

Government of Madras.

EDUCATIONAL DEPARTMENT.

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Enclosures

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G.O., No. 423, 20th July 1910.

Government Museum.

Recording report on the working of the —, the Marine Aquarium and the Connemara Public Library for 1909-1910.

Government of Madras.

EDUCATIONAL DEPARTMENT.

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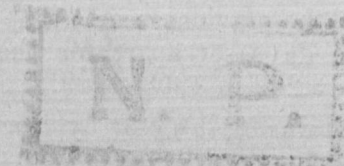
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G.O., No. 423, 20th July 1910.



Government Museum.

Recording report on the working of the —, the Marine Aquarium and the Connemara Public Library for 1909-1910.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

READ—the following paper :—

Letter—from J. R. HENDERSON, Esq., M.B.C.M., F.L.S., Acting Superintendent,
Government Museum, Madras.

To—the Secretary to Government, Educational Department.

Dated—the 7th July 1910.

No.—426.

I have the honour to forward, for submission to His Excellency the Governor in Council, the report on the working of the Government Museum, the Marine Aquarium and the Connemara Public Library during the year 1909-1910, and to request that I may be supplied with 160 copies for distribution to other Museums, etc.

ENCLOSURE.

Administration Report of the Madras Government Museum, etc., for 1909-1910.

Mr. Thurston, the permanent Superintendent, continued to be on leave throughout the year. By G.O., No. 119, Educational, dated 12th March 1910, he has been permitted to retire from the public service with effect from the termination of his leave in July 1910.

2. VISITORS.—The total numbers of visitors to the old and new buildings were 413,726 and 387,077, against 529,663 and 521,720, respectively, in 1908-1909. While these numbers are quite up to the average of recent years they suffer by comparison with a year in which the numbers were exceptionally large. The largest number of visitors on a single day was 41,665 to the old and 28,057 to the new building, on 16th January (Kannu Pongal). The total numbers of visitors on Sundays were 112,318 to the old and 98,418 to the new building, against 151,496 and 138,106, respectively, in the previous year. The number of Gosha females who visited the Museum on the days set apart for them (the first Saturday in each month) was 14,098, against 13,269 in 1908-1909.

The Museum was visited during the year by Her Excellency Lady Lawley, the Lord Bishop of Southwark, Prince and Princess Louis d'Orléans and Princes Antoine d'Orléans and Germano de Bourbon.

A party of members of the Madras Teachers' Guild was personally conducted round the Museum by myself.

3. LECTURES.—A course of eight lectures on "the study of Indian animal life" was delivered during the Christmas holidays to teachers in European and Training Schools from various parts of the Presidency. The lectures were held in the old theatre of the Museum and were illustrated to a large extent by specimens from the Museum collections.

4. BUILDINGS.—The construction of the proposed annexes to the Sculpture and Economic galleries, and the new Clerks' Office, has been approved by the Government. The preparation of detailed plans and estimates is now engaging the attention of the Public Works Department, and it is hoped that the construction will be put in hand at as early a date as possible.

5. THEATRE.—The theatre was provided with an electric light installation connected with the Madras Electric Supply Corporation's main in the Pantheon Road, thus ensuring a great improvement in the lighting, and diminished risk to the building from fire. The theatre was used on thirteen occasions during the year as follows :—

Amateur Dramatic Society's entertainments	..	..	..	10
Collegiate School prize distribution	..	..	..	1
Presidency Training School for Mistresses prize distribution	..	..	..	1
Recital on behalf of the Civil Orphan Asylum	..	..	..	1

6. PUBLICATIONS.—Mr. Thurston's encyclopædic work on "The Castes and Tribes of Southern India" (in seven volumes) referred to in the last annual report was issued during the year.

7. HISTORICAL.—Two old cannon were received from the Central Jail at Trichinopoly. They are believed to have been taken from the French by the English troops, European and native, commanded by Major Stringer Lawrence, on the 21st September 1753, at the battle of the Sugar-loaf Rock, when the French troops under the command of M. Astruc were defeated with a loss of eleven guns. The rock so designated by Orme and other writers is now known locally as the Golden Rock, and the Central Jail is in its immediate vicinity. Both guns have lost their trunnions, one its muzzle, and the smaller one is spiked; both are flattened on one side, probably as the result of ryots sharpehng tools on them. They bear no inscriptions, and are without any local history or tradition; but from the circumstances of their find, and from the fact that one of them is spiked, there can be little doubt that they are relics of this important engagement.

