).
- RUSSELL, R. H., Mt. Holly Springs, Pa.:
Queen Snake.
- RUTHERFORD, MISS GLADYS, Brooklyn, N. Y. C.:
Alligator.
- ST. JOHN, FRANK L., New York City:
Emu.
- SAGE, MRS. B., New York City:
Yellow-Naped Amazon Parrot.
- SAGENDORF, MR., Brooklyn, N. Y. C.:
Green-Winged Macaw.
- SCHANNGER, ANTHONY, New York City:
Canary.
- SCHMITT, MR., New York City:
Nonpareil.
- SETON, ERNEST T., Cos Cob, Conn.:
Opossum.
- SEWELL, DR. B. B., Baldwin, La.:
Alligator.
- SHOKOFF, MRS. B., Palisades Park, N. J.:
Coati-Mundi.
- SIBLEY, JOSEPH C., Franklin, Pa.:
Great-Horned Owl.

- SMITH, C. J.:
Copperhead Snake.
- SMITH, HENRY, New York City:
Garter Snake (2 specimens).
- SNYDER, PAUL W., Bloomfield, N. J.:
253 Cocoons (*Prometha*, *Cecropia*, etc.).
- SPEIDEL, MRS. F. J., New York City:
Common Macaque.
- STAHL, WILLIAM, New York City:
1 Painted Turtle, 1 Spotted Turtle.
- STANWARD, CARLOS, Glendale, Ariz.:
Horned Rattlesnake.
- STEWART, MISS ELIZABETH, Brooklyn, N. Y. C.:
Blue-Fronted Amazon Parrot.
- STODDARD, GEORGE C., New York City:
Sparrow Hawk (2 specimens).
- STORM AND COMPANY, GEORGE L., New York City:
Horned Owl.
- STRICKER, MRS. HENRIETTA, New York City:
Blue-Fronted Amazon Parrot.
- STRUNPFER, MR., Creedmoor, L. I.:
Blacksnake.
- TARBOX, MISS, New York City:
Black-Poll Warbler.
- THEIL, MRS., New York City:
Ferret.
- THIER, MISS A. M., New York City:
Flying Squirrel (3 specimens).
- THIRESEN, FRED., New York City:
Sparrow Hawk.
- THRIESTER, JR., MR., New York City:
Barn Owl.
- TRENT, H. L., New York City:
1 Black Snake, 1 Garter Snake.
- TUVOGEL, MRS. C., Hicksville, L. I.:
White-Faced Sapajou.
- ULLMAN AND COMPANY, A. J., Jacksonville, Fla.:
Alligator.
- VAGT, MRS. H., New York City:
Gopher Tortoise (2 specimens).
- VAUGHAN, DR. J. C., New York City:
Red-Crested Cardinal (2 specimens).
- VON BUEHREN, GEORGE, New York City:
Horned Toad.
- WAGNER, JOHN, New York City:
Herring Gull.
- WAGNER, MRS., New York City:
Hooded Sapajou.
- WATSON, KENNETH, New York City:
Screech Owl.
- WATSON, CAPTAIN PERCY, S.S. "Muncaster Castle," Brooklyn, N. Y. C.:
2 Malayan Crocodiles, 1 White-Breasted Sea Eagle.
- WEISS, JOHN, Panama, S. A.:
Central American Boa (3 specimens).
- WESTERMANN, PETE, New York City:
Alligator.
- WEY, MR., Rye, N. Y.:
American Egret.

- WHEELOCK, L. A., New York City:
Alligator (2 specimens).
- WHITE, BENNETT S., Brooklyn, N. Y. C.:
Opossum.
- WILLIAMS, B. WRIGHT II.:
Marten.
- WILSON, EDWIN, New York City:
Screech Owl.
- "WISCONSIN," THE MEN ON THE U. S. S., (through Dr. Fred. M. Bogan, Surgeon,
U. S. N.), Portsmouth, N. H.:
Great Gray Kangaroo.
- WOLF, JOHN A., West New York, N. J.:
Box Tortoise.
- WOOLLEY, HENRY S., Waterbury, Conn.:
55 Water Snakes, 1 Ribbon Snake. Total, 56 specimens.
- WRIGHT, JOSEPH G., Bridgeport, Conn.:
Gray Fox.
- WYANDANCH CLUB (through Edward Boote), Smithtown, L. I.:
Red Fox (3 specimens).
- ZUKSCHWERDT, F. C., New York City:
Copperhead Snake.
- ZWEIFEL, FRED., New York City:
Green Lizard.

Miscellaneous List.

- McMILLIN, EMERSON, New York City:
Oil Painting of "*Rocky Mountain Grizzly at Home*" (32"x46") by Carl Rungius.

Gifts of Plants.

- FREEMAN, MRS. FRANK, New York City:
2 large Rubber Plants.
- PARR, MRS. BENJAMIN, New York City:
1 large Sago Palm.

Gifts to the Library.

- BEEBE, C. WILLIAM, New York City:
Science, 14 volumes, 1904-1910, inclusive.
- EDGAR, NEWBOLD, New York City:
The Auk and Nuttall's Magazine, from the beginning to 1910.
Nuttall's Ornithology (first edition).
Willoughby's Ornithology, 1678.
- HURTER, SR., JULIUS, Curator Academy of Science, St. Louis, Mo.:
Herpetology of Missouri, by Julius Hurter, Sr.
- LETKEMANN, H. V., New York City:
Zoological Keepsake.
- McMILLIN, EMERSON, New York City:
American Ornithology; or the Natural History of the Birds of the United States, by Alexander Wilson. Original octavo edition. 9 volumes.
- MORSE, S. R., Curator New Jersey State Museum, Trenton, N. J.:
Report of the New Jersey State Museum, 1909—Insects.
- OSBORN, PROF. HENRY F., New York City:
Evolution of Mammalian Molar Teeth (Osborn). 97 scientific papers by Henry F. Osborn.
- YERKES, PROFESSOR ROBERT M., Cambridge, Mass.:
7 papers on Animal Psychology.

