

## **Nectar mimicry: a new phenomenon**

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**Table S1.** Species list containing identified 309 species of the Yulong and Baima Snow Mountains and categorized features of nectar, pollen, glossy structures, and altitude.

FAMILY	SPECIES	FIORAL SYMMETRY	NECTAR	GLOSSY STRUCTURE	INVISIBLE POLLEN & POLLEN MIMICRY	ALITUDE
Solanaceae	<i>Nicandra physalodes</i>	radially symmetrical flower	no nectar	glossy basal part of petal	floral guide mimics anther colour	2700
Campanulaceae	<i>Codonopsis bulleyana</i>	radially symmetrical flower	visible	glossy basal part of petal		3900
Campanulaceae	<i>Codonopsis convolvulacea</i>	radially symmetrical flower	visible	glossy basal part of petal		3200
Campanulaceae	<i>Codonopsis graminifolia</i>	radially symmetrical flower	visible	glossy basal part of petal		3200
Erodiaceae	<i>Geranium delavayi</i>	radially symmetrical flower	visible	glossy basal part of petal		3200
Erodiaceae	<i>Geranium strictipes</i>	radially symmetrical flower	visible	glossy basal part of petal		3200
Gentianaceae	<i>Swertia cincta</i>	radially symmetrical flower	visible	glossy basal part of petal		3200
Gentianaceae	<i>Swertia macrosperma</i>	radially symmetrical flower	visible	glossy basal part of petal	floral guide mimics anther colour	3200
Gentianaceae	<i>Swertia punicea</i>	radially symmetrical flower	visible	glossy basal part of petal		3200 (Yunshanping)
Rosaceae	<i>Potentilla anserina</i>	radially symmetrical flower	visible	glossy central structures	floral guide and stigmata mimic anther colour	3200
Rosaceae	<i>Potentilla articulata</i>	radially symmetrical flower	visible	glossy central structures	floral guide mimics anther colour	4200
Rosaceae	<i>Potentilla coriandrifolia</i>	radially symmetrical flower	visible	glossy central structures	floral guide mimics anther colour	4200
Rosaceae	<i>Potentilla eriocarpa</i>	radially symmetrical flower	visible	glossy central structures	floral guide mimics anther colour	3600
Rosaceae	<i>Potentilla fruticosa</i>	radially symmetrical flower	visible	glossy central structures		3600
Rosaceae	<i>Potentilla glabra</i>	radially symmetrical flower	visible	glossy central structures		3600
Rosaceae	<i>Potentilla lancinata</i>	radially symmetrical flower	visible	glossy central structures	stigma mimics stamen	2700
Rosaceae	<i>Potentilla peduncularis</i> var. <i>curta</i>	radially symmetrical flower	visible	glossy central structures	floral guide mimics anther colour	3600
Saxifragaceae	<i>Saxifraga melanocentra</i>	radially symmetrical flower	visible	glossy disc	floral guide mimics anther colour	4100
Saxifragaceae	<i>Saxifraga rufescens</i>	zygomorphic flower	visible	glossy disc	flower center mimics stamen colour	3400
Campanulaceae	<i>Cyananthus formosus</i>	radially symmetrical flower	hidden	glossy floral guide		4100
Campanulaceae	<i>Cyananthus longiflorus</i>	radially symmetrical flower	hidden	glossy floral guide		3200
Campanulaceae	<i>Cyananthus hookeri</i>	radially symmetrical flower	hidden	glossy floral guide		3400
Asteraceae	<i>Anaphalis chlamydophylla</i>	radially symmetrical inflorescence	hidden	glossy floral guide		4100
Asteraceae	<i>Anaphalis nepalensis</i>	radially symmetrical inflorescence	hidden	glossy floral guide		3200
Asteraceae	<i>Anaphalis yunnanensis</i> cf	radially symmetrical inflorescence	hidden	glossy floral guide	anthers and pollen visible	3200