A photograph of Elihu Yale (Governor of Fort St. George, 1687-92) from the painting executed in 1717, now preserved at Yale College, was presented by Mr. Thurston.

A bronze sun-dial, marked S.S.G. 1817, connected with Ootacamund in its early days was presented by Sir Frederick Price, K.C.S.I. It was formerly placed in front of a house erected by Assistant Surgeon Glen of the Bombay Army about 1833, on the site of which Trengwainton now stands.

8. ARCHÆOLOGY AND ART.—The golden casket with a fragment of bone and six golden flowers, found at the Buddhist Stupa in Amarāvati and referred to in the last annual report as having been sent to the Collector of Guntūr in connection with proceedings taken under the Indian Treasure Trove Act, was returned during the year for deposit in the Museum.

Two copper plates produced by parties in a suit before the High Court, and not claimed by them, were forwarded to the Museum on the suggestion of the Assistant Archæological Superintendent for Epigraphy, Southern Circle. This officer reports as follows :—"The bigger of the two copper plates is dated in Saka 1662, Rudhiredgarin. The cyclic year given is wrong, according to Mr. Sewell's Indian Calendar. The plate records a gift of land made by certain private individuals to the Siva temple at Tirumalapadi, 'in accordance with a copper plate charter granted on a former occasion by Vijaya Oppilada Malavaraya'. Inscriptions copied by this department at Tirumalavadi (Nos. 70 to 99 of the Epigraphical collection for 1895) do not refer to any such person as Oppilada Malavaraya." While these copper-plates are of no historical importance they are interesting specimens of 18th century work.

A copper treasure chest of cast metal (measuring in inches 29×16×13) found buried underground in the Tiruvalangadu temple, North Arcot district, was acquired under the Treasure Trove Act. It contained a number of jewels used for decorating idols, and is of considerable artistic merit, but unfortunately there is no indication of its age.

Treasure trove copper or bronze images were received during the year from the Buddhist Stupa at Amarāvati, and from the villages of Mandikulam in the Tinnevely district, and Koilpattu, Sikkil and Kanjanagaram in the Tanjore district.

9. ANTHROPOLOGY.—Among the additions to the ethnological section may be noted the following :—

(1) A model representing the procession of Bhadrakali at Trichur and other temples in the Cochin State. The deity is carried by the central one of three elephants, which are preceded by the bearers of the sacred lamps and by musicians.

(2) A brass plate received from the Collector of North Arcot. The Assistant Archæological Superintendent for Epigraphy, Southern Circle, has kindly furnished me with the following note on this plate :—"The brass plate in question is perhaps one of a series of forgeries compiled by the Idāngai-faction in its zeal to justify its preference over the Valāngai in matters social. The dates given, viz., Sāka 1098 and Kali 4421 do not correspond. Nevertheless the story related of how the car procession of Kāmākshi-Amman at Conjeeveram was successfully managed by the Idāngai-Kammālans in spite of the obstacles thrown in its way by their opponents of

the Valangai-section and how in this matter the Kambalattans from Malabar helped the former by their ingenuity in exorcism, has its own interest to the ethnologist. In the Madras Manual of Administration (Vol III, p. 249) the Kambalattans are described as 'a sub-division of the Vadoogar specially addicted to magic'.

(3) A representative collection of iron styles or *lekhanis* and of reeds used for writing purposes in the various districts of the Presidency. They were supplied by Collectors at the instance of the Board of Revenue who had already supplied a similar collection to the Reporter on Economic Products, India. It may be noted that a monograph on "Indian Pens: their history, classification, materials used and methods of manufacture" chiefly based on the latter collection, has been published in the Vegetable Product series of the *Agricultural Ledger* (No. 6 of 1908-09).