**List of Gifts to the
National Collection of Heads and Horns**

(April 1, 1911, to April 1, 1912.)

- AMERICAN MUSEUM OF NATURAL HISTORY, New York City:
Peary Caribou, (*Rangifer pearyi*). Mounted Head. Collected by Commander Robert E. Peary.
Statuette of an African Elephant (in plaster), Charles R. Knight, Sculptor.
- BECK, DR. H. M., Wilkes-Barre, Pa.:
Newfoundland Caribou, (*Rangifer terraeuorae*). Scalp.
- BEEBE, C. WILLIAM, New York City:
Four-Horned Sheep, (*Ovis aries*). Horns.
Mishmi Takin, (*Budorcas taxicolor*). Horns.
Gaur, Indian Bison, or Sladang, (*Bos gaurus*). Horns. 2 specimens. Male and female.
- CAESAR, HENRY A., New York City:
White-Tailed Deer, (*Odocoileus virginianus*). Mounted Head. (World's record.)
- GARNER, R. L., Philadelphia, Pa.:
Congo Buffalo, (*Bos novus*). Skull and horns.
Yellow-Backed Duiker, (*Cephalophus sylvicultrix*). Skull and horns.
Gorilla, (*Gorilla gorilla*). Skull.
- GELBACH, DR. R. W., Hoboken, N. J.:
Aoudad, (*Ovis tragelaphus*). Horns.
- HARRISON, JR., GEORGE L., Philadelphia, Pa.:
Nubian Ibex, (*Capra nubiana*). Mounted Head.
Musk Deer, (*Moschus moschiferus*). Mounted Head.
- MACKAY, CLARENCE H., New York City:
Alaskan Moose, (*Alces americanus gigas*). 12 Mounted Heads, males.
American Elk, (*Cervus canadensis*). 10 Mounted Heads, males.
American Bison, (*Bos americanus*). 4 Mounted Heads, males.
- PHILLIPS, DR. JOHN C., Wenham, Mass.:
Horn of Wild Buffalo, (*Bos americanus*).
Peter's Gazelle, (*Gazella petersi*). Horns. 2 specimens.
Red-Necked Gazelle, (*Gazella ruficollis*). Horns. 2 specimens.
Dorcas Gazelle, (*Gazella dorcas*). Horns. 3 specimens.
Tibetan Gazelle, (*Gazella picticaudata*). Horns.
Chamois, (*Rupicapra tragus*). Horns.
Javan Rusa Deer, (*Cervus hippelaphus*). Antlers.
Lesser Kudu, (*Strepsiceros imberbis*). Horns.
Lechee Antelope, (*Cobus lechee*). Horns.
Bushbuck, (*Tragelaphus sylvaticus*). Horns. 2 specimens.
Red-Fronted Gazelle, (*Gazella rufifrons*). Horns.
Beisa Antelope, (*Oryx beisa*). Horns.
Four-Horned Sheep, (*Ovis aries*). Horns.
Nilghiri Tahr, (*Hemitragus hylocrius*). Horns.
Johnson Pallah, (*Aepyceros melampus johnsouii*). Horns.
Lichtenstein Hartbeest, (*Bubalis lichtensteini*). Horns.
Serow, (*Nemorhaedus bubalinus*). Horns.
Clark Gazelle, (*Gazella clarki*). Horns.
Bohor Reedbuck, (*Cervicapra bohor*). Horns.
Saiga Antelope, (*Saiga tatarica*). Horns.
Nagor Reedbuck, (*Cervicapra redunda*). Horns.
Buffon Kob, (*Cobus kob*). Horns.
Isabella Gazelle, (*Gazella isabella*). Horns.
East African Bushbuck, (*Tragelaphus scriptus*). Horns.
White-Tailed Gnu, (*Connochetes gnu*). Horns.

- White-Eared Kob, (*Cobus leucotis*). Horns.
Himalayan Tahr, (*Hemitragus jemlaicus*). Horns.
Gunther Dik-Dik, (*Madoqua guentheri*). Horns.
Pelzeln Gazelle, (*Gazella pelzelni*). Horns.
Duiker, (*Cephalophus*). Horns.
Bornean Banting, (*Bos sondaicus*). Horns.
Tiang, (*Damaliscus corrigum tiang*). Horns.
- PRICHARD, H. HESKETH, St. Albans, England:
Barren-Ground Caribou, (*Rangifer arcticus*). Antlers, from Labrador.
Patagonian Guemal, (*Hippocamelus bisulcus*). Horns.
- PROCTOR, A. PHIMISTER, New York City:
Rocky Mountain Big-Horn, (*Oris canadensis*). Cast of horns and skull.
- ROOSEVELT, COLONEL THEODORE, Oyster Bay, L. I.:
White, or Square-Mouthed Rhinoceros, (*Rhinoceros simus cottoni*). Mounted Head.
- SAUTER, JR., FRED., New York City:
Prong-Horned Antelope, (*Antilocapra americana*). Horn for Anatomical Collection.
- STANFORD, HARRY P., Kalispell, Montana:
White-Tailed Deer, (*Odocoileus virginianus*). Horns.
- WARNER, R. L., Boston, Mass.:
New foundland Caribou, (*Rangifer terraenovae*). 2 Scalps.

List of Gifts
TO THE AQUARIUM
January 1, 1911, to January 1, 1912.