Saxifragaceae	<i>Saxifraga aristulata</i>	radially symmetrical flower	visible	glossy protuberances		4200
Saxifragaceae	<i>Saxifraga diversifolia</i> ,	radially symmetrical flower	visible	glossy protuberances		3200
Saxifragaceae	<i>Saxifraga filicaulis</i>	radially symmetrical flower	visible	glossy protuberances		3200
Saxifragaceae	<i>Saxifraga gemmipara</i>	radially symmetrical flower	visible	glossy protuberances	floral guide mimics anther colour	3200 (Yunshanping)
Saxifragaceae	<i>Saxifraga hispidula</i>	radially symmetrical flower	visible	glossy protuberances		4200
Saxifragaceae	<i>Saxifraga nigroglandulosa</i>	radially symmetrical flower	visible	glossy protuberances		4200
Saxifragaceae	<i>Saxifraga strigosa</i>	radially symmetrical flower	visible	glossy protuberances		3400
Saxifragaceae	<i>Saxifraga wallichiana</i>	radially symmetrical flower	visible	glossy protuberances		4200
Ranunculaceae	<i>Trollius yunnanensis</i>	radially symmetrical flower	no nectar	glossy staminodes	staminodes mimic stamens	3200
Celastraceae	<i>Parnassia delavayi</i>	radially symmetrical flower	visible	glossy staminodes	staminodes mimic stamens	3200
Celastraceae	<i>Parnassia mysorensis</i>	radially symmetrical flower	visible	glossy staminodes	staminodes mimic stamens	3200
Celastraceae	<i>Parnassia tenella</i>	radially symmetrical flower	visible	glossy staminodes	staminodes mimic stamens	3200
Celastraceae	<i>Parnassia wightiana</i>	radially symmetrical flower	visible	glossy staminodes	staminodes mimic stamens	2700
Celastraceae	<i>Parnassia yunnanensis</i>	radially symmetrical flower	visible	glossy staminodes	staminodes mimic stamens	4100
Boraginaceae	<i>Cynoglossum amabile</i>	radially symmetrical flower	hidden			3200
Boraginaceae	<i>Microula forrestii</i>	radially symmetrical flower	hidden		floral guide mimics anther colour	4100
Boraginaceae	<i>Onosma confertum</i>	radially symmetrical flower	hidden			3200
Brassicaceae	<i>Megacarpaea delavayi</i>	radially symmetrical flower	hidden			3200
Brassicaceae	<i>Nasturtium officinale</i>	radially symmetrical flower	hidden			4100
Brassicaceae	<i>Rorippa elata</i>	radially symmetrical flower	hidden			3400
Campanulaceae	<i>Adenophora capillaris</i> subsp.leptosepala	radially symmetrical flower	hidden			3200
Campanulaceae	<i>Adenophora coelestis</i>	radially symmetrical flower	hidden			3200
Campanulaceae	<i>Campanula crenulata</i>	radially symmetrical flower	hidden			3900
Campanulaceae	<i>Campanula pallida</i>	radially symmetrical flower	hidden			3200
Campanulaceae	<i>Cyananthus inflatus</i>	radially symmetrical flower	hidden			3600
Campanulaceae	<i>Cyananthus macrocalyx</i>	radially symmetrical flower	hidden		floral guide mimics anther colour	3200
Caprifoliaceae	<i>Morina nepalensis</i> var. alba	radially symmetrical flower	hidden			3600
Caprifoliaceae	<i>Morina nepalensis</i> var.delavayi	radially symmetrical flower	hidden			3200
Daphnaceae	<i>Stellera chamaejasme</i>	radially symmetrical flower	hidden			3600
Dianthaceae	<i>Silene asclepiadea</i>	radially symmetrical flower	hidden			3400
Dianthaceae	<i>Silene cardiopetala</i>	radially symmetrical flower	hidden			3200

