NOTES ON WOLLASTON'S COLEOPTEROLOGICAL INVESTIGATIONS IN THE MADEIRAN ARCHIPELAGO

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With 2 figures

ABSTRACT: With reference to recently rediscovered manuscript lists, handwritten by Wollaston, some notes on his later coleopterological activities in Madeira are given.

RESUMO: NOTAS RELATIVAS ÁS INVESTIGAÇÕES DE WOL-LASTON SOBRE COLEÓPTEROS DO ARQUIPÉLAGO DA MADEIRA. Referencia-se a recente redescoberta de listas manuscritas de Wollaston, relativas aos seus derradeiros estudos sobre os coleopteros da Madeira.

In a valuable "Timetable of facts relating to Wollaston's work on coleoptera" JOHNSON (1970: 157) lists the four first of Wollaston's expeditions to Madeira, also with information about the publication of the results and about the fate of collected material.

The fourth Madeiran expedition of 1855 was said to be the last in these islands. This is not quite correct because WOLLASTON is known for certain to have visited the archipelago on several later occasions, as late as 1876. An addition to the timetable may therefore be appropriate.

As appears from JOHNSON's article a "type" set of collections was sold to the Natural History Museum (BMNH) in London and a second set to the University Museum, Oxford (OUM). In the former set all the known species were represented, in the latter the species were somewhat fewer but the quantity and quality are often superior.

The beetles are mounted on rectangular pieces of cardboard. Data labels are missing but, as observed by Johnson, most specimens have a number written in ink on the back of the cards. Not observed was that the smaller islands were indicated by a coloured line across the base of the card. The colour code is as follows: blue, Porto Santo; yellow, Ilhéu Chão; red, Deserta Grande; and black, Bugio.

The collections that went to the museums were both accompanied by a manuscript list of the contents, written by hand by WOLLASTON.

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514. Jebbium Scolas, Jab. Captured in a douse rear Tunchal Mad. 518. Anobium striction, Oliv. (-375, 619, 649). Pilaino Tris, 1850 Mad. 519. Homabota atramentaria, Jyll. (-44). In he dung of callle, P. Tris Mad. 519. — palusbris, Liesw. (= cumans, N) (-216, 352, 468). Do Mai, 519. — olientula, Dr. (= phleia, N.) (= 414). Do Mader wel stones at he P. Tris Mad. 520. Loricana Noclastonii, Javet (= 152, 572). Muder wel stones at he P. Tris Mad. 521. Elipsodes glabraties, Jab. (= 197, 379, 483, 483, 716). Pilaino Tris Mad. 529. Mesitis Madera usis, N. (= 201). Beneath la low both of hear, P. Tris Mad. 523. Jarphius Lauri, N. (hispecinia pignisi in he Insula Moderinsia). R. Fris Mad. 523. — inornalus, R. q. (=136~). Calinal He Peterso Fris — Mad.
519. Homabota atramentaria, Jul. (=44). In the dung of calle, 12. Tres Mal. 519. — palustris, Liesw. (= currans, 11.) (=218, 352, 488). De Mai, 519. — olientula, de (= phleia, 11.) (=414). De Mad. 520. doricera nocilastorii, Javet (=154, 572). Meder vet elinas at la P. Fris Mad. 521. Elipsodes glabraties, Jab. (=197, 379, 483, 482, 716). Petaire Fris Mad. 521. Mesitis Madere usis, N. (=201). Beneath la love back of treas, P. Fris Mad. 523. Tarphius Lauri, W. (hispecinia fight soi in the Trisola Moderinsia). R. Fris Mad.
519. — palustris, ties w. (= currans, M) (= 216, 352, 466). I - Mis, 519. — otientula, de (= phleia, M) (= 414). De - Mad. 520. doricena Notlastonii, Javet (= 152, 572). Under vet etimas at de R. Fris-Med. 521. Elipsodes glabraliis, Jab. (= 197, 379, 483, 483, 716). Pabairo Isio - Md. 529. Mesitis Madera usis, N. (= 201). Beneath la lova tark y heas, R. Fris-Med. 523. Tarphius Lauri, M. (hispocinia piprisi in the hisola Moderania). R. Fris-Med. 523 inornalies, M. g (=1367) The and the Ribeiro Fris Med.
519. — olientela, de (= pholoin, M.) (= 414). De Mad. 520. doricana Noclastonii, Javet (= 152, 572). Under vet stonas at he P. Fris Mad. 521. Elipsodas glabraties, Fab. (= 197, 379, 483, 483, 716). Perbairo Fris — Md. 529. Mesitis Madere usis, N. (= 204). Beneath la love book y beas, B. Fris Mad. 523. Jarphius Lauri, W. (hespecinian fight with Insula Moderiusia). R. Fris Mad. 523. — inornalies, N. q (= 1367). The wal the Peterra Fris — Mad.
520. doricana Notilastonii, Javet (= 154, 572). Under wet stinas at the Petris-Mal. 521. Elipsodes glabraties, Fab. (= 197, 379, 483, 483, 716). Petris TrisM. 529. Mesitis Madera usis, N. (= 201). Beneath la love bash y beas, P. Fris _ Mal. 523. Tarphius Lauri, W. (hispocinia pignisi in the Insula Malarinsia). R. Fris - Mal. 523 inornalies, N. g (=1367) Then at the Petriso Fris Mal.
521. Elipsodes glabralies, Jab. (= 197, 379, 483, 483, 716). Peters FrieM., 529. Mesitis Madera usis, N. (= 208). Beneath the low back of hear, Pr. Frie - Mad., 523. Janphius Lauri, M. (hispecinian figures in the Insula Moderania). R. Frie - Mad., 523 incornalus, M. q (=136;). or hand the Peterse Frie Mad.
529. Mesit is Madere usis, N. (=201). Beneath the love book of hear, 1. This -Med. 503. Tamphines Lauri, W. (Asyronian figures in the Insula Moderinsia). R. Tris -Med. 593 inornalus, N. q (=1367). In hand the Ribeira Fris Med.
503. Tarphines Lauri, M. (Mespecinian figures in the Insula Moderinsia). M. Tris-Med. 503 inornalus, M. q (21367). on ken at the Riching PrisMed.
593 inornalus, It q (=1967) . internal the Milition Frie Mal.
524 Blown Lie Lang Mr. 241 275 413 12 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5911. Phynodius lanax, M. (261, 376, 618, 643). Patrice Free Mas.
525. Corhavia cuita, M. (-68, 361), 8 - Mai,
526. Olibrus liquidus, Es. (= 298, 663). Fromont, foursal the 12. 8 sie - Mai.
527. Lamophicas granulatus, M. (= 354, 369, 364, 673). Miliono Frie Mis.
528 Sanoides, M. g. Pikerie Frie Mae.
528. Twopheres sylviceto, M. (- 258). Beneath rolling logs of were at the R. Ynie Mar.
529. Alestrara milida, Grav. (= 32,33,55, 39, 236, 499, 484). Parine Pris Mas.
530. Octobranus opacus, Mellie (= 070, 413, 740). De
531. lie Notia storia, Mellia. From homo the dead, loose bank at the the Free Man
532. loccineda J-punetala, Lim. Captured of Sta anna, 1850 Mil
533. Spharidium bipustulation, Jab, war, From Jung at Sto anna Ma.
594. Carlotrupes conicollis, N. var. B., Capland on the summit of the Loss, paris
535. Anchomenus pallipes, Fab. (= 409). Sta ana, 1850 Mal.
596. Silorin gressoria, Alie, briten Louis Acciaioly's imagare at Sallinsia, Mais