- ACER, CHRIS. J., Brooklyn, N. Y. C.:
Young Alligator.
- ALDRICH, ROBERT, Gravesend Beach, L. I.:
Seahorses, 1 Box Turtle.
- ALLEN, New York City:
6 Wood Turtle.
- ANDUSK, MISS J., New York City:
1 Wood Turtle.
- BARRETS, MISS ELIZABETH, BROUX, New York City:
Painted Turtle.
- BEARD, STEWART M., Yonkers, N. Y.:
Bullfrog.
- BENNETT, MR., New York City:
Young Alligator.
- BERINGER, AUGUST, New York City:
Common Snapping Turtle.
- BIOLOGICAL LABORATORY, Cold Spring Harbor, L. I.:
Red-fish, (*Pseudopriacanthus altus*).
- BISHOP, HENRY, Baltimore, Md.:
Japanese Goldfishes (12 large specimens).
- BRANDRETH, COURTENAY, Ossining, N. Y.:
Green Turtle.
- BROWN, MISS RITA, New York City:
1 Wood Tortoise, 40 Fresh-water Mussels.
- BROWN, B. D., Brooklyn, N. Y. C.:
1 Musk Turtle, 1 Painted Turtle.
- CAMERON, MR., Brooklyn, N. Y. C.:
Small Mexican Crocodile.
- CAMP, F. W., Yonkers, N. Y.:
Small Alligator.
- CARLISLE, New York City:
Green Turtle.
- CARLSON, T. C., Brooklyn, N. Y. C.:
5 Pipefish, 2 Seahorses.
- CONSTANT, J. U., Brooklyn, N. Y. C.:
Young Alligator.
- COSTELLO, R. V., New York City:
Rabbitfish.
- DAVISON, MRS. A. H., Brooklyn, N. Y. C.:
Arizona Horned Toad.
- DECKER, A. B., Lake Hopatcong, N. J.:
4 Pickerel, 1 Small-Mouthed Black Bass.
- DEFRANCO, ANTONIO, New York City:
Snapping Turtle.
- DEMPESTER, MISS, New York City:
Box Turtle.
- DONOVAN, MESSRS. D. F. AND M. J., Perth Amboy, N. J.:
Threadfish.
- DOWNING, MRS. CHARLES, Brooklyn, N. Y. C.:
Young Alligator.

EARL, KENNETH A., Montclair, N. J.:

Alligator (4 young specimens).

EVERSON, V. H., Flatbush, L. I.:

Young Alligator.

FABIAN, GUSTAV H., Brooklyn, N. Y. C.:

Snapping Turtle.

FERGUSON, DANFORTH B., Halesite, Suffolk Co., L. I., a valuable collection of tropical fishes, as follows:

4 Yellowfin Groupers, 4 Margates, 2 Shark Suckers, 5 Surgeonfish, 13 Green Parrotfish, 5 White Grunts, 1 Snook, 15 Porkfish, 2 Gray Snappers, 3 Southern Puffers, 1 Grass Porgy, 3 Rock Hinds, 2 Toadfish, 5 Black Angels, 5 Catfish, 7 Chubbs, 1 Gray Grunt, 2 Jewfish (one 250 pounds), 1 Common Grouper, 1 Graysby, Mutton-fish, 3 Squirrel-fish, 3 Filefish, Scorpion-fish, 8 Yellow Grunts, 1 Black Grouper, 1 Nassau Grouper, 4 Sailors Choice, 3 Bluestriped Grunts, 4 Schoolmasters, 2 Breams, 4 Red Groupers, 2 Green Morays, 1 Yellowtail, 1 Scamp, 2 Ocean Triggers, Butterfly-Fish, 1 Toadfish, 1 Sergeant Major, 1 Lane Snapper, 19 Ton-tates, Yellowtail, 6 Blueheads, 5 Brown Bean Gregorys, 7 Blue Beau Gregorys, 17 Stone Crabs, 1 Blue Crab, 1 Horse Conch, 1 Common Conch, 2 White Conchs, 1 Snow Conch, 3 Micromacks, 2 Conchs, 1 Starfish, 11 Green Hermit Crabs, 3 Blunt Spined Sea Urchins, 1 Basket Starfish, 4 Pieces of Coral, 1 Sea Anemone, 13 Red Hermit Crabs, 1 Decorated Spider Crab, 50 Land Hermit Crabs, 1 Hawksbill Turtle. Total, 276 specimens.

GABRIELSON, MISS H., New York City:

2 Young Alligators (2 young specimens).

GRABO, ERNEST, Jersey City, N. J.:

Young Alligator.

GREGORY, FRED J., New York City:

Young Alligator.

GIBSON, G. W., New York City:

Diamond-backed Terrapin.

GUANDO, DOMINICK, Hempstead, L. I.:

Seahorse.

GUYNN, E. H., Ridgefield, N. J.:

Young Alligator.

HAMILTON, F. W., Syracuse, N. Y.:

White Eel.

HARDY, MRS. F. D., New York City.:

Fancy Goldfishes (5 specimens).

HARGRAVE, MRS. R. C., Brooklyn, N. Y. C.:

Young Alligator.

HARPER, JOHN T., New York City.:

Alligator (2 young specimens).

HERBERT, MISS OLIVER, New York City:

Young Alligator.

JACOBSON, T. M., Jersey City, N. J.:

Alligator (2 young specimens).

JEWETT, E. W., Passaic, N. J.:

Bermuda Hermit Crab.

JOOST, HABRY, Woodhaven, L. I.:

Young Green Turtle.

KAUTZ, JOSEPH A., Deal Beach, N. J.:

Bullfrogs (18 large specimens).

KEHLENBECK, GEORGE, Brooklyn, N. Y. C.:

Alligator.