Dianthaceae	<i>Silene melanantha</i>	radially symmetrical flower	hidden			3600
Ericaceae	<i>Monotropa hypopitys</i>	radially symmetrical flower	hidden			3200
Ericaceae	<i>Pieris formosa</i>	radially symmetrical flower	hidden			3400
Ericaceae	<i>Rhododendron primulaeflorum</i>	radially symmetrical flower	hidden			3200
Ericaceae	<i>Vaccinium fragile</i>	radially symmetrical flower	hidden			3200
Gentianaceae	<i>Comastoma cyananthiflorum</i> var. <i>cyananthiflorum</i>	radially symmetrical flower	hidden			4100
Gentianaceae	<i>Gentiana crassicaulis</i>	radially symmetrical flower	hidden			3200
Gentianaceae	<i>Gentiana serra</i>	radially symmetrical flower	hidden			3200 (Yunshanping)
Gentianaceae	<i>Gentiana sinoornata</i>	radially symmetrical flower	hidden			4100
Gentianaceae	<i>Gentiana yunnanensis</i>	radially symmetrical flower	hidden			3200
Gentianaceae	<i>Gentianopsis grandis</i>	radially symmetrical flower	hidden			2700
Gentianaceae	<i>Halenia elliptica</i>	radially symmetrical flower	hidden			3200
Gentianaceae	<i>Lomatogonium lijiangense</i>	radially symmetrical flower	hidden			4200
Gesneriaceae	<i>Corallodiscus lanuginosus</i>	radially symmetrical flower	hidden			3200
Gesneriaceae	<i>Oreocharis forrestii</i>	radially symmetrical flower	hidden			3200
Liliaceae	<i>Disporum brachystemon</i>	radially symmetrical flower	hidden			3200
Oleaceae	<i>Jasminum officinale</i>	radially symmetrical flower	hidden			2700
Oleaceae	<i>Jasminum humile</i>	radially symmetrical flower	hidden		floral guide mimics anther colour	3200
Onagraceae	<i>Epilobium royleanum</i>	radially symmetrical flower	hidden		stigmata mimic stamens	4100
Primulaceae	<i>Primula sikkimensis</i> cf	radially symmetrical flower	hidden			3200
Primulaceae	<i>Androsace spinulifera</i>	radially symmetrical flower	hidden		floral guide mimics anther colour	3200
Primulaceae	<i>Lysimachia christinae</i>	radially symmetrical flower	hidden			3200
Primulaceae	<i>Lysimachia pumila</i>	radially symmetrical flower	hidden			3200
Primulaceae	<i>Primula beesiana</i>	radially symmetrical flower	hidden		floral guide mimics anther colour	3400
Primulaceae	<i>Primula bella</i>	radially symmetrical flower	hidden			4100
Primulaceae	<i>Primula bulleyana</i>	radially symmetrical flower	hidden		floral guide mimics anther colour	3200
Primulaceae	<i>Primula poissonii</i>	radially symmetrical flower	hidden		floral guide mimics anther colour	3200
Primulaceae	<i>Primula poissonii</i>	radially symmetrical flower	hidden		floral guide mimics anther colour	2700
Primulaceae	<i>Primula vialii</i>	radially symmetrical flower	hidden			3200
Primulaceae	<i>Primula yunnanensis</i>	radially symmetrical flower	hidden			3200
Rosaceae	<i>Neillia gracilis</i>	radially symmetrical flower	hidden			3400

Rubiaceae	Leptodermis potanini	radially symmetrical flower	hidden			2700
Scrophulariaceae	Buddleja fallowiana	radially symmetrical flower	hidden			2700
Commelinaceae	Cyanotis vaga	radially symmetrical flower	no nectar		staminodes mimic stamens	2700
Hypoxidaceae	Hypoxis aurea	radially symmetrical flower	no nectar			2700
Papaveraceae	Meconopsis delavayi	radially symmetrical flower	no nectar			4100
Papaveraceae	Meconopsis rudis	radially symmetrical flower	no nectar			4100
Plantaginaceae	Plantago asiatica subsp.erosa	radially symmetrical flower	no nectar			3400
Ranunculaceae	Anemone rivularis var. flore-minore	radially symmetrical flower	no nectar		floral guide mimics anther colour	3400
Ranunculaceae	Anemone trullifolia var.holophylla	radially symmetrical flower	no nectar			3600
Ranunculaceae	Ranunculus yunnanensis	radially symmetrical flower	no nectar			3600
Ranunculaceae	Thalictrum javanicum	radially symmetrical flower	no nectar			3200
Ranunculaceae	Anemone hupehensis	radially symmetrical flower	no nectar			3200
Ranunculaceae	Anemone rupicola	radially symmetrical flower	no nectar			4100
Ranunculaceae	Caltha palustris	radially symmetrical flower	no nectar		floral guide mimics anther colour	3400
Ranunculaceae	Caltha scaposa	radially symmetrical flower	no nectar			4200 (Baima)
Ranunculaceae	Clematis chrysocoma	radially symmetrical flower	no nectar		stigmata mimic stamens	3200
Ranunculaceae	Clematis peterae	radially symmetrical flower	no nectar			2700
Ranunculaceae	Clematis ranunculoides	radially symmetrical flower	no nectar			3200
Ranunculaceae	Ranunculus nephenogenes	radially symmetrical flower	no nectar		floral guide mimics anther colour	3200
Ranunculaceae	Thalictrum delavayi	radially symmetrical flower	no nectar			2700
Ranunculaceae	Anemone rivularis	radially symmetrical flower	no nectar			3200
Solanaceae	Anisodus acutangulus	radially symmetrical flower	no nectar			3200
Crassulaceae	Rhodiola chrysanthemifolia	radially symmetrical flower	potentially visible			4100
Crassulaceae	Sedum trullipetalum	radially symmetrical flower	potentially visible			3200
Dianthaceae	Stellaria vestita	radially symmetrical flower	potentially visible			3200
Dianthaceae	Stellaria yunnanensis	radially symmetrical flower	potentially visible			3400
Hypericaceae	Hypericum chosiyanum	radially symmetrical flower	potentially visible			2700
Polygonaceae	Fagopyrum dibotrys	radially symmetrical flower	potentially visible			3200
Polygonaceae	Polygonum nepalense	radially symmetrical flower	potentially visible			2700

