THOSE CRAZY COREIDS! WHAT EPG TELLS US ABOUT SQUASH BUG FEEDING BEHAVIOR

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Host acceptance and activities that are part of plant feeding are fairly well understood for aphids, whiteflies, many leafhoppers and other taxa within the Hemiptera, but true bugs are not so well studied. Part of this is because unlike homopteran insects, most heteropterans were considered to be nuisance species and few were known to transmit phytopathogenic agents. Recently, this assessment has changed and with it has followed detailed histological studies of plant-feeding Heteroptera followed by electrical penetration graph analyses of two taxa in particular, the Miridae and the Blissidae. Another family has a few representative species that have been studied by EPG: the Coreidae. This group of insects is so interesting because, like the cicadellids, there appears to be a wide range of feeding strategies exhibited by this group based upon histological examination of salivary sheaths. So few coreids have been examined using EPG that generalizations about the group may be premature. However, the EPG recording of one coreid, *Anasa tristis*, the common squash bug, sheds some light on this interesting leaf and fruit feeder. Several distinct waveforms have been described including those associated with stylet pathway and ingestion. On a preferred host, squash, this insect probes repeatedly before initiating sustained ingestion. On less preferred hosts, squash bugs delay probing but will eventually ingest from plant tissues. Histological examination of sheath termination points suggest that ingestion is primarily from xylem, but phloem ingestion cannot be dismissed. This insect transmits a phloem-inhabiting bacterium to cucurbits suggesting that it accesses phloem tissues during feeding. However, no specific phloem-associated EPG waveforms have been uncovered. It may possible that *A. tristis* accesses phloem sugars via an osmotic pump strategy first proposed for the Coreidae by Miles.

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