TUXEDO CLUB, (*Through Mr. Edwin C. Keut*):

8,000 Steelhead Trout Eggs.

- KNIGHT, MESSRS. WILLET AND FRANK, Brooklyn, N. Y. C.:
Painted Turtle (7 young specimens).
- KRAUSSE, Mrs. B., Bronx, New York City:
Large Seahorse.
- KYLE, H. M., New York City:
2 13-gallon Aquaria, 3 Calico Bass, 2 Sunfish, 11 Turtles.
- LAMBERT, W. L., Crescent, B. C.:
4 California Oysters, 4 Bluepoint Oysters raised in Puget Sound.
- LAMOORE, JAMES E., Vicksburg, Miss.:
Alligator, Snapping Turtle.
- LANGGUTH, AUGUST, New York City:
Alligator (2 young specimens).
- LESSLER, RUDOLPH, Bronx, New York City:
Hermit Crab.
- LEWIS, E. J., Stamford, Conn.:
Painted Turtle (4 specimens).
- MARIE, CHARLES, Butler, N. J.:
100 Red-Nosed Shiners, 8 Pickerel, 200 Fresh-water Killies, 10 large Pickerel,
2 Yellow Perch.
- MACKAY, W. G., South Brooklyn, N. Y. C.:
Young Alligator.
- MARINE, W. A., Brooklyn, N. Y. C.:
Box Turtle.
- MARCHALL, Shoreham, L. I.:
Green Frog (8 specimens).
- MAYER, Mrs., Bronx, New York City:
Goldfish (3 specimens).
- MELONEY, MASTER GEORGE, Oak Bluffs, Mass.:
Young Alligator.
- MICHAELS, Mrs., Flatbush, L. I.:
Young Alligator.
- MICHAELIS, FRED, Battery Park, New York City:
Jellyfish.
- MOORE, Mrs. MARY C., Brooklyn, N. Y. C.:
Painted Turtle (2 specimens).
- MUNCH, ROBERT, Brooklyn, N. Y. C.:
Red Newt (27 specimens).
- NAFFKE, JOHN, Brooklyn, N. Y. C.:
Alligator (2 young specimens).
- NEW YORK ZOOLOGICAL SOCIETY:
71 Seahorses, 2 Blanding Turtles, 13 Geographic Turtles, 19 Mud Puppies,
1 Young Loggerhead Turtle, 1 Young Green Turtle, 1 Snapping Turtle,
6 Young Elephant Seals (through *Albatross* Expedition to Lower California under direction of C. H. Townsend), 8 Cumberland Turtles, 4 Yellow-Bellied Turtles, 4 Painted Turtles, 6 Hellbenders, 1 Siren, 1 Congo "Snake," 18 Diamond-Backed Terrapin, 93 Angel-fish, 4 Black Groupers, 7 Blackstriped Grunts, 2 Yellow Conchs, 11 Gray Snappers, 24 Hinds, 2 Nassau Groupers, 8 Red Snappers, 1 Spotted Snapper, 50 Squirrelfish, 7 Surgeonfish, 10 Spanish Hogfish, 11 Trunkfish, 44 Yellow Grunts, 13 Yellowtails, 6 Yellowfin Groupers, 19 Box Crabs, 9 Locust Lobsters, 2 Black Coney, 3 Spider Crabs, 1 Brown Moray, 11 Spotted Morays, 33 Anemones, 11 Beau Gregorays, 1 Butterfly-Fish, 1 Margate, 6 Sergeant Majors, 4 Swellfish, 14 Blueheads, 50 Iridos, 4 Stone Crabs, 8 Common Triggerfish, 6 Black Grunts, 4 White Grunts, 1 Horse Conch, 1 Catfish, 6 Spiny Lobsters, 9 Rock Hind, 5 Muttonfish, 1 Common Rockfish, 2 Red Groupers, 2 Lane Snappers, 6 Conchs, 2 Hermit Crabs, 1 Hawksbill Turtle, 2 Blue Tang, 1 Mud Parrotfish, 1 Green Parrotfish, 3 Tiger Rockfish, 6 Conchs, 3 Sheepshead, 2 Jewfish, 5 Cowfish, 1 Blue Parrotfish, 23 Hog-