Polygonaceae	Polygonum paleaceum	radially symmetrical flower	potentially visible			3400
Polygonaceae	Polygonum viviparum	radially symmetrical flower	potentially visible			4100
Polygonaceae	Polygonum macrophyllum	radially symmetrical flower	potentially visible			3600
Saxifragaceae	Saxifraga pallida	radially symmetrical flower	potentially visible		floral guide mimics anther colour	3400
Tofieldiaceae	Tofieldia divergens	radially symmetrical flower	potentially visible			2700
Amaryllidaceae	Allium beesianum	radially symmetrical flower	visible			4200
Amaryllidaceae	Allium mairei	radially symmetrical flower	visible			3900
Apiaceae	Bupleurum rockii	radially symmetrical flower	visible			3200
Apiaceae	Heracleum yungningense	radially symmetrical flower	visible			3200
Apiaceae	Ligusticum pteridophyllum	radially symmetrical flower	visible			3200
Apiaceae	Ligusticum sinense Oliv	radially symmetrical flower	visible			3200
Apiaceae	Pleurospermum foetens	radially symmetrical flower	visible			4100
Asparagaceae	Ophiopogon bodinieri	radially symmetrical flower	visible			2700
Balanophoraceae	Balanophora involucrata	radially symmetrical flower	visible			3200
Berberidaceae	Berberis pruinosa	radially symmetrical flower	visible			3200
Brassicaceae	Arabis paniculata	radially symmetrical flower	visible			3200
Brassicaceae	Cardamine gracilis	radially symmetrical flower	visible			3200
Brassicaceae	Cardamine granulifera	radially symmetrical flower	visible			3200
Brassicaceae	Dipoma iberideum	radially symmetrical flower	visible			4100
Caprifoliaceae	Dipsacus asper	radially symmetrical flower	visible			3200
Caprifoliaceae	Nardostachys jatamansi	radially symmetrical flower	visible			3200
Caprifoliaceae	Pterocephalus hookeri	radially symmetrical flower	visible			3200
Caprifoliaceae	Valeriana hardwickii	radially symmetrical flower	visible			3200
Dianthaceae	Arenaria barbata	radially symmetrical flower	visible			3400
Dianthaceae	Arenaria leptophylla	radially symmetrical flower	visible			4100
Rutaceae	Boenninghausenia sessilicarpa	radially symmetrical flower	visible		floral guide mimics anther colour	2700
Asteraceae	Aster ageratoides cf	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	3400
Asteraceae	Aster brachytrichus	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	3900
Asteraceae	Aster jeffreyanus	radially symmetrical inflorescence	hidden			3900