10. NUMISMATICS.—The following coins were acquired under the Indian Treasure Trove Act:—

(1) A Sultani pagoda of Tipu Sultan (struck at Nagar in the second year) and eighty-four gold fanams from Coorg. This find comprised a few of Tipu's fanams struck at Pattan, Nagar, and Kalikut, but the majority of the coins belong to an undescribed type of fanam bearing on the obverse a rudely executed standing figure of a God (Vishnu?) with symbols in his four hands, and on the reverse a standing figure (Garuda?) and a lamp. The dynasty by which these coins were issued is unknown.

(2) A find of silver coins from Malabar. It comprises forty-seven fanams struck at Pondicherry for use at Mahé and the French Settlements on the West Coast (obverse "Frans Kumpani," reverse "Bhulcheri" and the letter P) several of which bear complete dates, eleven East India Company one-fifth rupees struck at Bombay for use at Cannanore, and four dated fanams of an Ali Raja of Cannanore.

(3) A number of South Indian gold fanams from South Arcot. They bear on the obverse the so-called Kali symbol, while the reverse is plain.

(4) A number of coins struck by the East India Company and belonging to well-known types, from Cuddapah and Tanjore. They consist of "three swami" pagodas in gold, and of quarter pagodas, rupees, half rupees and quarter rupees in silver.

Two silver coins (denarii) which are of considerable interest inasmuch as they belong to types not previously represented in the Museum collection of Roman coins found in Southern India, were received from the Collector of Coimbatore. Both unfortunately are in a poor state of preservation. One is a coin of the Cassia family, and on the reverse under a device which is too worn to be made out, is the legend Q. CASSIVS (probably Quintus Cassius Longinus, B.C. 60); from the other the inscriptions have been entirely worn away, but the reverse shows a bull charging to the right, and the coin is probably one of Augustus (B.C. 29—A.D. 14). The two coins are said to have been found with some other silver and gold coins and jewels, in an earthenware pot, obtained in the course of digging and levelling the raised portions of a field in the village of Kallakinar in the Palladam taluk. They came to the Collector for disposal in connection with a criminal case on the file of one of his Sub-Magistrates. The police were unable to trace the other coins and jewels referred to.

Two copper coins obtained near Jaugada hill in the Ganjam district were presented to the Museum by the Assistant Superintendent for Epigraphy, Southern Circle. They bear on one side a rudely executed standing figure, with the left arm raised and the right arm hanging down; the other side exhibits a similar figure with a crescent to its left. These coins belong to the type figured by Mr. V. A. Smith in his *Catalogue of Coins in the Indian Museum, Calcutta*, plate XIV, No. 14, which he attributes to the kings of Kalinga (Puri and Ganjam) of the fourth or fifth century A.D.

The collection of coins struck by the Danes at Tranquebar received a large accession in the form of forty new varieties in silver, copper, and lead, which were acquired by purchase.

A report was drawn up for the Asiatic Society of Bengal on a find of one hundred and eighty-one gold pagodas of the Vijayanagar kingdom, from the Central Provinces.

To the Burma Government, the Eastern Bengal and Assam Government, the Central Provinces Government, the United Provinces Government, the Mysore Darbar, and the Bombay Branch of the Royal Asiatic Society, the Museum was indebted for many coins presented to it in the course of the year.

The coins acquired under the Indian Treasure Trove Act during the year under report and in the previous year were distributed in accordance with the rules to regulate proceedings under the Act appended to G.O., No. 604, Public, dated 26th July 1907.

11. ECONOMIC AND BOTANICAL.—The Herbarium-keeper toured in the Tanjore, Madura and Tinnevely districts in September, and in Travancore in March, in order to collect specimens and to photograph objects of interest, more particularly growing plants of economic importance. As a result a considerable number of specimens and of photographs were added to the collection.

Samples of Para, Castilloa and Ceara rubbers, grown on the Nilgiris, were exhibited along with enlarged photographs showing rubber trees and the process of tapping.

A collection of varieties of sugar-cane from the Government Farm, Samalkota, and a series of vegetable specimens, chiefly medicinal, all of which are preserved in formalin solution, were exhibited during the year.

