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BRIEF COMMUNICATION
POSSIBLE ROLE OF *Lutzomyia maranonensis* AND *Lutzomyia robusta* (DIPTERA: PSYCHODIDAE) AS VECTORS OF HUMAN BARTONELLOSIS IN THREE PROVINCES OF REGION NOR ORIENTAL DEL MARAÑON, PERU

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KEYWORDS: Bartonellosis; *Lutzomyia maranonensis*; *Lutzomyia robusta*; Perú.

Human bartonellosis is found predominantly in Perú[2,6,8,12,15], as well as in Ecuador[3,7,10,15] and Colombia[6,13,15].

In Peru, the disease is restricted to the valleys of the western-side and a few inter-andean and eastern-slopes of the andean valleys[6,15,18] at altitudes between 1000 and 3200 masl. Most human cases are reported from the regions of Chavin, Nor Oriental del Marañon and Lima[16].

Lutzomyia verrucarum is presumed to be the only vector of human bartonellosis in the valleys of Peru[1,2,6,8,11,17,19].

Our research objetive was to detect the presence of *Lu. verrucarum* in various localities known to be endemic for human bartonellosis in three provinces of Region Nor Oriental del Marañon. Sandfly collections were made between 1987 and 1992 during four visits to bartonellosis-endemic provinces: San Ignacio (districts of San José de Lourdes: 1020-1260 m and La Coipa: 1200-1560 m), Jaén (districts of Santa Rosa: 1300-1680 m and Jaén: 1220-1680 m) and Utcubamba (districts of Lonya Grande: 1200 m and El Milagro: 1200-1540 m).

We captured sandflies with intra-domiciliary CDC light traps, with peri-domiciliary Shannon traps, around houses using human bait, and in resting places with manual aspirators.

Captures were made in and around houses where cases of human bartonellosis had been recently reported. Sandfly species were identified taxonomically using available bibliography[4].

A total of 2774 specimens were captured (1958 females and 816 males). Table shows the percentages and species of captured *Lutzomyia*.

Human bartonellosis has a seasonal transmission, with most cases reported in the months of January to June when rainfall is greatest[5,9,14,16]. Captures were made during the rainy season in four periods. Surprisingly, very few specimens of *Lu. verrucarum* were caught. This observation suggests that *Lu. verrucarum* may not be primary vector of human bartonellosis in the three provinces studied. The great abundance of *Lu. robusta* and *Lu. maranonensis* in intradomiciliary areas in all three provinces implicates them as the most likely natural vectors of the disease.

Lutzomyia robusta was the major species found inside dwellings where cases of bartonellosis had been reported. *Lu. maranonensis* was caught most often using human bait.

As *Bartonella bacilliformis*, the causative organism of bartonellosis, has never been isolated from *Lu. verrucarum*, the evidence for it being considered the natural vector remains tenous[1,8,11,17,19]. In this study no attempts were made to detect *B. bacilliformis* but a very interesting approach would be look for the presence of this organism in the mid-intestine sandfly using a specific Polymerase Chain Reaction assay (PCR).

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TABLE 1
Sand-flies captured in: San Ignacio, Jaén and Utcubamba, Región Nor Oriental del Marañon, Perú (1987-1992)

	Prov. de San Ignacio				Prov. de Jaén				Prov. de Utcubamba				Total	
	San José de Lourdes		La Coipa		Santa Rosa		Jaén		Lonya Grande		El Milagro			
Species	Nº	(%)	Nº	(%)	Nº	(%)	Nº	(%)	Nº	(%)	Nº	(%)	Nº	(%)
Lu. robusta	713	46.45	280	74.07	194	69.04	350	74.79	58	56.86	7	70.00	1602	57.74
Lu. maranonensis	642	41.82	59	15.61	81	28.82	85	18.16	19	18.63	2	20.00	888	32.00
Lu. ayacuchensis	97	6.32	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	97	3.50
Lu. sallesi	53	3.45	1	0.27	4	1.42	29	6.20	0	0.00	0	0.00	87	3.14
Lu. castanea	20	1.30	34	8.99	0	0.00	1	0.21	17	16.67	0	0.00	72	2.60
Lu. pallidithorax	9	0.59	0	0.00	0	0.00	2	0.43	0	0.00	0	0.00	11	0.40
Lu. pia-like	0	0.00	2	0.53	0	0.00	0	0.00	3	2.94	0	0.00	5	0.18
Lu. verrucarum	0	0.00	0	0.00	0	0.00	0	0.00	4	3.92	0	0.00	4	0.14
Lu. cayennensis	1	0.07	0	0.00	1	0.36	0	0.00	0	0.00	1	10.00	3	0.11
Lu. cajamarcensis	0	0.00	2	0.53	0	0.00	0	0.00	0	0.00	0	0.00	2	0.07
Lu. sp. *serie Verrucarum*	0	0.00	0	0.00	0	0.00	0	0.00	1	0.98	0	0.00	1	0.04
Brumptomyia sp.	0	0.00	0	0.00	1	0.36	0	0.00	0	0.00	0	0.00	1	0.04
W. phlebotomanica	0	0.00	0	0.00	0	0.00	1	0.21	0	0.00	0	0.00	1	0.04
Total (%)	1535	(100.00)	378	(100.00)	281	(100.00)	468	(100.00)	102	(100.00)	10	(100.00)	2774	(100.00)

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