Metapuzzle - solution

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The first step is to determine the common name of each butterfly/moth and associate each with its larvae.

In order of butterfly pictures in the puzzle, from top to bottom, left to right. Caterpillar numbers start at the bottom left, go around clockwise.

Butterfly common name	Caterpillar number
Mournful Duskywing	4
Brown House Moth	10
White Point Moth	6
Stored Nut Moth	1
Monarch	9
Narrow Banded Owlet	3
Yellow Horned Moth	8
Yellow Palm Dart	2
Spongy Moth	5
Black Swallowtail	7

The description hints to find where the input words come from, i.e. find their root words. For each input word, find its root word, whose language will be from the country of a caterpillar on the map and whose meaning corresponds to the caterpillar's corresponding butterfly/moth's name.

Butterfly common name	Caterpillar number	Input word	Root word	Root word meaning	Root word language
Mournful Duskywing	4	Croon	Kronen	Mourn	Dutch
Brown House Moth	10	Pharaoh	Pero	Great house	Egyption
White Point Moth	6	Center	Kentron	Sharp point	Greek
Stored Nut Moth	1	Avocado	Ahuacatl	Testicle	Nahuatl
Monarch	9	Check	Shah	King	Persian
Narrow	3	Kyle	Caol	Narrow	Gaelic

Banded Owlet				
Yellow Horned Moth	8	Jubilee	Ram's horn trumpet	Hebrew
Yellow Palm Dart	2	?		
Spongy Moth	5	?		
Black Swallowtail	7	?		

The branches and leaves surrounding each caterpillar are used to extract letters from each root word. The number of branches on the side of a caterpillar indicate the number of letters in the root word associated with that caterpillar. Four sides indicate four words are being extracted. For each side, a branch with leaves means that the letter at that spot in the root word is the letter in the extracted word at the position equal to the number of leaves. The extracted words are, in order:

Spunk, bushel, caracal, repeat once

"Repeat once" indicates to use the same mechanism again, which confirms why there are three butterflies/caterpillars left over. Repeating the steps, the root words of the three extracted words are found.

Yellow Palm Dart	2	Bushel	Bosta	Palm	Gaulish
Dait		Dustici	Dosia	i aiiii	Gaulisti
Spongy Moth	5	Spunk	Spongia	Sponge	Latin
Black Swallowtail	7	Caracal	Karakulak	Black ear	Turkish

Repeating the extraction mechanism gives the words:

Solution, is, bug, out

Giving the final answer: "Bug out"!