- fish, 4 Graysby, 2 Caraux latus, 2 Caraux hippus, 12 Schoolmasters, 4 Filefish, 11 Black Angel-fish, 5 White Angel-fish, 23 Porkfish, 2 Black Margates, 7 Grass Porgies, 1 Jolthead Porgy, 3 Littlehead Porgies, 1 Chub, 2 Breems, 1 Ocean Turbot. Total, 789 specimens.
- NEW YORK FOREST, FISH AND GAME COMMISSION (Through Dr. T. H. Bean, State Fish Culturist):
- 8 Large Rainbow Trout, 25 Medium Rainbow Trout, 30 Shortnosed Sturgeon.
- NOEHREN, CHARLES, Jamaica Bay, L. I.:
1 Seahorse, 1 Filefish.
- PEARSALL, E. A., Brooklyn, N. Y. C.:
Seahorse.
- PEAVEY, ROBERT W., Brooklyn, N. Y. C.:
Sunfish.
- PIEL, OSWALD, New York City:
Diamond-backed Terrapin.
- REYNOLDS, PHIL D., Bellefonte, Pa.:
Young Alligator.
- REYNOLDS, S. B., Brooklyn, N. Y. C.:
Seahorse.
- ROBARTS, LEON, Brunswick, Ga.:
29 young Diamond-backed Terrapin, collection of Mussels.
- ROELKER, MRS. ALFRED, JR., New York City:
Young Alligator.
- ROLINS, F. W., New York City:
Young Alligator.
- RUWE, EDGAR, New York City:
Young Alligator.
- SANWALD, LOUIS, Brooklyn, N. Y. C.:
3 Box Tortoises, 1 Snapping Turtle.
- SCHARDT, ARTHUR, New Brighton, S. I.:
1 Painted Turtle, 1 Box Turtle.
- SHACKLEFORD, J. M., New York City:
Alligator (2 young specimens).
- SLATER, C. F., Andover, N. J.:
Snapping Turtle.
- SMITH, W. T., New York City:
Young Green Turtle.
- SOUTHSIDE SPORTSMEN'S CLUB, Oakdale, L. I.:
1500 Rainbow Trout Spawn, 8 Pickerel, 18 Rainbow Trout, 48 Brook Trout.
- STEWART, MRS. CHARLES H., Newark, N. J.:
Soft-shelled Turtle (7 specimens).
- STICKEN, ERNEST, New York City:
Cuban Terrapin.
- STURKEN, MRS. A. H., Hoboken, N. J.:
Young Alligator.
- SUTTER, MASTER AUGUST, West Hoboken, N. J.:
1 Wood Turtle, 1 Spotted Turtle.
- TAYLOR, SILAS, New York City:
Box Turtle (2 specimens).
- TOOZE, MRS. E., New York City:
Green Turtle.
- TOWNSEND, DR. C. H., New York Aquarium:
Wood Turtle.
- UNITED STATES BUREAU OF FISHERIES, Washington, D. C.:
Eggs of Fishes: 5,000 Rainbow Trout, 1,000,000 Whitefish, 750,000 Yellow Perch, 1,000,000 Pike Perch, 1,000 Landlocked Salmon, 5,000 Brook Trout, 2,000 Chinook Salmon, 2,000 Silver Salmon, 2 Fur-seal Pups.

- VAUSE, MRS. J. J., Brooklyn, N. Y. C.:
Young Alligator.
- WALSH, MR. FRANK J., Chicago, Ill.:
Young Alligator.
- WILLARDSEN, MRS. A., Weehawken, N. J.:
Young Alligator.
- WINCAPAW, MRS. L. S., Princess Bay, S. I.:
Large Goldfish.
- WOLFGANG, MR. MAX, Sheepshead Bay, L. I.:
Alligator (2 young specimens).
- ZOWE, MISS LEONA VAN PELT, Brooklyn, N. Y. C.:
Wood Turtle.

Gifts to the Aquarium Library

- AMERICAN ASSOCIATION OF MUSEUMS, Charleston, S. C.:
Bulletin of the Buffalo Society of Natural Sciences, Vol. 10, No. 1.
- BUREAU OF FISHERIES (*Through Hon. George M. Bowers, Commissioner*), Wash-
ington, D. C.:
Reports and Bulletins for 1911.
- COCKS, REGINALD S., State Museum, New Orleans, La.:
Louisiana State Museum Bulletin No. 1.
- GALLOWAY, R., Chairman Board of Park Commissioners, Memphis, Tenn.:
Report of the Board of Park Commissioners.
- GRANT, U. S. 4TH, Cambridge, Mass.:
National Geographic Magazine, 1 year's subscription.
- JENNINGS, C. E., New York City:
The Fishing Gazette.
- MAYER, DR. A. G., Director Marine Biological Laboratory, Tortugas, Fla.:
4 Scientific Pamphlets.
- NEW YORK FOREST, FISH AND GAME COMMISSION, Albany, N. Y.:
Reports and Publications for 1911.
- SMITHSONIAN INSTITUTION, Washington, D. C.:
Reports and Publications for 1911.
- STURGIS & WALTON Co., New York City:
The Childrens' City.
- SUTCLIFFE, ROBERT, New York Aquarium, New York City:
Forest & Stream, 4 months' subscription.

Exchange

DETROIT AQUARIUM, Detroit, Mich.:

- 7 Black Suckers, 6 Muscallunge, 6 Pike, 14 Fresh-water Drummfish, 5 White
Bass, 21 Red Horse Suckers, 14 Whitefish, 18 Yellow Perch, 9 Rock Bass,
1 Stone Cat, 17 Pike-perch, 3 Blueheads, 1 Calico Bass, 6 Burbot, 2 Lake
Sturgeon, 4 Spotted Catfish, 4 Large-mouthed Black Bass, 6 Stone Rollers.
Total, 144 specimens.

CHARTER
OF THE
NEW YORK ZOOLOGICAL SOCIETY
CHAPTER 435, LAWS OF 1895.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

As amended by Chapter 146 of the Laws of 1902; and by Chapter 240 of the Laws of 1910.

See Chapter 432 of the Laws of 1900.

See Charter of the City of New York, Section 626 of the Laws of 1901.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederic W. De Voe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whitehead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws, become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of the New York Zoological Society.

SEC. 2. Said corporation shall have power to establish, maintain, and control zoological parks, gardens, or other collections for the promotion of zoology and kindred subjects, and for the instruction and recreation of the people. Said corporation may collect, hold, and expend funds for zoological research and publication, for the protection of wild animal life, and for kindred purposes, and may promote, form, and co-operate with other associations with similar purposes, and may purchase, sell, or exchange animals, plants, and specimens appropriate to the objects for which it was created.

SEC. 3. The managers of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension, and expulsion of its members, and for the terms and conditions of membership; to prescribe the number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its by-laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of managers, the number of whom shall be prescribed by the by-laws. The first board of managers shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years; and all persons elected to be managers at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of managers annually, who shall hold office until others are elected in their stead. The first meeting under

this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws, and election of officers. No manager of said corporation shall be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of its bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase, and hold real and personal estate necessary for the purpose of its incorporation, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in Article two of Chapter 23 of the Consolidated Laws entitled "General Corporation Law," being Chapter 28 of the Laws of 1909."