12. GEOLOGY AND MINERALOGY.—The chief additions made during the year to this section of the Museum were as follows:—

(1) Sand containing monazite from South Travancore. This mineral, a phosphate of the cerium metals, is of considerable commercial importance as a source of the ceria and thorina required for incandescent gas mantles.

(2) Samarskite from the Mica Mines, Nellore. A rare mineral, which in addition to iron, contains tantalum, niobium, cerium, yttrium and other rare elements. Its chief importance lies in the fact that it contains radium.

(3) Samples of plumbago, of good quality, from the zamindari of Singampatti, Tinnevely district.

13. NATURAL HISTORY.—In the course of a prolonged tour which I made to the Palni Hills extensive collections were made, particularly of insects, and a selection of the latter was sent to Pusa for identification. The Museum collection of South Indian butterflies has been rearranged during the year, and the specimens relabelled according to Lieut.-Col. Bingham's recent work; many old specimens have been replaced by fresh ones, and a considerable number added—chiefly from the Palnis—which were previously unrepresented.

Among the more important additions to this section may be noted:—

(a) Brown Palm-civet (*Paradoxurus jerdoni*), from the Palnis. According to Blanford who first described this little-known "toddy cat" it is "only known with certainty from the Palni hills in Madura and the Nilgiris". It was previously unrepresented in the collection.

(b) South Indian Hedgehog (*Erinaceus micropus*); a specimen captured alive in a compound at Egmore. Although the species has been recorded from the neighbourhood of Madras no recent record of its capture is known, and the one in question had possibly escaped from captivity.

(c) Little Scaly-bellied Green Wood-pecker (*Gecinurus striolatus*), and Tickell's Golden-backed Wood-pecker (*Chrysocolaptes gutticristatus*) both from the Palnis, and both new to the collection.

(d) *Rhinophis travancoricus*, Boulenger. A specimen of this comparatively recent addition to the Indian snake fauna, hitherto only known from Travancore, was received from Cochin. Unlike the majority of earth-snakes it is found on the low country at no great distance from the sea.

(e) *Phryniichus phipsoni*, Pocock. A "scorpion-spider" previously only known from Bombay, Travancore, and the Shevaroyas, received from Vizianagram.

(f) *Rhagodes nigrocinctus*, Bernard. A rare arachnid received from Vellore, the only known locality for the species.

14. MARINE AQUARIUM.—In the last annual report it was stated: "The Marine Aquarium building was taken over from the Public Works Department on 3rd November, and since then the work has been mainly experimental. Unforeseen difficulties, mainly concerned with the aeration of the water, have been experienced,

but at the close of the year under review the tanks were stocked with fish and they appear to be thriving The Committee have decided to continue the experimental stage during the hot weather of 1909, and later in the year it is proposed to throw the Aquarium open to the public." The Aquarium was eventually opened on 21st October, and the novelty of the display has continued to attract large numbers of visitors. A draughtsman has been employed to make coloured sketches of the fish, and these duly labelled with the scientific and Tamil names of the various species will be exhibited over the tanks. A small guide book will also be issued.

Except on Fridays when the Aquarium is closed to the public, the hours of admission under G.O., No. 556, Educational, dated 22nd August 1906, were from 7 A.M. to 6 P.M. on Wednesdays, and from 10 A.M. to 6 P.M. on all other days except Sunday, when visitors were not admitted after 5 P.M. The last Monday of each month, from 12 noon to 6 P.M., was set apart for gosha ladies. In order to prevent overcrowding in such a small place, the Government considered that a charge should be levied from visitors, and fixed the following rates:—four annas on Wednesdays, and six pies on all other days.

The number of visitors from 21st October 1909 to 31st March 1910, was 100,463, and the amount realized in admission fees was Rs. 3,330-4-6. The largest number of visitors on a single day was 3,436 on 16th January (Kannu Pongal). The total numbers of visitors on Wednesdays, and the days set apart for gosha ladies, were 832 and 2,182 respectively.

The Aquarium was visited by His Excellency the Governor, and by Her Excellency Lady Minto.

A short account of the Aquarium which appeared in "Nature" will be found in Appendix B.

