

## Supplementary Material

### **An advanced approach for leaf flammability index estimation**

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1 **Supplementary material for**

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4 **Table S1.** Averaged values of flammability parameters (ignition temperature, time to ignition, maximum flame height, combustion time, and mass loss  
5 percentage) and fuel moisture content (FMC) measured on 15 Mediterranean plant species during May to September 2017 in Antalya, Turkey.

<b>Code</b>	<b>Botanical name</b>	<b>Ignition temp. (°C)</b>	<b>Time to ignition (sec)</b>	<b>Max flame height (cm)</b>	<b>Combustion time (sec)</b>	<b>Mass loss percent. (%)</b>	<b>FMC (%)</b>
<b>Pbr</b>	<i>Pinus brutia</i>	305.1 ± 22.2	20.6 ± 3.7	55.5 ± 7.2	16.1 ± 5.1	5.7 ± 4.9	94.9 ± 4.1
<b>Ppi</b>	<i>Pinus pinea</i>	329.6 ± 20.7	27.6 ± 3.1	52.0 ± 7.2	14.4 ± 4.3	4.7 ± 8.2	130.8 ± 8.3
<b>Cse</b>	<i>Cupressus sempervirens var. horizontalis</i>	315.3 ± 17.0	27.5 ± 5.0	56.4 ± 7.5	16.5 ± 4.3	10.2 ± 8.8	103.6 ± 7.1
<b>Qin</b>	<i>Quercus infectoria</i>	324.5 ± 20.5	11.3 ± 1.8	60.2 ± 7.1	10.9 ± 2.7	7.1 ± 6.0	113.5 ± 20.4
<b>Qit</b>	<i>Quercus ithaburensis subsp. macrolepis</i>	322.3 ± 25.3	9.8 ± 2.8	60.4 ± 7.4	12.2 ± 3.4	6.3 ± 6.3	89.6 ± 28.3
<b>Qco</b>	<i>Quercus coccifera</i>	340.0 ± 19.3	17.8 ± 6.4	56.8 ± 9.0	10.7 ± 3.2	5.7 ± 5.9	105.4 ± 55.6
<b>Csi</b>	<i>Ceratonia siliqua</i>	344.9 ± 28.8	22.7 ± 3.8	52.7 ± 6.5	12.5 ± 3.4	8.1 ± 8.0	115.0 ± 9.3
<b>Aan</b>	<i>Arbutus andrachne</i>	335.7 ± 25.8	16.1 ± 3.1	52.2 ± 8.0	10.4 ± 3.9	7.0 ± 8.8	125.6 ± 27.3
<b>Pte</b>	<i>Pistacia terebinthus</i>	368.1 ± 38.3	13.5 ± 4.2	55.6 ± 13.2	11.2 ± 2.9	6.7 ± 5.2	144.1 ± 47.8
<b>Mco</b>	<i>Myrtus communis</i>	402.8 ± 38.4	29.6 ± 7.8	32.1 ± 12.1	9.9 ± 3.9	6.3 ± 6.2	144.9 ± 22.3
<b>Nol</b>	<i>Nerium oleander</i>	336.5 ± 21.2	23.7 ± 2.7	43.9 ± 7.2	13.9 ± 7.3	10.0 ± 6.4	193.9 ± 34.5
<b>Ema</b>	<i>Erica manipuliflora</i>	311.6 ± 19.9	19.3 ± 4.6	54.7 ± 6.1	18.9 ± 3.8	5.0 ± 5.1	90.8 ± 20.1
<b>Cco</b>	<i>Cotinus coggygria</i>	358.8 ± 29.6	13.7 ± 4.1	46.7 ± 11.6	12.3 ± 4.4	9.2 ± 6.3	148.1 ± 38.0
<b>Pla</b>	<i>Phillyrea latifolia</i>	331.2 ± 21.5	19.4 ± 6.4	59.9 ± 6.1	20.9 ± 6.0	6.6 ± 6.7	77.3 ± 24.4
<b>Ccr</b>	<i>Cistus creticus</i>	359.4 ± 41.5	21.0 ± 8.5	27.1 ± 11.2	18.3 ± 7.7	15.9 ± 14.7	167.0 ± 63.5

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11 **Table S2.** Flammability classes according to months for the 15 Mediterranean species studied during May to September 2017. Results are based on Ward's  
 12 hierarchical cluster analysis and linear discriminant analysis.

