

***Ambio***

Electronic Supplementary Material

*This supplementary material has not been peer reviewed.*

Title: **Quantifying anthropogenic threats to orchids using the IUCN Red List**

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Appendix 1.

Table S1. Number of orchid species affected by each threat at all three levels of threat data from the IUCN Red List, including threat definitions and codes.

<b>Threat</b>	<b>Threat code</b>	<b>Number of species threatened</b>
<b>Residential &amp; commercial development</b>	<b>1</b>	
Housing & urban areas	1.1	125
Commercial & industrial areas	1.2	18
Tourism & recreation areas	1.3	98
<b>Agriculture &amp; aquaculture</b>	<b>2</b>	
<i>Annual &amp; perennial non-timber crops</i>		
Shifting agriculture	2.1.1	63
Small-holder farming	2.1.2	70
Agro-industry farming	2.1.3	31
Scale Unknown/Unrecorded	2.1.4	42
<i>Wood &amp; pulp plantations</i>		
Small-holder plantations	2.2.1	4
Agro-industry plantations	2.2.2	5
Scale Unknown/Unrecorded	2.2.3	30
<i>Livestock farming &amp; ranching</i>		
Nomadic grazing	2.3.1	7
Small-holder grazing, ranching or farming	2.3.2	19
Agro-industry grazing, ranching or farming	2.3.3	12
Scale Unknown/Unrecorded	2.3.4	62
<i>Marine &amp; freshwater aquaculture</i>		
Subsistence/artisinal aquaculture	2.4.1	
Industrial aquaculture	2.4.2	
Scale Unknown/Unrecorded	2.4.3	2
<b>Energy production &amp; mining</b>	<b>3</b>	
Oil & gas drilling	3.1	1
Mining & quarrying	3.2	45
Renewable energy	3.3	
<b>Transportation &amp; service corridors</b>	<b>4</b>	
Roads & railroads	4.1	76
Utility & service lines	4.2	2
Shipping lanes	4.3	
Flight paths	4.4	
<b>Biological resource use</b>	<b>5</b>	
<i>Hunting &amp; collecting terrestrial animals</i>	<i>5.1</i>	
Intentional use	5.1.1	2
(species being assessed is the target)		
Unintentional effects	5.1.2	1
(species being assessed is not the target)		

Persecution/control	5.1.3	
Motivation Unknown/Unrecorded	5.1.4	
<i>Gathering terrestrial plants</i>	5.2	
Intentional use (species being assessed is the target)	5.2.1	219
Unintentional effects (species being assessed is not the target)	5.2.2	4
Persecution/control	5.2.3	
Motivation Unknown/Unrecorded	5.2.4	29
<i>Logging &amp; wood harvesting</i>	5.3	
Intentional use: subsistence/small scale (species being assessed is the target) [harvest]	5.3.1	15
Intentional use: large scale (species being assessed is the target) [harvest]	5.3.2	53
Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]	5.3.3	128
Unintentional effects: large scale (species being assessed is not the target) [harvest]	5.3.4	70
Motivation Unknown/Unrecorded	5.3.5	47
<i>Fishing &amp; harvesting aquatic resources</i>	5.4	
Intentional use: subsistence/small scale (species being assessed is the target) [harvest]	5.4.1	
Intentional use: large scale (species being assessed is the target) [harvest]	5.4.2	
Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]	5.4.3	
Unintentional effects: large scale (species being assessed is not the target) [harvest]	5.4.4	2
Persecution/control	5.4.5	
Motivation Unknown/Unrecorded	5.4.6	
<b>Human intrusions &amp; disturbance</b>	<b>6</b>	
Recreational activities	6.1	90
War, civil unrest & military exercises	6.2	
Work & other activities	6.3	124
<b>Natural system modifications</b>	<b>7</b>	
<i>Fire &amp; fire suppression</i>	7.1	
Increase in fire frequency/intensity	7.1.1	67

Suppression in fire frequency/intensity	7.1.2	7
Trend Unknown/Unrecorded	7.1.3	51
<i>Dams &amp; water management/use</i>	7.2	
Abstraction of surface water (domestic use)	7.2.1	2
Abstraction of surface water (commercial use)	7.2.2	2
Abstraction of surface water (agricultural use)	7.2.3	4
Abstraction of surface water (unknown use)	7.2.4	3
Abstraction of ground water (domestic use)	7.2.5	3
Abstraction of ground water (commercial use)	7.2.6	2
Abstraction of ground water (agricultural use)	7.2.7	3
Abstraction of ground water (unknown use)	7.2.8	
Small dams	7.2.9	
Large dams	7.2.10	
Dams (size unknown)	7.2.11	8
Other ecosystem modifications	7.3	31
<b>Invasive &amp; other problematic species, genes &amp; diseases</b>	<b>8</b>	
<i>Invasive non-native/alien species/diseases</i>	8.1	
Unspecified species	8.1.1	23
Named species	8.1.2	16
<i>Problematic native species/diseases</i>	8.2	
Unspecified species	8.2.1	11
Named species	8.2.2	5
Introduced genetic material	8.3	
<i>Problematic species/diseases of unknown origin</i>	8.4	
Unspecified species	8.4.1	1
Named species	8.4.2	
<i>Viral/prion-induced diseases</i>	8.5	
Unspecified "species" (disease)	8.5.1	
Named "species" (disease)	8.5.2	
Diseases of unknown cause	8.6	
<b>Pollution</b>	<b>9</b>	
<i>Domestic &amp; urban waste water</i>	9.1	
Sewage	9.1.1	
Run-off	9.1.2	
Type Unknown/Unrecorded	9.1.3	4
<i>Industrial &amp; military effluents</i>	9.2	
Oil spills	9.2.1	
Seepage from mining	9.2.2	1
Type Unknown/Unrecorded	9.2.3	1
<i>Agricultural &amp; forestry effluents</i>	9.3	
Nutrient loads	9.3.1	1

Soil erosion, sedimentation	9.3.2	55
Herbicides and pesticides	9.3.3	8
Type Unknown/Unrecorded	9.3.4	1
Garbage & solid waste	9.4	1
Air-borne pollutants	9.5	
Acid rain	9.5.1	
Smog	9.5.2	
Ozone	9.5.3	
Type Unknown/Unrecorded	9.5.4	
<i>Excess energy</i>	9.6	
Light pollution	9.6.1	
Thermal pollution	9.6.2	
Noise pollution	9.6.3	
Type Unknown/Unrecorded	9.6.4	
<b>Geological events</b>	<b>10</b>	
Volcanoes	10.1	2
Earthquakes/tsunamis	10.2	
Avalanches/landslides	10.3	4
<b>Climate change &amp; severe weather</b>	<b>11</b>	
Habitat shifting & alteration	11.1	73
Droughts	11.2	57
Temperature extremes	11.3	6
Storms & flooding	11.4	7
Other impacts	11.5	4
<b>Other options</b>	<b>12</b>	
Other threat	12.1	