15. CONNEMARA PUBLIC LIBRARY.—The total number of readers during the year was 19,204, against 18,663 in 1908-1909.

Largest number of readers in a day	..	..	..	..	..	176
Smallest	"	"	"	"	"	15
Largest	"	on Sunday	..	..	..	171
Smallest	"	"	..	..	..	58

The number of standard works added to the library was 306, of which 257 were purchased and the rest presented. Among the latter is a copy of the original edition, published in 1812, of the celebrated "Fifth Report on the Affairs of the East India Company," presented by Sir Frederick Price, K.C.S.I., and believed to have formerly belonged to Sir Thomas Munro. A scarce little book acquired by purchase bears the quaint title "An Essay upon Friendship; Deliver'd with a View to an Unhappy Gentleman, dec'd, and a Monster just strip'd of Power, which he has abus'd, and is lately return'd to England. By a Faithful Servant and Soldier of his Majesty's. London: Printed in the Year MDCCXXV." The unhappy gentleman referred to was Francis Hastings, Governor of Fort St. George, 1720-21, who dismissed by the Company, died in Madras while under arrest on 15th December 1721. The "monster" was Nathaniel Elwick, Governor of Fort St. George, 1721-25, who is said to have compassed the ruin of Hastings.

On the recommendation of the Board of Scientific Advice, the Government, by G.O., No. 61, Educational, dated 3rd February 1910, directed the supply to the library of certain additional scientific periodicals.

A statement of the number of books issued to readers during the last two years, under the various subject catalogue heads, is subjoined:—

	1908-1909.	1909-1910.
Anatomy; biology; natural history; zoology	..	.. 640 715
Anthropology; folklore	..	.. 707 462
Archæology; architecture	..	.. 218 193
Arts; industries	..	.. 1,319 1,321
Atlases; maps	..	.. 111 103
Belles lettres	..	.. 3,200 4,418
Botany; arboriculture; horticulture	..	.. 263 229
Chemistry; agriculture; photography	..	.. 379 383
Classics	..	.. 109 135
Dictionaries; encyclopædias; gazetteers; manuals	..	.. 2,422 4,988
Economic products	..	.. 104 69
Education; ethics; logic	..	.. 1,397 776

	1908-1909.	1909-1910.
Exhibitions	..	.. 28 35
Forestry; timbers	..	.. 62 37
Geography; physical geography; physiography	..	.. 217 170
Geology	..	.. 206 87
History	..	.. 2,627 2,803
Jurisprudence	..	.. 548 452
Medicine; surgery; pathology	..	.. 335 316
Microscopy	..	.. 33 26
Mineralogy; metallurgy	..	.. 49 141
Natural philosophy	..	.. 456 685
Numismatics; medals; heraldry	..	.. 107 81
Philology; epigraphy	..	.. 449 1,517
Photographs	..	.. 229 101
Physiology	..	.. 347 174
Public health	..	.. 48 117
Religion	..	.. 1,206 793
Sport and games	..	.. 262 316
Travels; voyages	..	.. 457 212
Vernacular languages	..	.. 206 119
Fort St. George Gazette (other than current issues)	..	.. 493 503

16. UNIVERSITY LIBRARY.—Books recommended by the following Boards of Studies were received during the year under review:—

Arabic.	Mental and Moral Science.
Dravidian languages.	Natural Science.
Law.	Teaching.

The several Boards of Studies were requested to send in supplemental lists of books to be acquired, and such of them as had been received were either under consideration or order.

Manuscript slips for a catalogue (arranged according to authors' names) of the books in the University library were under preparation; and the preparation of subject indexes of the books available in the combined Connemara and University libraries engaged the attention of the University Library Committee and the several Boards of Studies. The catalogue and the subject indexes will be issued with the least practicable delay.

17. VALUABLE STOCK.—The necessary inventory was maintained, and duly checked.

18. The usual list of donations and statement of expenditure are appended.

APPENDIX A.

DONATIONS, 1909-1910.

Anantapur, Collector—

Two pieces of a stone treasure receptacle found in Velamakur village, Tadpatri taluk.

Assistant Archæological Superintendent for Epigraphy, Southern Circle—

Two copper coins from Jaugada.