Fig 1. - A page of Wollaston's manuscript list in the British Museum (Natural History). By courtesy of the Museum.

Towards the turn of the century faunistic interest focused on other areas than Wollaston's islands and as time went by the lists fell into oblivion for decades but have now been rediscovered, first in Oxford (SMITH & GRAHAM, 1982) and now also in London.

In each list there is a series of numbers corresponding to those underneath the cards: 1-777, plus, for Wollaston's fourth expedition, 1°-222° (BMNH), respectively 1-1177 (OUM). In both lists some intercalated numbers are added; these are marked by a cross, e.g. "547+".

Against each number is the full name of a species, particularly in the OUM list often followed, in parentheses, by a fairly extensive list of the other numbers representing the species in question and often occupying a considerable part of the line reserved for the number, in accordance with the fact that the OUM collection is richer in specimens and localities.

Then follow notes on the biotope (mainly in the BMNH list), and, more or less detailed, the precise locality, the collector's name (if not WOLLASTON himself), further the time of capture (very rarely in the OUM list), in about one fourth of the cases in the BMNH list. Finally comes the abbreviated name of the island, in the OUM list, two cases excepted, always "Mad", which means that nearly all of the material from the smaller islands is in the BMNH collection. Occasionally the name of a usually foreign expert confirming the determinations was given.

How many specimens each number represents is not mentioned in either of the lists.

The order of species was not systematical or alphabetical, nor chronological but strangely appears random. Series of species collected at the same locality and certainly at the same time may be found but by no means regularly.

Specimens bearing the same number can doubtless be assumed to have been captured together. It should be carefully noted however that this is only valid for each of the lists separately; because they were numbered quite independently from each other.

It is true that some support to the impression that the same numbers refer to the same species in both lists can seemingly be found in Johnson (op. cit.: 158, left column) where lectotypes of two Madeiran Atomaria were duly designated. That 2 specimens of A. (Ephistemus) alternans Woll. in the BMNH collection would have the same number (547) as 2 specimens of A. insecta Woll. in the OUM collection give however rise to suspicion, because it would imply that either Wollaston or Johnson had made a misdetermination, which is highly improbable. Johnson happened to misinterpret the number which is "117" but was close to a correct solution when writing: "The three specimens numbered '574' (in which the 5 is partially effaced by two slanting lines)".

