

Table S1. Summary of MS analysis from sexual and asexual *S. mediterranea*

Gene Name	Number of Peptides in Sexual animals			Number of Peptides in Asexual animals		
	Sequenced Peptides	Mass Match Peptides	Total	Sequenced Peptides	Mass Match Peptides	Total
<i>1020HH-1</i> ^Φ	N/A	N/A	N/A	2	N/A	2
<i>1020HH-2</i>	3	N/A	3	4	N/A	4
<i>eye53-1</i>	2	N/A	2	2	N/A	2
<i>eye53-2</i> ^Φ	1	N/A	1	N/A	N/A	N/A
<i>llp-1</i> ^Φ	2	1	3	N/A	N/A	N/A
<i>mpl-1</i>	1	1	2	3	2	4
<i>mpl-2</i>	1	N/A	1	3	1	3
<i>npp-1</i>	2	1	2	3	1	3
<i>npp-2</i>	N/A	N/A	N/A	1	N/A	1
<i>npp-3</i>	2	1	2	3	1	4
<i>npp-4</i>	2	4	4	3	2	5
<i>npp-5</i>	2	2	4	N/A	N/A	N/A
<i>npp-18</i>	6	1	6	6	N/A	6
<i>npp-22</i>	1	2	2	2	3	3
<i>npv-1</i>	N/A	N/A	N/A	3	1	4
<i>npv-3</i>	N/A	N/A	N/A	1	1	2
<i>npv-5</i> ^Φ	N/A	N/A	N/A	2	N/A	2
<i>npv-6</i>	N/A	N/A	N/A	3	N/A	3
<i>npv-7</i>	N/A	N/A	N/A	2	1	3
<i>npv-9</i>	2	N/A	2	N/A	N/A	N/A
<i>npv-10</i>	N/A	N/A	N/A	2	1	3
<i>ppp-1</i>	5	4	6	7	2	7
<i>ppp-2</i>	4	2	4	3	2	3
<i>spp-1</i>	1	2	2	2	2	3
<i>spp-3</i>	5	N/A	5	5	1	5
<i>spp-4</i>	4	1	4	4	3	4
<i>spp-5</i>	4	1	4	3	N/A	3
<i>spp-6</i>	4	1	4	3	2	3
<i>spp-7</i>	2	2	2	2	1	2
<i>spp-8</i>	2	2	2	2	1	2
<i>spp-9</i>	3	1	3	4	2	4
<i>spp-10</i>	3	1	4	3	N/A	3
<i>spp-11</i>	2	2	3	2	2	3
<i>spp-12</i>	2	2	3	1	1	1
<i>spp-13</i>	N/A	N/A	N/A	1	1	1
<i>spp-15</i>	2	3	3	1	2	3
<i>spp-16</i>	5	2	5	6	3	7
<i>spp-17</i>	1	N/A	1	1	N/A	1
<i>spp-18</i>	1	1	1	1	1	1
<i>spp-19</i>	1	1	1	3	1	3

Four prohormones labeled with Φ are tentative and not completely validated, since they do not meet the criteria for prohormone identification as described in experimental section.