Atkinson, Hon'ble Mr. J. N., I.C.S., C.S.I.—

South Indian Hedgehog (*Erinaceus micropus*).

Bellary, District Forest Officer—

Wood and bark of *Ehretia levis*.

Benson, Surgeon-General, P. H.—

Miscellaneous copper coins.

Board of Revenue, Madras—

Writing styles and reed pens.

Central Provinces, Director of Agriculture—

Forty-one copper coins of Muhammad Shah.

Three copper coins of Muhammad Shah.

Seven silver coins and one copper coin found in the Hoshangabad district.

Cherry, Mr. C. G.—

Sea snake (*Enhydryna valakadyn*).

Conservator of Forests, Southern Circle—

- Derris scandens*—fibre and bark.
Flacourtia ramontchi—fruit.

Corporation, Madras—

- Leopard (*Felis pardus*).
 Indian Chevrotain or Mouse deer (*Tragulus meminna*).
 Black swan (*Cygnus atratus*).

Eastern Bengal and Assam Government—

- Four silver coins found in the Lakhimpur district.

Entomologist, Imperial, Agricultural Research Institute, Pusa—

- Coloured plates of insect pests together with printed explanation of the plates.

Fraser, Mr. Gordon—

- Snake (*Oligodon subgriseus*).

Govindan, Mr. V.—

- Live turtle (*Chelone mydas*) from Ennore.

High Court of Judicature, Madras, Registrar—

- Two copper plates.

Holman, Mr. D.—

- Coffer fish (*Ostracion turritus*).

Johnston, Mr. R. H. A.—

- Snake (*Callophis trimaculatus*) from Trichinopoly.

Johnston, Mr. W. H.—

- Scorpion-spider (*Phrynichus phipsoni*) from Vizianagram.

Masilamony, Mr. J. S.—

- Living Mottled Wood Owl (*Syrnium ocellatum*).

Matthai, Mr. George.—

- Snake (*Rhinophis travancoricus*) from Cochin.

Montgomery, Mr. W. D.—

- Flying lizard (*Draco dussumieri*) from the Cardamom Hills, Travancore.

Mysore Darbar—

- Three gold Vijayanagar coins.

Nellore, Collector—

- Samarskite, from the Mica Mines.

Nicholson, Rev. S.—

- Two Andhra lead coins from Koilkuntla taluk, Cuddapah district.

North Arcot, Collector—

- Brass plate.

Oakes, Major G. R., I.A.—

- Viper (*Lachesis macrolepis*) from Kodaikānal.

Oliver, Mr. N. R. B.—

- Snake (*Tropidonotus piscator*).

Price, Sir Frederick, K.C.S.I.—

- Old sun dial from Ootacamund.

Ratnavelu, Mr. B. S.—

- Arachnid (*Rhagodes nigrocinctus*, Bernard) found at Vellore.

Royal Asiatic Society, Bombay Branch—

- Two silver coins of Native States, with fragments of legends of later Moghul Emperors, found in the Satara district.

- One coin of Muhammad Shah found at Korphal, Barsi taluka.

- Three silver coins of Moghul Emperors :—

- One of Aurangzib, one of Muhammad Shah, and one of Alamgir, found in Man taluka, Satara district.

- Two gold coins of the Vijayanagar dynasty of Southern India, found in Barsi taluka, Sholapur.

- Three silver coins of Native States.

- Two East India Company's Rupees found at Alwal, Sindgi taluka, Bijapur district.

- Four gold coins found in the Satara district.

- Four silver coins of Mahmud III.—Gujarat Saltanah.

Shutle, Mr. S. D.—

- Russell's Viper (*Vipera russellii*).

Singampatti, Zamindar of—

- Plumbago samples.

Spencer, Mr. H. M.

- Caterpillar.

Stone, Mr. J. H.—

- Model of the procession of Bhadrakali at Trichur and other temples in the Cochin State.

Superintendent, Archaeological Survey, Burma—

- Two ancient Arakanese silver coins.

Superintendent, Central Jail, Trichinopoly—

- Stone specimen (block of gneiss).

Superintendent, District Jail, Berhampore—

- Burmese bell.

Thurston, Mr. Edgar, C.I.E.

