

cultivated ground, old kraals, or cleared forest. On all these spots vast numbers of weeds—many introduced plants—spring up, and appear to be particularly attractive to these insects. These migrations take place as often against as with the wind.

Papilio merope, *Philogramma varanes*, *Pieris eriphia*, *Pieris zochalia*, and *Terias rahel* appear to migrate in the direction of the wind, and there are one or two others which perhaps do so also, such as *Junonia pelaspis*. When resident at Bedford I never saw these butterflies in seasons of drought, but so soon as the southerly winds with rain became abundant a few stragglers might be met with.

P. gidica, *mesentina*, and *severina* likewise share in these southerly and northerly migrations.

Lastly, there are the sudden and almost inexplicable appearance and disappearance of certain species, such as *Callidryas rhadta*, *Diadema missippus*, &c., although I see Mr. Bowker mentions having seen vast swarms of the former in the Drakensberg taking a south-easterly course. During the last two years I have hardly seen a specimen of these two butterflies. The year before they were most abundant. I would here remark that I do not remember to have noticed in any entomological work, although the shapes of butterfly wings are accurately described, an account of their peculiar and finely graduated modes of flight.

Thus, in Pieridæ, *P. hellica* flies generally in open ground from flower to flower, but alternately rises and falls and shifts from side to side. *Terias rahel* has a similar flight, but slightly more direct; *Colus electra* a similar flight, but I think a trifle swifter.

Cypselus caffer, which preys on these, generally describes semicircles, flying backwards and forwards over the grass in the manner of a scythe working, and it is curious to see how artfully these butterflies, by a slightly higher or lower flight, escape their much swifter winged enemy.

The different varieties of *P. agathina* in like manner vary. The whiter specimens (♂) frequent more the open, and are a trifle swifter in their flight than the gamboge and ochreous varieties, or their ♀. The latter frequent wooded spots, and rise and fall through the foliage like dead leaves, and it is surprising to see how with sluggish movements a slight change of direction saves their lives. *P. gidica*, *mesentina*, *severina*, and *zochalia* in like manner vary among themselves in their varieties and in different localities.

I was particularly struck, when on a visit to Cradock in 1867, by the difference of size and colour and flight in *Mesentinas* in the Karoo from that of those in the Bedford Forest.

Papilio cenea, which my observations confirm as being the female of *merope*, as so admirably indicated by Mr. Trimen, changes its flight in a remarkable manner when quitting the forest for the open plain. In the forest its flight is remarkably weak, especially if contrasted with that of its mate; whereas over open plains it rapidly rises out of sight, and soars away like some bird of prey with scarce a flutter of the wing.

Junonia pelaspis, *archesia*, and *amestris* are in like manner very similar in their flight, but differ with the difference of the localities they frequent; *J. archesia* being intermediate between the forest-frequenting *J. pelaspis* and the plain-loving *J. amestris*. It is also remarkable that where *J. archesia* frequents the same spots as *J. pelaspis*, its markings approach that species; where it delights in open country, about Kaffraria, it is bluer, and slightly more like *J. amestris*.

Nymphalis xiphares.—The ♀ of this species is much weaker in its flight than the male, and its coloration, as is known, differs remarkably. Last year I captured it in company with *P. merope* and ♀ *P. echerioiaes*, and was much struck at the time by the similarity of colour and

pattern, although its imitation is much coarser than that of the other two butterflies.

A long series of ♂ and ♀ *Merope*s shows a remarkable variation, hardly two specimens being alike, and in one ♂ a small oblong black spot closes the discoidal cell of the fore-wing.

On some occasions plants of different orders seem suddenly to increase and then almost disappear for a season or so. This is notably the case with some Compositæ.

As I mentioned in a letter to Mr. Darwin, two species of Gramineæ, *Tragus aliena* and *Briza geniculata*, appear to spring up in the course of locust swarms. I at first was rather sceptical on this subject, but by carefully watching the locusts and examining *sour veld*, where these grasses do not generally grow, I believe that the opinion of the farmer who first called my attention to it is correct.

Mr. Darwin, I believe, raised plants from locust dung which I sent him, but I am not aware to what species they belonged.*

JEFFRIES WYMAN, M.D.

IN the death, on the 4th ult., at Bethlehem, N.H., of Prof. Jeffries Wyman, American biological science has lost one of its most able comparative anatomists. Prof. Wyman was born on Aug. 11, 1814, at Chelmsford, Massachusetts, and had therefore just completed his sixtieth year. His father was a well-known physician. He graduated in Arts at Harvard University in 1833, whereupon he commenced his medical education, and took his degree in 1837, after which he for two years continued his studies in Paris. Returning to Boston he became for some time curator of the Lowell Institute, where he commenced his career as a teacher by delivering two courses of lectures on comparative anatomy and physiology, in which he first gave indications of the lucid and well-ordered expository powers which throughout his life made him so great a favourite with all hard-working students. In 1844 he became Professor of Anatomy and Physiology in the Medical School of Richmond, Virginia, in connection with the Hamden-Sidney College. In 1847 he succeeded Dr. Warren as Professor of Anatomy in Harvard University; at which time, from the materials brought from Africa by Dr. Savage, he had the earliest opportunity of describing that naturalist's new genus of anthropoid apes, the Gorilla (*Troglodytes gorilla*, Savage). This professorship he held till 1866, and it is to him that Cambridge, Mass., almost entirely owes the development of its excellent Museum of Comparative Anatomy.

Prof. Wyman had for many years been a sufferer from phthisis, which necessitated his removing to the warmer climate of Florida during the winter months, and the cessation of his lectures and practical work. When the Peabody Museum of American Archæology and Ethnology was established, the founder appointed Prof. Wyman one of his trustees, and the board committed the incipient museum to his charge and direction. The seventh annual report of this institution, just issued, was his last production. Most of his written contributions to science are contained in the Journal and Proceedings of the Boston Natural History Society, of which for many years he was the president; and in the "Smithsonian Contributions to Knowledge."

Prof. Wyman was a man of singular modesty and truthfulness. His bad health was always in the way of his will to work; and his desire of completely mastering whatever he undertook, together with a certain over-cautiousness, has limited the number of his works. It is not remembered that he ever had a controversy. In his death a gap has been caused which it will be difficult to fill.

* See "Origin of Species," 6th ed., p. 321.