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart, and appropriate for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York, and the President of the Department of Parks of said city, shall become and be ex-officio members of the board of managers of said corporation. If at any time the animals now composing the menagerie at Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any other wise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said gardens shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

NEW YORK ZOOLOGICAL SOCIETY

AND THE

NEW YORK AQUARIUM

CHAPTER 441, LAWS OF 1902.

AN ACT to authorize a further appropriation to the New York Zoological Society, for the support of the New York Aquarium.

As amended by Chapter 239 of the Laws of 1910.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Chapter four hundred and forty-one of the laws of nineteen hundred and two, entitled "An act to authorize a further appropriation to the New York Zoological Society for the support of the New York Aquarium," is hereby amended to read as follows:

SECTION 1. The board of estimate and apportionment of the city of New York may annually, in its discretion, include in the budget for the then next ensuing financial year, in addition to any sum or sums which may be appropriated for the adequate support and maintenance of the New York Zoological Park or gardens, situated in the borough of the Bronx, and administered and controlled by the New York Zoological Society, a further sum or sums, in its discretion, for the use of the said New York Zoological Society, provided, however, that the additional appropriation hereby authorized shall be made only in case an agreement is entered into between the said New York Zoological Society and the city of New York, acting by its board of estimate and apportionment for the adequate keeping, maintenance, extension, preservation and exhibition of the building and approaches thereto and collections of aquatic animals and plants contained therein, known as the New York Aquarium, situated in the Battery park in the borough of Manhattan in said city, and also for furnishing opportunities for study, research and publication in connection with said collections, which contract the said board of estimate and apportionment is hereby expressly authorized, in its discretion, to make upon such terms and conditions as may be agreed upon with the said New York Zoological Society, and which contract shall also provide how the duty of the commissioner of parks for the boroughs of Manhattan and Richmond in respect to maintaining the said aquarium now imposed upon him by law shall be performed.

SEC. 2. This act shall take effect immediately.

BY-LAWS
OF THE
NEW YORK ZOOLOGICAL SOCIETY
AMENDED TO FEBRUARY 22, 1912.

ARTICLE I.

MEETINGS OF THE SOCIETY.

SECTION 1. The office and place of business of the New York Zoological Society shall be in the City of New York, unless otherwise ordered.

SEC. 2. The Society shall hold its annual meeting for the election of Managers, and other business, on the second Tuesday of January, or such day thereafter during the month of January to which said annual meeting shall adjourn.

SEC. 3. Special meetings of the Society shall be called by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of ten members.

SEC. 4. Notices of all meetings shall be mailed to each member of the Society at least three days before such meeting.

SEC. 5. At meetings of the Society twenty members shall constitute a quorum.

SEC. 6. The order of business shall be as follows:

1. Roll Call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of the Director of the Zoological Park.
7. Report of Director of the Aquarium.
8. Election of Managers.
9. Communications.
10. Miscellaneous business.
11. Reports and resolutions.

ARTICLE II.

BOARD OF MANAGERS.

SEC. 1. The Board of Managers shall consist of thirty-six members, together with the Mayor of New York and President of the Park Board, or Commissioner for the Bronx, who shall be members *ex-officio* of the Board.

SEC. 2. Nineteen Managers shall constitute a quorum, but ten managers may transact current business, and adjourn, subject to the subsequent approval of a meeting at which a quorum shall be present.

SEC. 3. The Board of Managers shall hold an annual meeting on the third Tuesday of January, or on such day thereafter to which said annual meeting shall adjourn. Regular meetings of the Board may also be called by the Secretary on the third Tuesdays of October and April upon the request of the President or Chairman of the Executive Committee. Special meetings of the Board shall be called at any time by the Secretary, upon the request of the President or Chairman of the Executive Committee, or at the written request of five Managers.

SEC. 4. Notices of meetings of the Board shall be mailed to each Manager at least three days before such meetings.

SEC. 5. The successors to the outgoing class of Managers shall be elected by the Society at its annual meeting, but vacancies in the Board may be filled for the unexpired term by the Board of Managers, or by the Executive Committee.

SEC. 6. A Nominating Committee shall be annually appointed by the Executive Committee, and shall consist of three members of the Society at large, who shall nominate and post ten days before the annual election the names of twelve persons to succeed the outgoing class of Managers in a conspicuous place in the office of the Society.

SEC. 7. No person shall be eligible for election to the Board of Managers, except to fill vacancies, unless his name shall have been posted as a candidate by such committee, or by not less than ten members, in writing, in a conspicuous place in the office of the Society ten days before the annual election. All candidates for election as Managers must be Life Members, Patrons, Associate Founders, or Founders of the Society.

SEC. 8. Any Manager who shall fail to attend three consecutive meetings of the Board, unless excused by vote of the Board, shall cease to be a Manager.

SEC. 9. The Board of Managers shall at its annual meeting elect a President, two Vice-Presidents, a Secretary, and a Treasurer, who shall hold office for one year, or until their successors are elected. The President, Vice-Presidents, and Treasurer shall be members of the Board.

SEC. 10. The Director of the Zoological Park, the Director of the Aquarium, and all other persons employed by the Society, shall be appointed by the Board or by the Executive Committee, and shall hold office during the pleasure of the Board.

SEC. 11. The Board shall, at its annual meeting, elect an Executive Committee and Auditing Committee, which shall hold office for one year, or until their successors are elected. The Board of Managers and the Executive Committee shall also have authority to appoint such other Committees or Officers as they may at any time deem desirable, and to delegate to them such powers as may be necessary.