- Photograph of Elihu Yale from a painting.

United Provinces, Government—

- Seven silver coins found in the Rai Barili district.
 Three silver coins found in the Bara Banki district.
 Two silver coins found in the Rai Barili district.

von Schomburg, Mr. C. W.

- Monazite sand from South Travancore.

Waddington, Mr. H.—

- Quarter paisa of Tipu Sultan struck at Khaliqabad (Dindigal).

APPENDIX B.

THE MARINE AQUARIUM, MADRAS.

Extract from "Nature" dated 3rd February 1910.

The Marine Aquarium at Madras, which has recently been thrown open to the public, deserves notice as it is the first institution of its kind in India, if, indeed, it is not the first in the tropics. It owes its inception to Lord Amthill, who, while Governor of Madras some four years ago, drew up in conjunction with Mr. Edgar Thurston, Superintendent of the Madras Museum, the first rough plan of a public aquarium. The building, a low, unpretentious brick edifice, is situated on the seaward side of the famed Madras Marina, less than a hundred yards from the sea. The main entrance leads into a large paved area with a central fresh-water pond and fountain, and on either side five tanks with plate-glass fronts, lit from above, each measuring $7 \times 3 \times 3\frac{1}{2}$ feet. The entire seaward side of the central area is occupied by a large open tank at present stocked with turtles (*Chelone mydas*). On either side of the entrance passage are two rooms designed for committee meetings, storage of materials, etc., and one of them is occupied at present by the aeration plant.

With the exception of two tanks for fresh-water fish (at present containing species of *Megalops*, *Ophiocephalus*, *Notopterus*, etc.) which are oxygenated by living *Vallisneria*, the remaining eight contain salt water, which circulates from tank to tank, and in addition are supplied with air from two compression cylinders, forced into each tank through a filter candle. At present the cylinders are filled by hand pumps, but the use of an oil engine is contemplated. Sea water is conveyed to a covered well in the rear of the aquarium along a pipe filled by hand at the seaward end. From the well it is pumped into filter-beds, and from these passes to large elevated cisterns, whence it is distributed to the tanks. The shore water on the Madras coast is so disturbed by the surf that this filtration is unavoidable, though the removal thereby of small organisms is undoubtedly a drawback. The water which has circulated through the aquarium tanks can, if desired, be brought back to the filter-beds and used a second time.

The Director of the Aquarium is the Superintendent of the Madras Museum, and he is assisted by a local committee. A small admission fee is charged, and already there are signs of the place becoming very popular, more than 1,100 visitors having been admitted on a single day. The magnificent colours of many of the fish, in particular, form a most attractive display. The exhibits include sea-snakes (*Enhydra* and species of *Distira*) and among the fish species of the following :—*Ginglymostoma*, *Stegostoma*, *Chiloscyllium*, *Muraena*, *Arius*, *Therapon*, *Serranus*, *Lutjanus*, *Myripristis*, *Trachynotus*, *Pterois*, *Caranx*, *Antennarius*, *Heniochus*, *Julis*, *Teuthis*, *Balistes*, *Tetrodon*. The invertebrates comprise cuttle-fish, holothurians, hermit-crabs (*Libinia*), swimming crabs (*Scylla* and *Neptunus*), lobsters (*Panulirus*), prawns (*Penaeus*), etc. All the specimens have been taken on the Madras coast within a few miles of the Aquarium.

APPENDIX C.

CLASSIFIED list of expenditure of the Government Museum, Connemara Library, and Marine Aquarium, during the year 1909-1910.

Government Museum and Connemara Library.