Asteraceae	<i>Aster oreophilus</i>	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	3200
Asteraceae	<i>Bidens pilosa</i> var. <i>radiata</i>	radially symmetrical inflorescence	hidden			2700
Asteraceae	<i>Carpesium scapiforme</i>	radially symmetrical inflorescence	hidden			3200
Asteraceae	<i>Cirsium lidiangense</i>	radially symmetrical inflorescence	hidden			2700
Asteraceae	<i>Cremanthodium campanulatum</i>	radially symmetrical inflorescence	hidden			4100
Asteraceae	<i>Cremanthodium nobile</i>	radially symmetrical inflorescence	hidden			3900
Asteraceae	<i>Eupatorium heterophyllum</i>	radially symmetrical inflorescence	hidden			2700
Asteraceae	<i>Galinsoga parviflora</i>	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	3200
Asteraceae	<i>Hippolytia delavayi</i>	radially symmetrical inflorescence	hidden			4200
Asteraceae	<i>Inula helianthus-aquatilis</i>	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	2700
Asteraceae	<i>Leontopodium andersonii</i>	radially symmetrical inflorescence	hidden			3200
Asteraceae	<i>Leontopodium calocephalum</i>	radially symmetrical inflorescence	hidden			4100
Asteraceae	<i>Leontopodium sinense</i>	radially symmetrical inflorescence	hidden			2700
Asteraceae	<i>Ligularia alatipes</i>	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	2700
Asteraceae	<i>Ligularia alatipes</i>	radially symmetrical inflorescence	hidden			3400
Asteraceae	<i>Ligularia cymbulifera</i>	radially symmetrical inflorescence	hidden			3900
Asteraceae	<i>Ligularia vellerea</i>	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	3600
Asteraceae	<i>Parasenecio lidjiangensis</i>	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	3900
Asteraceae	<i>Saussurea ciliaris</i>	radially symmetrical inflorescence	hidden			4100
Asteraceae	<i>Saussurea leontodontoides</i>	radially symmetrical inflorescence	hidden			3900
Asteraceae	<i>Senecio laetus</i>	radially symmetrical inflorescence	hidden			2700
Asteraceae	<i>Senecio spathiphyllus</i>	radially symmetrical inflorescence	hidden		floral guide mimics anther colour	2700
Asteraceae	<i>Soroseris hookeriana</i>	radially symmetrical inflorescence	hidden		floral guide mimics anther colour	4100
Asteraceae	<i>Synalathium souliei</i>	radially symmetrical inflorescence	hidden			4100

Asteraceae	Tagetes erecta	radially symmetrical inflorescence	hidden			2700
Asteraceae	Tagetes patula	radially symmetrical inflorescence	hidden			2700
Asteraceae	Taraxacum borealisinense	radially symmetrical inflorescence	hidden		inflorescence mimics androeceum	3400
Asteraceae	Wedelia urticifolia	radially symmetrical inflorescence	hidden			2200 (Yaxi)
Astraceae	Cremanthodium smithianum	radially symmetrical inflorescence	hidden			4200
Juncaceae	Juncus gracilicaulis	radially symmetrical inflorescence	no nectar			3200
Balsaminaceae	Impatiens amplexicaulis	zygomorphic flower	hidden			3200
Balsaminaceae	Impatiens delavayi	zygomorphic flower	hidden		floral guide mimics anther colour	3200
Balsaminaceae	Impatiens desmantha	zygomorphic flower	hidden		floral guide mimics anther colour	3200
Balsaminaceae	Impatiens margaritifera	zygomorphic flower	hidden		floral guide mimics anther colour	4100
Balsaminaceae	Impatiens radiata	zygomorphic flower	hidden		floral guide mimics anther colour	3200
Balsaminaceae	Impatiens uliginosa	zygomorphic flower	hidden		floral guide mimics anther colour	2700
Bignoniaceae	Incarvillea lutea	zygomorphic flower	hidden		floral guide mimics anther colour	3200
Bignoniaceae	Incarvillea mairei	zygomorphic flower	hidden		floral guide mimics anther colour	3200
Caprifoliaceae	Abelia dielsii	zygomorphic flower	hidden			3200
Caprifoliaceae	Dipelta yunnanensis	zygomorphic flower	hidden		floral guide mimics anther colour	3200
Fabaceae	Astragalus camptodontus	zygomorphic flower	hidden		hidden pollen	2700
Fabaceae	Astragalus pullus	zygomorphic flower	hidden		hidden pollen	3400
Fabaceae	Cheseneya polystichoides	zygomorphic flower	hidden		hidden pollen	3400
Fabaceae	Crotalaria yunnanensis	zygomorphic flower	hidden		hidden pollen	2700
Fabaceae	Glycyrrhiza yunnanensis	zygomorphic flower	hidden		hidden pollen	2700
Fabaceae	Hylodesmum williamsii	zygomorphic flower	hidden		hidden pollen	3200
Fabaceae	Indigofera cf	zygomorphic flower	hidden		hidden pollen	4100
Fabaceae	Indigofera pendula	zygomorphic flower	hidden		hidden pollen	3200
Fabaceae	Lespedeza formosa	zygomorphic flower	hidden		hidden pollen	3200
Fabaceae	Lespedeza forrestii	zygomorphic flower	hidden		hidden pollen	3200
Fabaceae	Lotus corniculatus	zygomorphic flower	hidden		hidden pollen	2700
Fabaceae	Medicago lupulina	zygomorphic flower	hidden		hidden pollen	3200
Fabaceae	Oxytropis yunnanensis	zygomorphic flower	hidden		hidden pollen	4100
Fabaceae	Parochetus communis	zygomorphic flower	hidden		hidden pollen	2700



