

## Supporting Information for

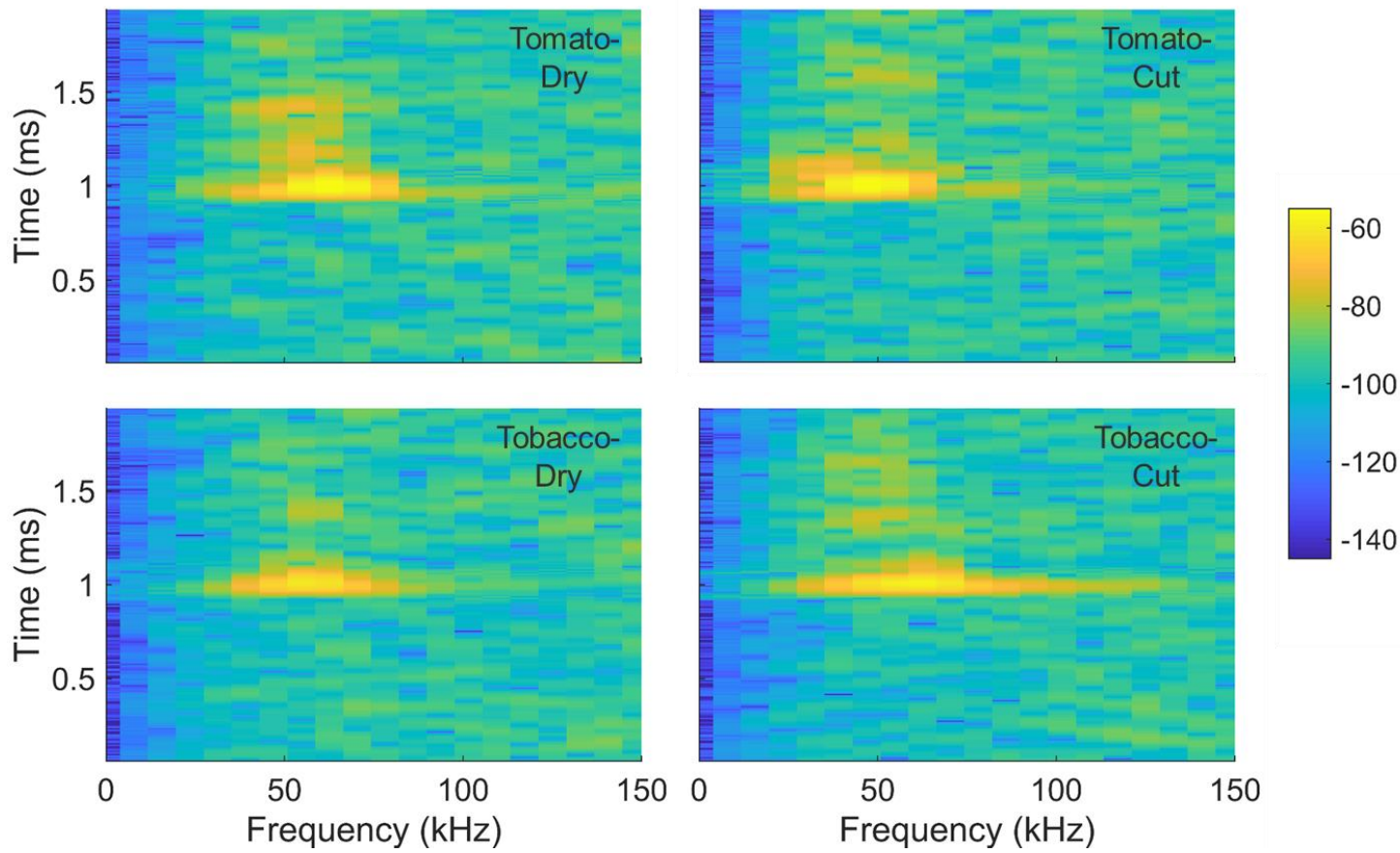
**Title: Plants emit remotely detectable ultrasounds that can reveal plant stress**