A. insecta is stated to be represented by "38" in both museums. In BMNH

518. Sanias unquelatus, Payk (= 225, 827, 955, 997). Papa d'Areca	Ma).
519. Jackyporus bunneus, F. (= 266, 377, 847, 918, 1018, 1074). De-	_ Mal.
520. Homalela sang une le ula , A. (= 100, 101, 135, 104, 595, 596, 079, 1025, 1026). 2=	_ Na).
	- Mai.
500. Sanus guttala, Mile. (= 156, 241, 459, 497, 742, 837, 1029, 1067). J=	_m_2
523. Anchia un shialum, the (=150, 363, 936, 1032, 1093) . Je	
524. Silona lineala, L. (= 163, 561, 635, 039, 946, 1034). J=	ma).
505. Crylelus piccus, L. (= 158, 367, y16, 411).	_ Mad.
	_ Mod.
52% Segmus Invanta, A. (= 157, 300, 344, 521). 12 beiro de São Jorge -	Musi
528. Fachinus Pilipheides, L. (=). 82	Ma).
820 Lathrolium mullipunchalum, grav. (=337, 741, 867, 1079). 22	- Mad
530. Alecchara morien, grav (= 1/7, 163, 264, 385, 535) . Je	Nar.
531 . Topy phodes heliastoni, history Isho by M. M. Park mar Sunchal _	Mar
532. Pria dulcumara, Stig. (= 371) . Patrice da São Jorge -	Mad.
. 533. aprin decivalula m. A. (= 360, 731) . 3	Mad
	Mal
535. Merchan morien, Grave (= 47, 163, 264, 385, 530) . Pitino a São Joge -	Mal
536. an phicus retundates, h. (= 171, 437, 576, 349). I	_ Mal.
53. Lary us Schaumi, A. (= 117, 290, 351, 399, 852, 1072) . 20	ma).
538. Stendaphus Jeulanus, Schr. (=467, 765, 856, 1049, 1080). 2	Ma).
539. allandis Lamellipes, h. (=75, 244, 430, 795, 815, 933). 9=	Ma)
540. Clhius strigulesus, hi (= 52,70, 107, 860, 974) . D=	
541. Aleochara milida, Grav. (= 233, 892, 10b4, 1065, 1097). Sombo de Vaca_	

Fig. 2 - A page of Wollaston's manuscript list in the Oxford University Museum. By courtesy of the Museum.

however the correct number is "38°".

With the list at hand the author would easily have avoided these and other treacherous number slips in the same column. The importance to research of Madeiran coleoptera of Wollaston's list is obvious. Apart from all else they provide a key to the localities and are often a great help in identification of syntypes.

Important material collected during Wollaston's later expeditions, after 1855, was not numbered and consequently no lists were made. The fifth and sixth expeditions, were performed at the end of 1858, -- evidently in connection with Wollaston's second expedition to the Canaries -- and in January-May 1870, respectively.

Information about results of the fifth expedition was given in Wollaston 1858-62 and about those of the sixth in Wollaston 1871. The number of new species described in the former was 46, and in the latter 16 (Madeiran). As before, Wollaston had many interested fellow collectors most of which were naturalized or native Madeirans. Names like Anderson, Bewicke, Castello de Paiva, Leacock, Lowe, Moniz and Park appear in the role of contributors. Bewicke was a particularly eager collector who at times could compare favourably with Wollaston himself in providing new acquisitions.

Type material went to the BMNH as previously and was kept in the bottom drawer of Wollaston's Madeira cabinet. Also the OUM got its share (SMITH, 1986: 161). In this connection it might be mentioned that the cabinet and collection of Wollaston's microscopic preparations (chiefly Madeiran) was purchased from Mrs. E. Wollaston by the OUM.

Much of Wollaston's material was widely dispersed due to purchase, donation or exchange and may now be found in several other museums than those mentioned above, British and foreign, and also in private collections. Some parts have found their way to the BMNH where they have been placed in the General Collection.

A collection of about 4600 Wollaston specimens from Madeira and other Macaronesian islands were purchased in London as late as in 1933 and eventually came to the collections of the Department of Entomology at the Californian Academy of Sciences in San Francisco (KAVANAUGH, 1979).

Also after 1871 Wollaston visited Madeira, probably in connection with the expedition to St. Helena 1875-76 but records of beetle captures on Madeira are few.

On top of Wollaston's cabinets in the Coleoptera Section of the BMNH are (August 1990) five double boxes, three of which contain Wollaston beetles, as it seems nearly exclusively from Madeira. The collection is marked "accession number 13/4 1981-485" and it had come from the Royal Albert Memorial Museum in Exeter, not far from Teignmouth where Wollaston spent much of the rest of his life. The Museum had acquired it in 1913 from Mr. P.G. HARDY LA GARDE who in his turn had probably purchased it from Mrs. Wollaston.

Some specimens have the coloured lines used to indicate one of the smaller

islands, and a few bear a name label. With some patience parts of the collection might be identified with the aid of WOLLASTON'S later works. For instance, a fine series of *Tarphius* and *Acalles* must have been collected at S. António da Serra in March-May as described in the article of 1871 (:243-4, 267).

Easily identified would be a series of *Cosmopolites sordidus* GERMAR which was discoverd by banana growers at Funchal and also collected by WOLLASTON according to his article of 1877.

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