

In a natural classification of the genus the most fundamental separation appears to me that along the dotted line *ab* dividing the non-stridulating from the stridulating species. This division once made, the stridulating species fall into two natural subdivisions, expressed in the table by the line *cd*, which divides the brevicorn from the longicorn forms.

I think the most convenient classification is obtained by dividing the species along the two lines *ab*, *cd* into three subgenera, one identical with the "Langoustes longicornes" of Milne-Edwards, the others formed by splitting up the "Langoustes ordinaires" into species with and species without a stridulating organ.

The following table embodies the proposed arrangement:—

Genus *PALINURUS*, Fabr.

A. Stridulating organ absent; rostrum well developed, clasped by paired pedate processes of the antennular sternum; procephalic processes present; coxocerites imperfectly fused; antennular flagella short (sub-genus *Fasus*, T.J.P.).

P. lalandii, *P. edwardsii*, *P. hüggelii*, *P. tumidus*.

B. Stridulating organ present; rostrum variable, but rarely (? never) as well developed as in (A); pedate clasping processes absent; procephalic processes absent.

a. Antennular sternum narrow below, bases of antennules being hidden, in a view from above, by bases of antennæ; coxocerites imperfectly fused; antennular flagella short (sub-genus *Palinurus*).

a. Rostrum well developed, covering ophthalmic sternum.

P. trigonus.

β. Rostrum reduced to a small spiniform tubercle; ophthalmic sternum uncovered.

P. vulgaris.

b. Antennular sternum broad below, bases of antennules being visible from the dorsal aspect; coxocerites perfectly fused; antennular flagella long (sub-genus *Panulirus*, Gray; *Senex*, Pfeiffer).

P. interruptus, *P. fasciatus*, &c., &c.

Dunedin, N.Z., October 2

T. JEFFERY PARKER

SCIENTIFIC SERIALS

Bulletin of the Belgian Royal Academy of Sciences and Belles Lettres, October 4.—Obituary notices of the late M. Joseph Plateau, by MM. Duprez, Valerius, and Liagre.—Second communication on the discovery of the fossil iguanodon at Bernisart, by P. J. Van Beneden.—Researches on the absolute force of the muscles of the Invertebrates; Part I. Absolute force of the adductor muscles in the lamellibranch molluscs (four illustrations), by M. Félix Plateau.—Note on a new optical illusion, by H. Valerius.—Remarks on the action of lightning conductors constructed on the Melsens system, by H. Valerius.—Arithmetical and algebraic theorems, by E. Catalan.—Note on the pelvisterium in the Edentates (ten illustrations), by Prof. Paul Albrecht.—Funeral oration of M. Henri Conscience in Flemish and French, by M. Pierre Willems.—Memoir on the bibliography of international law before the publication of Grotius's "Jus belli et pacis" (1625), by Alphonse Rivier.—Confession de Poète, a poem, by Charles Potvin.—Some traits of the social life of the Celestial Empire. How history is manufactured in China; civil and military decrees, by Ch. de Harlez.—Reports on the competitive papers sent in on the subject of Grétry, a critical study of his life and works. The prize, a gold medal of the intrinsic value of 32*l.*, was awarded to M. Michel Breuet of Paris.—Reports on the competitive papers received on the subject of realism, its definition and influence on contemporary painting. The essay by M. Henry Hymans, a member of the Academy, was pronounced the best. But the prize, also a gold medal worth 32*l.*, was not awarded to him, owing to his failure to comply with the conditions of the competition.—Discourse on the annual exhibition of paintings, by M. Fétis. The prize of a thousand francs for the best cartoon on the subject of help for the wounded on the battle-field, as a decorative piece for a military hospital, was awarded to M. Henri Evrard, of Saint Gilles-lez-Bruxelles.

SOCIETIES AND ACADEMIES LONDON

Royal Society, December 6.—"The Wave-lengths of A, *a*, and of some Prominent Lines in the Infra-Red of the Visible Spectrum." By Capt. Abney, R.E., F.R.S.

M. Fievez has recently sent the author a map of the solar spectrum from C to A ("Annales de l'Observatoire Royal de Bruxelles," nouvelle série, tome v.) inclusive, and as part of this region is one which he is measuring, he examined the new publication with great interest. Photography and eye measurements do not coincide in the detail of the grouping of the little *a* group, or from there as far as A, and A itself is shown by M. Fievez's map as wanting in some details which appear in the photographs. The wave-lengths of the different lines from above "*a*" to A are not those given by Fievez, when comparison photographs of the 1st order of the red with the 2nd of the ultra-violet were taken on the same photographic plate, or when the 2nd order of the red is compared with the 3rd order of the green taken in a similar manner. Prof. Rowland's concave gratings were employed for this comparison. Cornu's map was used as a reference for the ultra-violet wave-lengths, and Ångström's map for those in the blue and green.

Description of line	λ from comparison of 1st and 2nd orders	λ from comparison of 2nd and 3rd orders	λ according to Fievez	Remarks
"a"	$\left\{ \begin{array}{l} 7184.4 \\ 7185.4 \end{array} \right.$	$\left\{ \begin{array}{l} 7184.5 \\ 7185.4 \end{array} \right.$	$\left\{ \begin{array}{l} 7197.7 \\ 7198.7 \end{array} \right.$	$\left\{ \begin{array}{l} \text{This is shown in} \\ \text{Ångström's map} \\ \text{as a single line} \\ \text{at } 7184.9. \end{array} \right.$
Most refrangible edge of A.	7593.6	7593.7	7600.0	Ångström gives 7604 for the centre of this line; which of the bands he took as A is not clear. Langley gave 7600.9 for this edge.
Centre of 6th pair of lines in the flutings following A.	7644.2	7644.33	7652.2	

The determination of A has been made by Mascart, Smythe, and others, besides Ångström and Langley, with discordant results. The above may be taken as accurate, as are Cornu's and Ångström's maps.

The following are wave-lengths of some of the principal lines in the infra-red. The scale numbers refer to the author's map of the infra-red, which is published in the *Phil. Trans.*, Part II., 1880:—

Scale number	Description	Wave-lengths
1046	This line is a double, of which the components have the accompanying wave-lengths.....	$\left\{ \begin{array}{l} 8226.4 \\ 8229.9 \end{array} \right.$
1441	8496.8
1509	8540.6
1685	8661.0
2175	A double line, the components of which have the accompanying wave-lengths	$\left\{ \begin{array}{l} 8986.2 \\ 8989.5 \end{array} \right.$
2638	" " "	9494.5
3161	$\left\{ \begin{array}{l} 9500.1 \\ 9633.8 \end{array} \right.$

Mathematical Society, December 13.—S. Roberts, F.R.S., vice-president, in the chair.—The following were elected members:—Messrs. A. B. Basset, H. Fortey, R. T. Glazebrook, F.R.S., G. Heppel, J. J. Thomson, H. H. Turner, and Prof. W. Thomson, Cape Colony.—The following papers were communicated:—The form of standing waves on the surface of running water, by Lord Rayleigh, F.R.S.—A method of finding the plane sections of a surface and some considerations as to its extension to space of more than three dimensions, by Mr. W. J.