Code	Botanical name	Flammability Class			
		1 Highly flammable	2 Moderately flammable	3 Less flammable	4 Least flammable
<b>Pbr</b>	<i>Pinus brutia</i>	M-Jn-Jl-A-S- $\bar{X}$			
<b>Ppi</b>	<i>Pinus pinea</i>	M-Jl-S- $\bar{X}$	Jn-A		
<b>Cse</b>	<i>Cupressus sempervirens</i> var. <i>horizontalis</i>	M-Jn-Jl-A-S- $\bar{X}$			
<b>Qin</b>	<i>Quercus infectoria</i>	M-Jn-A-S- $\bar{X}$	Jl		
<b>Qit</b>	<i>Quercus ithaburensis</i> subsp. <i>macrolepis</i>	M-Jn-A-S- $\bar{X}$	Jl		
<b>Qco</b>	<i>Quercus coccifera</i>	A	M-Jn-Jl-S- $\bar{X}$		
<b>Csi</b>	<i>Ceratonia siliqua</i>		M-Jn-Jl-A-S- $\bar{X}$		
<b>Aan</b>	<i>Arbutus andrachne</i>		M-Jn-A-S- $\bar{X}$	Jl	
<b>Pte</b>	<i>Pistacia terebinthus</i>		A	M-Jn-Jl-S- $\bar{X}$	
<b>Mco</b>	<i>Myrtus communis</i>			M-Jl-A-S- $\bar{X}$	Jn
<b>Nol</b>	<i>Nerium oleander</i>		M-Jl-S- $\bar{X}$	Jn-A	
<b>Ema</b>	<i>Erica manipuliflora</i>	M-Jn-Jl-A-S- $\bar{X}$			
<b>Cco</b>	<i>Cotinus coggygria</i>			M-Jn-Jl-A-S- $\bar{X}$	
<b>Pla</b>	<i>Phillyrea latifolia</i>	M-Jn-Jl-A-S- $\bar{X}$			
<b>Ccr</b>	<i>Cistus creticus</i>			M-Jl-A-S- $\bar{X}$	Jn