SEC. 12. The order of business of the meetings of the Board shall be as follows:

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of Auditing Committee
7. Report of Director of the Zoological Park.
8. Report of Director of the Aquarium.
9. Election of Officers.
10. Election of Committees.
11. Election of new members.
12. Communications.
13. Miscellaneous business.

SEC. 13. All reports and resolutions shall be in writing, and the ayes and nays may be called on any resolution at the request of one Manager.

SEC. 14. Whenever the funds of the Society shall permit, the Board of Managers or the Executive Committee may award medals or other prizes for meritorious work connected with the objects of the Society.

ARTICLE III.

OFFICERS.

SEC. 1. The officers of the Society shall consist of a President, two Vice-Presidents, a Treasurer, a Secretary, and a Director of the Zoological Park. These officers, with the exception of the Director, shall be elected at the annual meeting of the Board of Managers, but any vacancy may be filled for an unexpired term by the Board of Managers, or by the Executive Committee, until the next annual election.

SEC. 2. The President shall preside at all meetings of the Board and of the Society, and shall be *ex-officio* a member of the Executive and Auditing Committees.

SEC. 3. The Vice-Presidents shall, in the absence of the President, perform his duties and possess his powers, acting in the order of their election.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Managers, or the Executive Committee, all dues, subscriptions, warrants from the City, fees and securities. He shall pay all bills as ordered by the Board of Managers or the Executive Committee, and shall report to the Society at its annual meeting, and to the Board of Managers at all regular meetings, and to the Executive Committee at each meeting. He shall keep all moneys and securities in some bank or trust company to be approved by the Board of Managers or Executive Committee. The books of the Society shall at all times be open to the inspection of the Managers.

SEC. 5. The Secretary shall be a salaried officer of the Society. He shall be present, unless otherwise relieved by the Board or Executive Committee, at all meetings of the Society, of the Board, and of the Standing Committees. He shall keep a careful record of all proceedings, shall have the custody of the seal, archives and books, other than books of account, and shall conduct the correspondence of the Society. He shall issue all notices and tickets, and shall perform such other duties as the Board may direct. He shall be a member *ex-officio* of the Executive, Aquarium, and Auditing Committees, and of the Scientific Council.

SEC. 6. The Director of the Zoological Park shall be elected annually by the Executive Committee at a salary to be determined by said Committee, and paid monthly from funds of the Society. He shall be the responsible administrative officer of the Park, and shall recommend to the Executive Committee candidates for the various positions in the Park. He shall also perform all such other duties in connection with the business, scientific, and literary administration of the Society as may be assigned to him by the Executive Committee.

SEC. 7. The Director of the Aquarium shall be elected annually by the Executive Committee, and shall hold office until removed or his successor is chosen by said Committee. He shall be the responsible administrative officer of the Aquarium, and shall recommend to the Executive Committee all candidates for positions in the Aquarium. The Director of the Aquarium shall be *ex-officio* a member and Chairman of the Aquarium Committee. He shall perform such other duties in connection with the Aquarium as may be assigned to him by the Executive Committee.

ARTICLE IV.

COMMITTEES.

SEC. 1. There shall be two standing committees, the Executive Committee and the Auditing Committee, which shall hold office for one year or until their successors are elected.

SEC. 2. The Executive Committee shall consist of seven Managers, together with the President and Secretary of the Society *ex-officio*. Four members shall constitute a quorum, and all meetings shall be called by the Chairman. The Executive Committee shall fill all vacancies in its own number and shall have the full powers of the Board of Managers, except so far as such delegation of power may be contrary to law.

SEC. 3. The Executive Committee shall have the control and regulation of the collections, library, and all other property of the Society, and shall have power to purchase, sell, and exchange specimens and books, to employ and control all officials and employees of the Society, Park, and Aquarium, and generally to carry out in detail the directions of the Board of Managers and the terms of any contract between the City, or Park Board, and the Society.

SEC. 4. All the rules and regulations for the examination of applicants for the various positions in the Park and Aquarium shall be made or approved by the Executive Committee.

SEC. 5. The Executive Committee may regulate the auditing and payment for all current accounts.

SEC. 6. The Executive Committee shall annually appoint an Aquarium Committee, whose duties and powers are set forth in Section 11 of Article IV of these By-Laws.

SEC. 7. The Executive Committee shall annually appoint a Nominating Committee, whose duties and powers are set forth in Sections 6 and 7, Article II, of these By-Laws.

SEC. 8. It shall also appoint a Scientific Council, whose powers and duties are set forth in Section 2 of Article V of these By-Laws.

SEC. 9. The Committee shall make a written report at each regular meeting of the Board of Managers.

SEC. 10. The Auditing Committee shall consist of three regular members of the Society, in addition to the President and Secretary, members *ex-officio*, and vacancies shall be filled by the Executive Committee. It shall be the duty of the Auditing Committee to audit, annually, the accounts of the Treasurer, of the Director of the Zoological Park, and of the Director of the Aquarium, and any other accounts of the Society, and shall report to the Board of Managers at its annual meeting.

SEC. 11. The Executive Committee shall annually appoint an Aquarium Committee, not to exceed eight members of this Society, who shall hold office until their successors are chosen. All vacancies shall be filled by the Executive Committee. The Director of the Aquarium shall be *ex-officio* a member and the Chairman of the Aquarium Committee, and such Committee may vest in him any or all of its powers. The Chairman of the Executive Committee and the Secretary of the Society shall also be *ex-officio* members of the Aquarium Committee. Three members shall constitute a quorum. The Executive Committee may delegate to the Aquarium Committee such powers as it may deem proper.

ARTICLE V.

SCIENTIFIC COUNCIL.

SEC. 1. The Executive Committee shall annually appoint a Scientific Council of not more than ten members, and shall fill all vacancies. Members of the Council shall hold office until their successors are appointed.