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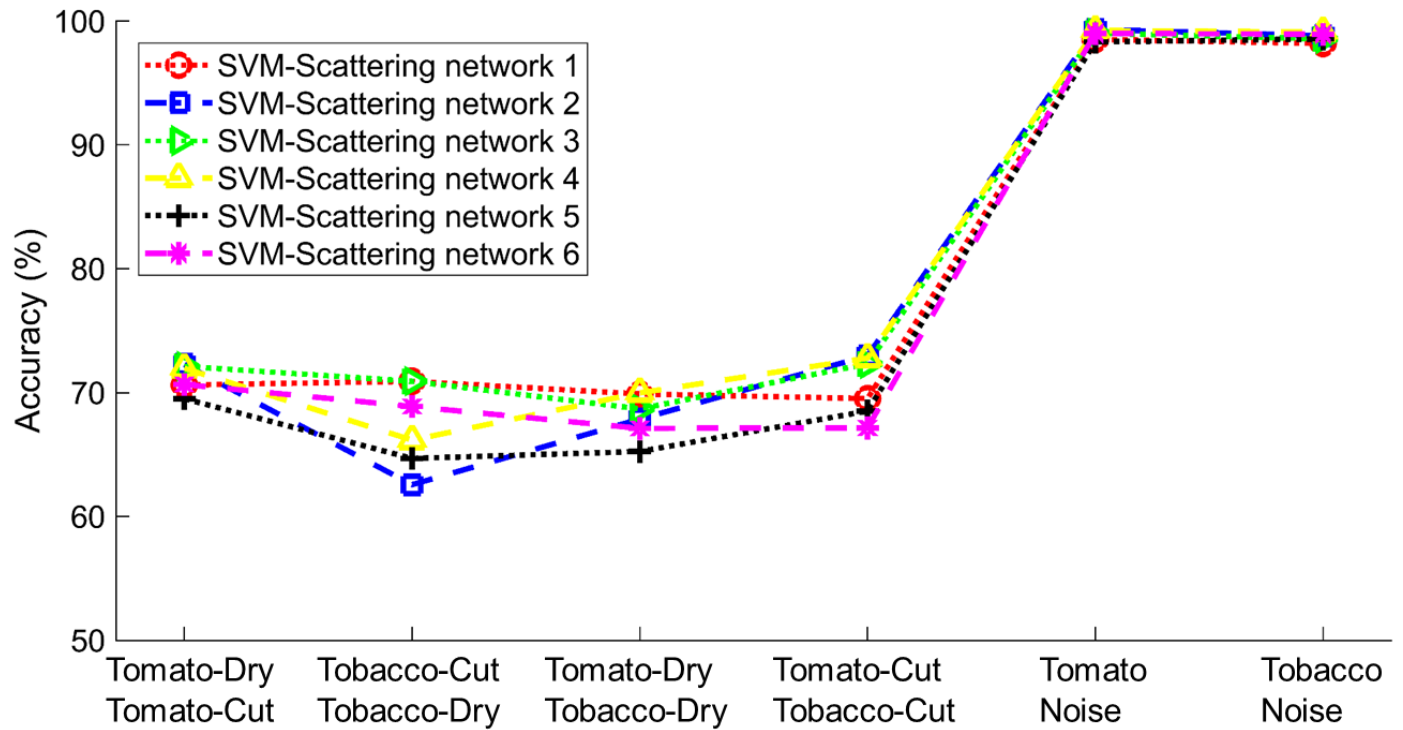
Materials and Methods  
Figs. S1 to S2  
Tables S1 to S3