	Actuals, 1909-1910. RS.	Revised estimate, 1909-1910. RS.
Salaries—		
Superintendent	5,400	5,737
Exchange compensation allowance	..	48
Local allowance	..	193
Total ..	5,400	5,978
Permanent establishment, Government Museum—		
Herbarium keeper, first assistant, second assistant, senior and second taxidermists, writer, assistant writer and 26 peons—33 persons	7,856	7,857
Permanent non-pensionable establishment, Government Museum—		
Three gardeners, three sweepers, six watchmen, water pandal Brahman, latrine sweeper, punkah-puller and chockra—16 persons	894	900
Famine batta ..	894	900
Permanent establishment, Connemara Public Library—		
Sub-librarian, three attendants and two peons—6 persons	2,106	2,090
Permanent non-pensionable establishment, Connemara Public Library—		
Servant (sweeper)—1 person	144	135
Famine batta ..	144	135
Total, Establishment ..	11,000	10,982
Allowances—		
Travelling allowance	772	900
Supplies and Services—		
Cost of specimens purchased on tour	357	..
Objects of interest and coins purchased at head-quarters	717	..
Fittings, furniture, etc., for the collection	1,359	..
Cost of books and publications	889	..
Library	2,402	..
Lithographic plates	15	..
Ammunition	149	..
Charges for feeding live animals	224	..
Expenses—reading coins	3	..
Total, Supplies and Services ..	6,115	6,740
Contingencies—		
Purchase and repair of furniture	108	..
Tour charges	169	..
Cleaning charges	22	..
Postage and telegraph charges	91	..
Telephone charges	..	..
Rents, rates and taxes	4,473	..
Office expenses	587	..
Freight	5	..
Total, Contingencies ..	5,455	6,000

Marine Aquarium.

	Actuals, 1909-1910. RS.	Revised estimate, 1909-1910. RS.
Permanent establishment, Marine Aquarium—		
Head-keeper, second keeper and two door-keepers—4 persons	281	..
Permanent non-pensionable establishment, Marine Aquarium—		
Night watchman, sweeper, two fishermen and fisher-boy—5 persons	330	..
Temporary establishment ..	15	..
Famine batta ..	130	130
Total, Establishment ..	891	745
Supplies and Services—		
Food for animals	648	* 655
Total, Supplies and Services ..	648	655
Contingencies—		
Fittings	501	..
Tour charges	349	..
Postage and Telegraph charges	..	..
Office expenses	44	..
Miscellaneous	15	..
Rents, rates and taxes	294	..
Purchase and repairs of furniture	23	..
Total, Contingencies ..	1,226	1,000
Total, Marine Aquarium ..	2,765	2,400
Grand Total ..	31,507	33,000

* This includes fittings also.

Order—No. 423, Educational, dated 20th July 1910.

Recorded.

2. The thanks of Government are due to the persons who made donations to the Museum during the year.

3. The Governor in Council takes this opportunity to place on record his high appreciation of the services of Mr. Edgar Thurston who for the past 25 years has filled the post of Superintendent of the Museum with marked distinction and success.

(True Extract.)

L. M. WYNCH,
Ag. Secretary to Government.

To the Superintendent, Government Museum.
 „ the Director of Public Instruction.
 „ the Accountant-General.
 „ the Public Department.
 „ the Revenue Department.
 „ the Public Works Department, with reference to paragraph 4 of the report.
 „ the Director-General of Archaeology (with C.L.).
 „ Mr. E. Thurston.
 Editors' Table.

EDUCATIONAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 423, EDUCATIONAL, DATED
20TH JULY 1910.

[SUBJECT.—*Report on the working of the Government Museum and the Connemara Public Library during 1909-1910.*]

From the Superintendent, Government Museum, dated 7th July 1910, No. 426.

The report seems to call for no remarks. It may be recorded with the usual expression of the thanks of Government for the donations to the museum.

2. The draft is for approval.

T.K.—13-7-10.

K. RANGASWAMI AIYANGAR—15-7-10.

S. H. SLATER—15-7-10.

Now that Mr. Thurston has definitely retired, the opportunity of this report might perhaps be taken to place on record an appreciation of his services to the museum extending over a period of 23 years to the date of his departure on leave in December 1908 and of his labours in the field of ethnography in South India.

L. M. WYNCH—16-7-10.

Please find out from Public Works Department and let me know when the new buildings are likely to be commenced in the museum. They should be pushed on.

M. H[AMMICK]—18-7-10.

For perusal.

L. M. WYNCH—19-7-10.

A. L[AWLEY]—19-7-10.

Issue.

L. M. WYNCH—20-7-10.

[G.O., No. 423, Educational, dated 20th July 1910.]