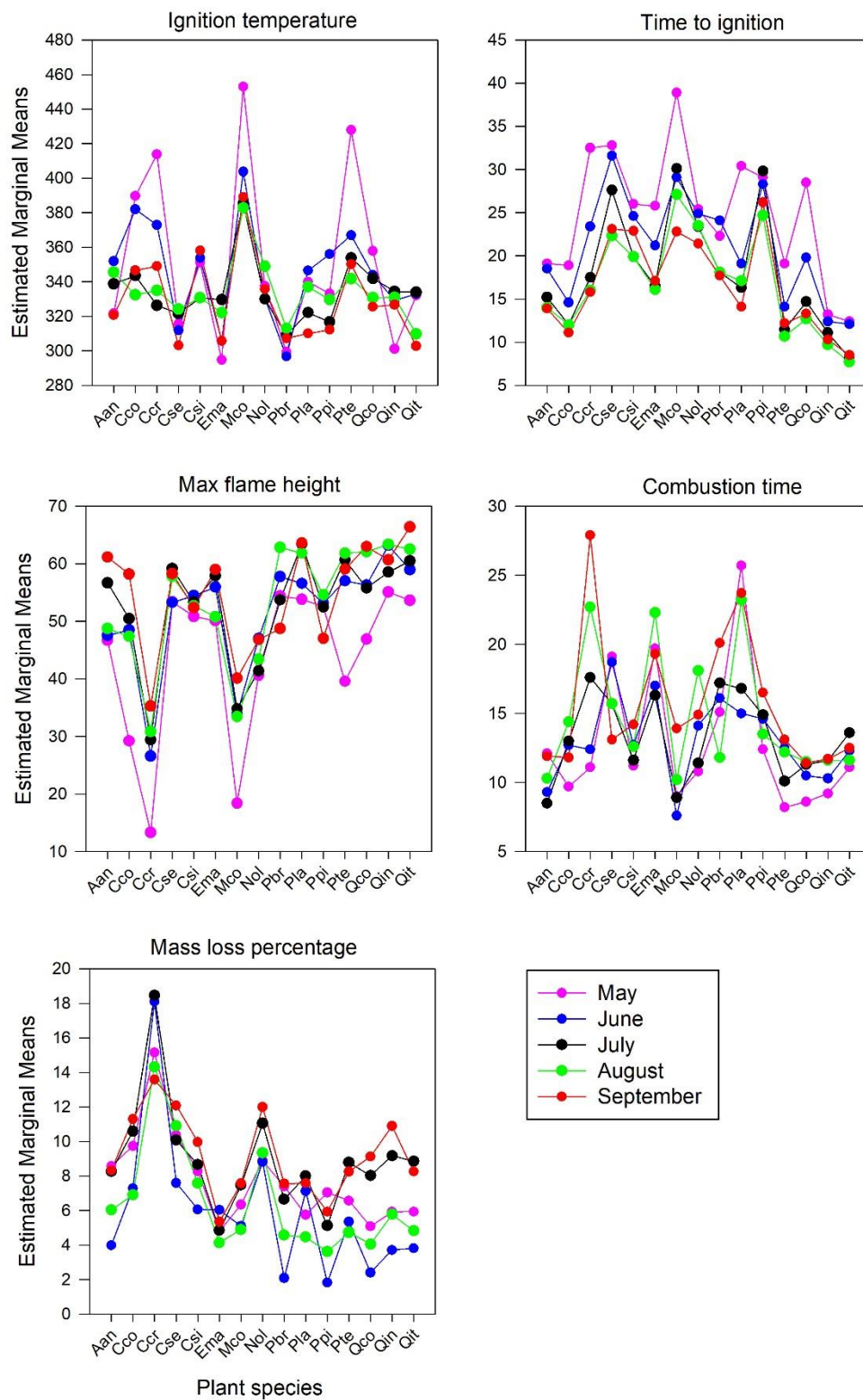
M: May, Jn: June, Jl: July, A: August, S: September,  $\bar{X}$ : Mean (results based on all months' average values)

