

the above-mentioned characters,—notably, (*h*) a pollen lethal, and (*i*) a factor for revolute leaves^s—it can be safely stated that inheritance in the *Oenotheras* is comprised almost wholly in the two categories, anomoeuxis and monoeuxis, while pleiozeuxis seems at the present time to be exemplified clearly only by the relation between the factor for *brevistylis* and the other known factors, with the possibility that even *brevistylis* may one day be connected up with the same linkage group as the others, through the discovery of an immediately placed gene.

On the whole it is now clear that while the genetical phenomena in the *Oenotheras*, with exception of the case of variegated foliage, can be referred definitely to the chromosomes (zeuxis), the occurrence of independent segregation which is necessary for the production of typical Mendelian behavior is so rare as to be almost negligible.

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SCIENTIFIC EVENTS

MEMORIAL TO JAMES ORTON

THE governments of Bolivia and Peru have erected a monument to James Orton, the American explorer, whose grave is on Esteves island in Lake Titicaca. The funds for the memorial were given by the alumnae of Vassar College, where at the time of his death Dr. Orton was professor of natural history. The execution of the memorial was entrusted to John Ettl, the New York sculptor. It will be placed on the crest of the island which rises several hundred feet above the lake. The memorial is nine feet in height, circular in pattern with a square plinth, and in its ensemble suggests a tomb. The circular character was inspired by the tall shaft-like structures of the Incas. The dedicatory exercises will be held on September 25, the forty-fourth anniversary of Orton's death. The

^s Since this was written the factor for revolute leaves has been fully demonstrated to lie in chromosome I at or very near the same level as the factor for *rubricalyx* buds and that for red stems.

Peruvian Government will be officially represented, and a large attendance is expected from Arequipa, Peru and La Paz, Bolivia.

Miss Anna P. Orton, the daughter of the explorer, Mrs. Alice P. Sanford and Miss Ellen W. Farrar, Vassar alumnae, will represent the college. They take to the ceremony a stand of flags, including the Peruvian, Bolivian and American, presented by the United States Government.

James Orton was born at Seneca Falls, New York, April 21, 1830. He graduated from Williams College in 1855 and at Andover Theological Seminary in 1858. In 1866, he was appointed instructor in natural sciences in Rochester University. In 1867 a scientific expedition to the equatorial Andes and the River Amazon was organized under the auspices of the Smithsonian Institution, and Professor Orton was selected as its leader. The expedition sailed from New York on July 1, 1867, and after crossing the Isthmus of Panama, the route was from Guayaquil to Quito, over the Western Cordillera; thence over the Eastern Cordillera and through the forest on foot to the Napo; down the Rio Napo by canoe to Pebas, on to Marañon; and thence by steamer to Para, Brazil. As a result of this expedition many hitherto unknown specimens of natural history were collected and from portions of the collections in the museums of the Smithsonian Institution, the Philadelphia Academy of Natural Science, the Boston Society of Natural History, the Peabody Academy of Science, and Vassar College, while the bulk of the collection was purchased by Ingham University, Leroy, New York.

Upon his return to the United States in 1869, Professor Orton was offered the chair of natural history at Vassar College with which institution he remained until his death in 1877. In 1873 he made a second journey across South America from Para up the Amazon to Lima and Lake Titicaca, making valuable ethnological collections of Inca relics. In 1876 he organized a third expedition, with the object of exploring the great Beni River, a branch of the Madeira. This

expedition reached the mouth of the river, but much of the equipment and many supplies were lost. Orton, with a few companions, made the 600-mile journey back to La Paz through the forest and jungle amid incredible hardships. He died on crossing Lake Titicaca.

VACCINATION FOR SMALLPOX IN ENGLAND

THE London *Times* reports that at Nottingham, an epidemic of considerable proportions is now established; there have been 46 cases, 36 being unvaccinated, since the beginning of February. Last year a somewhat serious outbreak took place in Glasgow.

It is said that many towns in the country are badly protected at present for the doctrines of the opponents of vaccination have been widely spread. Of some areas it would be fair to say that they are destitute of protection. The population has simply refused vaccination *en masse*. An illustration—which is by no means exceptional—is Coventry, where the medical officer of health has issued the following figures:

Year	Births	Vaccinated, Percentage
1916	2,996	22.9
1917	2,738	13.0
1918	2,857	10.7
1919	2,429	8.7
1920	3,372	9.6

It was deliberate, as the following list makes quite clear:

Year	Declarations made of conscientious objections
1916	1,946
1917	1,830
1918	1,763
1919	1,250
1920	2,303

The medical officer points out that "this community is becoming largely an unvaccinated one."

What this may mean can be guessed from a series of figures published by the City of Liverpool in which the ravages of smallpox during the past 51 years are set down. The following are extracts:

Year	Deaths	Year	Deaths
1870	174	1883	26
1871	1,919	1884	106
1872	50	1885	46
1873	10	1886	29
1874	30	1887	1
1875	29	1888	1
1876	386	1889	1
1877	299	1890	None
1878	3	1891	2
1879	None	1892	13
1880	2	1893	9
1881	34	1894	20
1882	6	1895	12

The figures have remained very low since then except for the sharp epidemic of 1903 when there were 141 deaths. In 1918 there were only seven cases in England and Wales. But the sharp drop in vaccination of the past two years may be followed by a severe penalty.

THE WORK OF THE ROYAL OBSERVATORY AT THE CAPE OF GOOD HOPE

S. S. CLOUGH, H. M. astronomer at the Cape of Good Hope, has recently issued a report in which he gives an account of the distribution of the normal work of the observatory.

Dr. Halm exercises general supervision in all departments and takes part in heliometer observations and observations of an extra-routine character requiring special attention. He acts in full charge of the observatory during the absence of H. M. astronomer. Dr. Lunt is in charge of the Victoria telescope and its instrumental accessories, and of all photographic work in connection therewith.

Mr. Cox is in charge of the new meridian circle and of the time signal service, and supervises the reductions of all meridian observations. Mr. Woodgate is in charge of the astrographic telescope, photo-heliograph and seismograph, and of all photographic work connected therewith, and supervises the department of miscellaneous computations.

In addition to the above, a staff of fourteen computers and assistants is employed.

There are also attached to the observatory an instrument maker, an electric fitter, a stoker, a carpenter, and three Kroomen, who