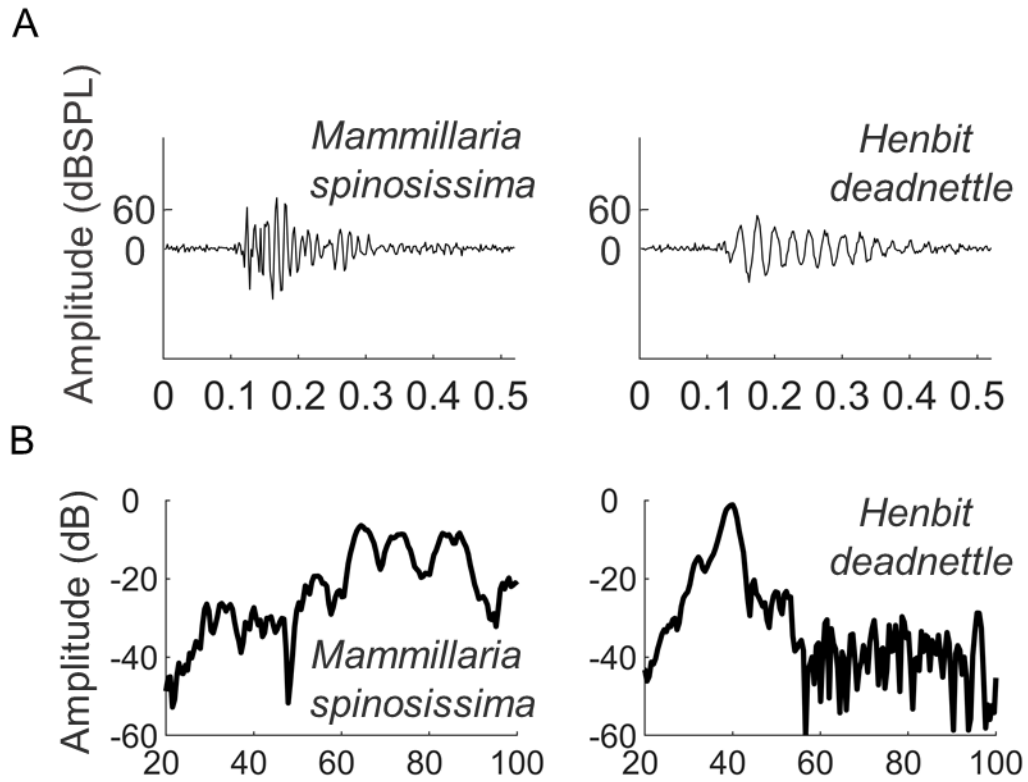
**Figure S1. Examples for spectrograms of sounds which emitted by stressed plants.**

Examples for spectrograms of sounds which time signal and spectra are showed at Fig. 2**b, c**.

The sounds were emitted by: a drought stressed tomato, a drought stressed tobacco, a cut tomato and a cut tobacco.



**Figure S2. Comparison of different scattering network configurations.** The accuracy of sound classification with 6 different configurations for the scattering network, using SVM as classifier. Each line represents a different feature set, all obtained by scattering network. The scattering networks had different time intervals, different Q-factors, and a different number of filters, for exact values see Table S1.



**Figure S3. Recorded sounds from different plants** (a) Examples of time signals of sounds emitted by *Mammillaria spinosissima* cacti and *Henbit deadnettle* plant. (b) The spectra of the sounds from (a).

**Table S1- Parameters used in the feature extraction phase**

Method	Normalization	PCA	Parameters
Basic	-	-	-
MFCC	-	-	-
SN 1	Z-Score	120	M = 2, T = 1ms, Q = [12]
SN 2	Z-Score	-	M = 2, T = 2ms, Q = [1 1]

SN 3	Z-Score	-	M = 1, T = 3ms, Q = [8]
SN 4	-	80	M = 1, T = 3ms, Q = [14]
SN 5	Z-Score	-	M = 2, T = 1ms, Q = [12 2]
SN 6	Z-Score	-	M = 1, T = 1ms, Q = [1]

Scattering Network is denoted SN. PCA column describes the number of principle component used. The parameters M, T, and Q refer to Scattering Network parameters. M = number of layers used, T = time support of low pass filter, and Q = Q-Factor. When written in the text SN without any number we use the configuration of SN1.

**Table S2- Pairs total sizes (2 equal-size groups in each pair)**

<b>Pair</b>	
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<b>Group 1</b>	<b>Group 2</b>	<b># Pair total number of sounds</b>
Tomato - Dry	Tomato - Cut	1262
Tobacco - Dry	Tobacco - Cut	418
Tomato - Dry	Tobacco - Dry	418
Tomato - Cut	Tobacco - Cut	932
Tomato - All	Noise	3868
Tobacco - All	Noise	1350

**Table S3- Groups sizes**

<b>Group</b>	<b>Recorded sounds (#)</b>	<b>Individual plants (#)</b>	<b>Median number of sounds emitted by one plant (#)</b>
Tomato-Dry	1612	51	21
Tomato-Cut	631	40	11.5
Tobacco-Dry	209	23	8
Tobacco-Cut	466	19	24
Noise	1934	-	-