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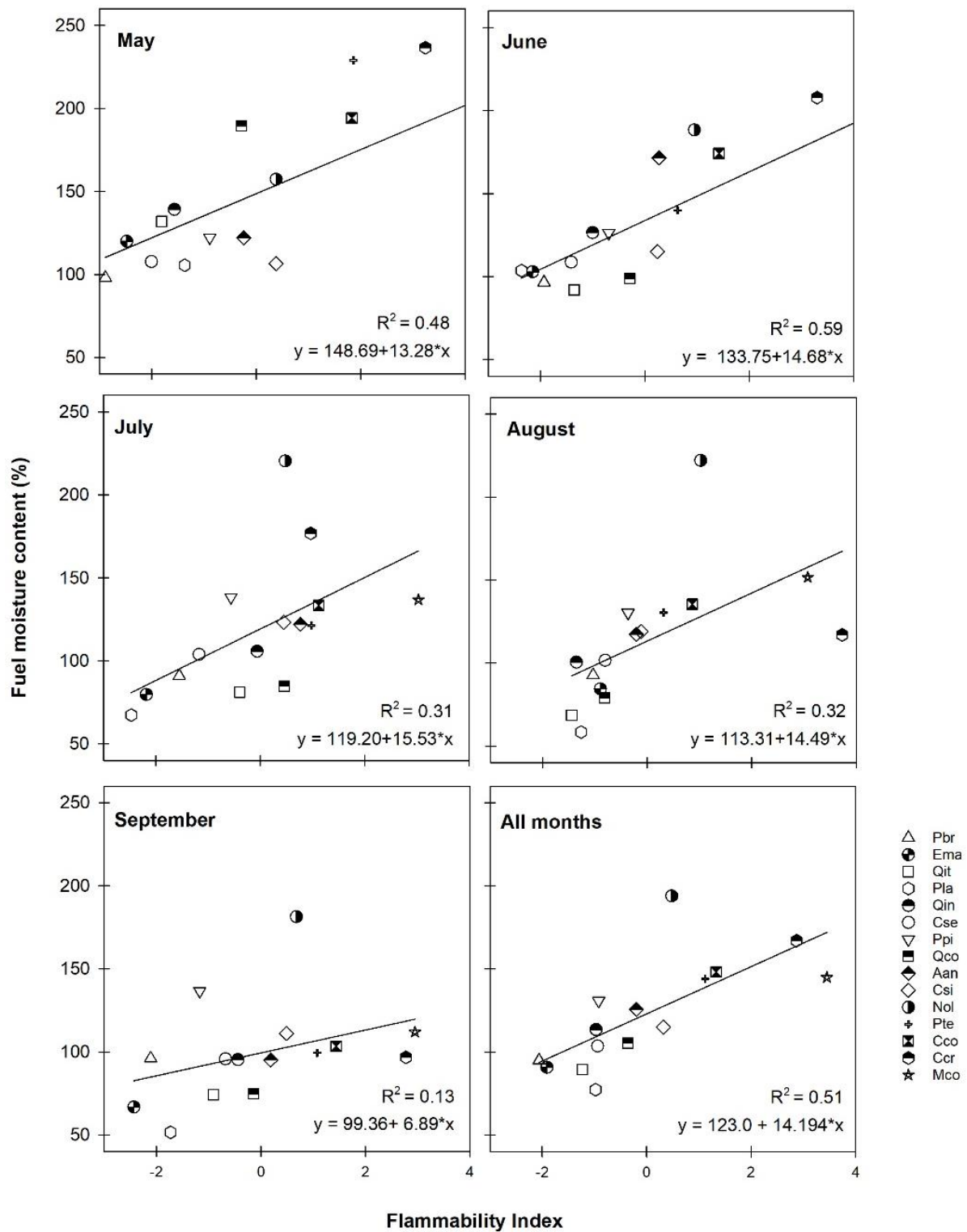
15 **Table S3.** Weather conditions of the Antalya region during the study period in 2017. Values were obtained from the Turkish State Meteorological Service and  
16 are presented as monthly averages for air temperature and relative humidity and as monthly sums for precipitation.

	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>
<b>Air temperature (°C)</b>	17.7	21.3	26.3	30.5	29.0	26.9
<b>Relative humidity (%)</b>	62.3	67.7	63.1	57.4	64.4	62.8
<b>Precipitation (mm)</b>	48.4	38.4	3.3	0.3	0.5	3.1



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18 **Fig. S1.** Plots of the two-way ANOVA showing the estimated marginal means of the five flammability  
 19 components (ignition temperature, time to ignition, maximum flame height, combustion time, and  
 20 mass loss percentage) for each studied species and each month during the study period. For detailed  
 21 information about the species codes see Table A1.



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23 **Fig. S2.** Relationship between species-specific flammability index values and fuel moisture content  
 24 (FMC) for monthly and seasonal (all months) average values. The linear regressions are significant at  
 25 the  $p < 0.01$  level. Codes in the legend correspond to the studied species (for detailed information see  
 26 Table A1). For all graphs, scaling of the axes are identical.

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