Sample Marked: Round Rock Honey – Bee Station 96

The honey sample from Bee Station 96 is an example of a Mixed Floral Honey (Table 2). Note that there is no single dominant pollen type, and by inference nectar. Instead, the two most dominant pollen types are coming from mesquite flowers, and by assumption, the nectar as well, and from several species of insect-pollinated composites of the high spine group. In addition to these two major types, there are also minor amounts of pollen from nectar sources such as buttonbush (Cephalanthus), mints (Lamiaceae), and knotweed (Polygonum). There are also very minor amounts or traces of a number of other pollen types from plants, which would be expected in areas of Central Texas. Even the single pollen grain from a species of (Eucalyptus) is not that unusual because these plants are now grown as ornamentals in places such as Austin.

Note that the total pollen concentration in this sample is nearly 200,000 pollen grains per 10 grams of honey. That is an unusually high amount of pollen for a mixed floral honey. Normally, when we see pollen concentration values this high in honey samples the pollen is coming from a plant source or sources that tend to be highly "over represented" by its pollen in honey samples. Normally, most types of mixed floral honey would have a pollen concentration that falls into Category II rather than in category III. We do know that some of the composites tend to be over represented in honey based on the actual amount of nectar they contribute. Mesquite pollen might also fall into this over represented category. Frankly, I have not had enough experience looking at honey that is dominated by mesquite pollen to know for certain if it is under or over represented. Likewise, I have not been able to find other published reports where people have examined mesquite pollen in honey. Thus, I do not have a basis for predicting in honey analyses to guess the ratio between the amount of pollen and the amount of nectar for mesquite plants. Another possibility for such high pollen counts in this sample might be that the nectar sources were located very close to the hive. As I mentioned in an earlier report, the further away that a honeybee must fly to find nectar, the more pollen she can eliminate from the collected nectar during her return flight. For nectar sources very close to the hive the return trip to the hive is so quick that the bees are unable to excrete any pollen from their collected nectar, thus providing an unusually high amount of pollen in the honey produced from those collected nectars.

Table 2

Round Rock Honey: Bee Station 96

Pollen Taxa	MH	%	FC
APIACEAE (umbel family)	1	0.5%	D
ASTERACEAE (dandelion-type)	3	1.4%	D
ASTERACEAE (sunflower-type)	69	32.5%	B
BRASSICACEAE (mustard family)	8	3.8%	C
Carya (pecan, hickory)	2	0.9%	D
Centaurea (knapweed)	1	0.5%	D
Cephalanthus (buttonbush)	20	9.4%	C
Cirsium (thistle)	1	0.5%	D
Eucalyptus (gum)	1	0.5%	D
Juniperus (juniper)	1	0.5%	D
LAMIACEAE (mint)	11	5.2%	C
Lippia (lippia)	2	0.9%	D
Lythrum (loosestrife)	1	0.5%	D
Melilotus (clover)	1	0.5%	D
Parthenocissus (Virginia creeper)	5	2.4%	D
POACEAE (grass family)	2	0.9%	D
Polygonum (knotweed)	11	5.2%	C
Prosopis (mesquite)	59	27.8%	B
Salix (willow)	2	0.9%	D
Sapium (Chinese tallow tree)	8	3.8%	C
Zea (maize)	2	0.9%	D
Unknown pollen	1	0.5%	D
Totals	212	100%	
Lycopodium spores counted	31		
Pollen concentration per 10 grams of honey	184,645		

Honey Pollen Categories

A=	>45%	predominant pollen type
B=	16-45%	secondary pollen type
C=	3-15%	important minor pollen type
D=	<3%	minor pollen type

Honey Pollen Concentration Categories

Category I	0-20,000/10 g
Category II	20,000-100,000/10 g
Category III	100,000-500,000/10 g
Category IV	500,000-1,000,000/10g