SEC. 2. The duties of the Council shall be to act as an advisory board in all matters pertaining to the scientific administration of the Society, and especially as to the scientific features of the Park, the promotion of zoology by publications and otherwise, and the preservation of the native fauna of America.

SEC. 3. Four members, including the Chairman, shall constitute a quorum. The Chairman shall be elected annually by the Council. The Chairman of the Executive Committee and the Secretary of the Society shall be members *ex-officio* of the council.

ARTICLE VI.

MEMBERS.

SEC. 1. The present members and such others as shall become associated with them, under the conditions prescribed by the By-Laws, shall be members of this Society as long as they shall comply with the By-Laws.

SEC. 2. Members failing to comply with these By-Laws, or for other good and sufficient cause, may be expelled from the Society by the Executive Committee.

SEC. 3. Candidates for membership shall be proposed and seconded by members of the Society. The name, occupation, and place of residence of every member as proposed shall be submitted for election to the Board of Managers or the Executive Committee, and such person, when elected, shall become a member upon payment of the annual dues, or of the fees as prescribed below.

SEC. 4. There shall be a class known as Fellows, which shall consist of members of the Society who have rendered marked services to science, and shall be chosen by the Executive Committee. The privileges of Fellows shall be in all respects the same as those of regular members of the Society, but they shall be exempt from the payment of annual dues.

SEC. 5. The annual dues shall be ten dollars, payable in advance, on the first day of May of each year, but the Executive Committee may remit the dues for the current year in the case of members elected between January 1st and May 1st of each year. The classes of membership shall be as follows:

SEC. 6. The payment of \$200 at one time shall constitute any member a Life Member.

A member who has paid annual dues for a period of five years may thereafter, at any time, upon the payment of the difference between the amount of dues already paid and \$200, become a Life Member, but such payment shall be not less than \$100.

SEC. 7. The payment of \$1,000 at one time, or in the case of a Life Member, of \$800, shall constitute any member a Patron.

SEC. 8. The payment of \$2,500 at one time, or in the case of a Patron of \$1,500, or of a Life Member of \$2,300, shall constitute any member an Associate Founder.

SEC. 9. Any member who shall donate to the Society \$5,000, or property of equal value, or any Associate Founder who shall donate \$2,500, or any Patron who shall donate \$4,000, may be elected by the Board of Managers or Executive Committee a Founder.

SEC. 10. Any member who shall have donated to the Society ten thousand dollars (\$10,000), or its equivalent, may be elected by the Board of Managers or the Executive Committee a Founder in Perpetuity. Such Founder in Perpetuity shall have the power to designate by a last will and testament his successor, who shall thereupon be entitled to all the rights and privileges of the original Founder in Perpetuity, including the right of designating in turn his successor.

SEC. 11. Any member who shall have donated to the Society \$25,000, or its equivalent, may be elected by the Board of Managers, or the Executive Committee, a Benefactor. Benefactors shall have the rights and privileges of a Founder in Perpetuity.

SEC. 12. Persons who have rendered marked service in the science of zoology or natural history may be elected Honorary Members, but not more than three such Honorary Members shall be elected in any one calendar year.

SEC. 13. A resident member who shall have rendered marked scientific or professional services to the Society in any branch of its work may be elected by the Executive Committee a Life Member, Patron, Associate Founder, or Founder. A resident of New York who shall have rendered marked service in zoology or natural history may be elected by the Executive Committee a Permanent Fellow.

SEC. 14. Non-residents who communicate valuable information to the Society, or who have rendered marked service in the science of zoology or natural history, may be elected Corresponding Members.

SEC. 15. Benefactors, Founders in Perpetuity, Founders, Associate Founders, Patrons, Life Members, Honorary Members, Permanent Fellows, Fellows, and Corresponding Members shall be exempt from annual dues.

ARTICLE VII.

PRIVILEGES OF MEMBERS.

SEC. 1. A member's ticket admits the member and his immediate family to the Park on reserve days, and to all lectures and special exhibitions, and may be used by the member's immediate family, and shall be good for the current year.

SEC. 2. Admission tickets to the Park and Aquarium on reserve days are issued to members for distribution, and are good for the current year.

SEC. 3. Each member of the Society is entitled annually to a member's ticket and to ten admission tickets.

SEC. 4. Each member shall also receive one copy of the catalogue or handbook, the report and official publication of the Society, and shall have all the privileges of the Library and Members' Building.

SEC. 5. No member shall be entitled to the privileges enumerated in this Article unless his annual dues shall have been paid.

SEC. 6. The Life Members shall have all the privileges of members and ten additional admission tickets.

SEC. 7. Benefactors, Founders in Perpetuity, Founders, Associate Founders and Patrons shall have all the privileges of Life Members, and shall in addition receive copies of all scientific works published by the Society.

SEC. 8. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Managers or Executive Committee for good cause shown.

SEC. 9. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Managers or Executive Committee.

ARTICLE VIII.

FINANCES.

SEC. 1. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

SEC. 2. Neither the Society nor any of its Managers or Officers shall contract any debt which, with existing debts, shall exceed in amount the funds then in the Treasury, except to meet expenditures for which the City is liable, and for which the Society will be reimbursed by warrants from the Comptroller's office.

ARTICLE IX.

AMENDMENTS.

SEC. 1. Amendments to these By-Laws may be proposed, in writing, at any meeting of the Board of Managers, and adopted by unanimous consent of the Managers present, or if such proposed amendment shall fail to receive unanimous consent, the Secretary shall, with the notices of the next meeting, send a copy of it to each Manager and state that it will be brought up for action at such meeting, when it may be passed by a majority vote.

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