



## LXXII. On separating the phosphates of lime and magnesia

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442 *On separating the Phosphates of Lime and Magnesia.*

and conversely, is to be preferred to others in its application to the pendulum; for, by thus allowing a proportional increase in the extent of vibration, due compensation for changes in the density of the air is obtained; besides, by the use of the thin spring or knife-edge, instead of a thick adjusted spring, the liability to changes in the rate of the pendulum from that cause is removed. If good workmanship be not spared, and a dead-beat scapement with jewelled pallets be employed; and if the impulse be given in the middle, which can easily be done by slightly hollowing the impulse flanches; and if the pendulum, which must at least be 8 or 10 pounds in weight, be firmly fixed,—the maintaining power may be transmitted without any material diminution for a period of several years. The changes which arise from increase of friction, and cause a decrease of vibration, are but small as well as slow in their progress, and they can be easily calculated upon; but the changes which arise from the state of the atmosphere are frequent, and to estimate them properly is a much more difficult task.

Glasgow, 1833.

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LXXII. *On separating the Phosphates of Lime and Magnesia.*

*By Mr. G. O. REES.\**

**W**HEN the phosphate of lime occurs in urinary calculi mixed with the phosphate of ammonia and magnesia, it is rather difficult to discriminate between them. I have, however, found the following process to answer this purpose perfectly.

Heat two or three grains of the calculus to be examined to redness, so as to expel the ammonia present, which if allowed to remain would interfere with the future steps of the process by forming a triple salt. The residue is to be dissolved in dilute hydrochloric acid, and a solution of bicarbonate of potassa added in excess; part of the base of the phosphate, whether of lime or magnesia, is now held in solution as bicarbonate, and may be procured as carbonate by filtration and boiling. The carbonate so precipitated must be well washed, in order to free it from the phosphate of potassa, and may then be dissolved in dilute hydrochloric acid; by these means the phosphoric acid is entirely expelled from the earths, and their usual tests now act characteristically. Thus if magnesia be present, ammonia produces a precipitate soluble in a solution of muriate of ammonia; if lime be in the solution, oxalate of ammonia precipitates it; and if both earths be present, both these indications are fulfilled.

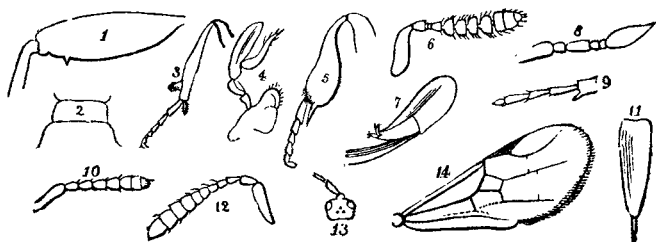
\* Communicated by the Author.

This property which the bicarbonate of potassa possesses of decomposing the phosphates, is only available in qualitative examinations; as the conversion into carbonate is only partial. The use of the salts of lead in freeing the earths from phosphoric acid requires much time and attention; whereas the process here recommended, occupies but a few minutes, and though not so complete in its effects, answers completely to distinguish the earths when combined with the phosphoric acid.

G. O. REES.

LXXIII. Descriptions of several new British Forms amongst the Parasitic Hymenopterous Insects. By J. O. WESTWOOD, F.L.S. &c.\*

[Concluded from vol. i. p. 129.]



17. *Monodontomerus*, Westw. *Torymus*† B. a. Dalm.  
*Torymus*? Walk.

**CALLIMOMI** Spin. affinis. Differt præcipuè collari majori transverso (fig. 2.) femoribusque posticis crassioribus, nec serratis, subtùs dente unico paullò ante apicem armatis (fig. 1.). Clava antennarum quàm articulis duobus præcedentibus vix brevior. Ramus stigmatalis ut in *Callimome*. Mesoscutum suturis distinctis.—*Monod. obscurus*, Westw. Viridi-æneus, abdomine suprà chalybeo cupreoque nitenti, subtùs saturatè fulvescenti, segmento basali viridi; femoribus piceis, in medio æneis, tarsis tibiisque fulvis, his in medio obscurioribus; alæ sub stigmate obscuriores stigmate fusco. Antennæ nigræ, scapo piceo-fulvescenti, oviductus abdominis longitudine. Long. Corp. 1½ lin. Variat paullò major, colore fulvescenti subtùs magis diffuso. Ensham, August 1826. Warwick, August 1827.

18. *Mesopolobus*, Westw.

*Pachylarthro* Westw. affinis. Caput thorace latius, antennæ sensim clavatæ 13-articulatæ, articulo 3tio annuliformi, 4to majori. Mandibulæ 3—4-dentatæ. Palpi maxillares furcati (fig. 4.). Tibiæ intermediæ ferè ad apicem externum lobo parvo triangulari ciliato. Thorax elongato-ovatus. Abdomen parvum angustum depressum. ♀ ignota.—*Mes. fasciventris*, Westw. Lætè viridis, abdomen nigrum, chalybeo cupreo viridique nitens, fasciâ fulvâ ante medium; antennis fulvis, pedibus flavis, tarsis apice fuscis, tibiæ lobo

\* Communicated by the Author.

† Obs. Nomen "*Torymus*" omnino respuendum.