Fabaceae	Tibetia yunnanensis	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3200
Fabaceae	Trifolium repens cf	zygomorphic flower	hidden		hidden pollen	2700
Iridaceae	Iris tectorum	zygomorphic flower	hidden			3200
Lamiaceae	Ajuga forrestii	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Ajuga lupulina	zygomorphic flower	hidden		hidden pollen	3600
Lamiaceae	Clerodendrum yunnanense	zygomorphic flower	hidden		hidden pollen	2700
Lamiaceae	Clinopodium megalanthum	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Dracocephalum bullatum	zygomorphic flower	hidden		hidden pollen	4100
Lamiaceae	Eriophyton wallichii	zygomorphic flower	hidden		hidden pollen	4200
Lamiaceae	Galeopsis bifida	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3200
Lamiaceae	Isodon irroratus	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Isodon phyllopodus	zygomorphic flower	hidden		hidden pollen	2700
Lamiaceae	Leonurus japonicus	zygomorphic flower	hidden		hidden pollen	2700
Lamiaceae	Nepeta wilsonii	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Phlomis atropurpurea	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Phlomis likiangensis	zygomorphic flower	hidden		hidden pollen	3400
Lamiaceae	Phlomis melanantha	zygomorphic flower	hidden		hidden pollen	3400
Lamiaceae	Prunella hispida	zygomorphic flower	hidden		hidden pollen	2700
Lamiaceae	Salvia aerea	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Salvia digitaloides	zygomorphic flower	hidden		hidden pollen	3400
Lamiaceae	Salvia flava	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3600
Lamiaceae	Salvia trijuga	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Scutellaria amoena	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Scutellaria likiangensis	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Skapanthus oreophilus	zygomorphic flower	hidden		hidden pollen	3200
Lamiaceae	Stachys japonica Miq.	zygomorphic flower	hidden		hidden pollen	3200
Loranthaceae	Taxillus colourea	zygomorphic flower	hidden			3200
Loranthaceae	Taxillus delavayi	zygomorphic flower	hidden			3200
Orchidaceae	Gymnadenia conopsea	zygomorphic flower	hidden		hidden pollen	3600
Orchidaceae	Habenaria delavayi	zygomorphic flower	hidden		hidden pollen	2700

Orchidaceae	<i>Neottia megalochila</i>	zygomorphic flower	hidden		hidden pollen	3200 (Yunshanping)
Orchidaceae	<i>Neottianthe calcicola</i>	zygomorphic flower	hidden		hidden pollen	3600
Orchidaceae	<i>Pecteilis susannae</i>	zygomorphic flower	hidden		hidden pollen	2200 (Yaxi)
Orchidaceae	<i>Satyrium ciliatum</i>	zygomorphic flower	hidden		hidden pollen	3200
Orchidaceae	<i>Spiranthes sinensis</i>	zygomorphic flower	hidden		hidden pollen	3400
Orobanchaceae	<i>Boschniakia himalaica</i>	zygomorphic flower	hidden		hidden pollen	3200
Orobanchaceae	<i>Pedicularis comptoniaefolia</i>	zygomorphic flower	hidden		hidden pollen	3200
Orobanchaceae	<i>Pedicularis crenata</i>	zygomorphic flower	hidden		hidden pollen	2700
Orobanchaceae	<i>Pedicularis densispica</i>	zygomorphic flower	hidden		hidden pollen	3200
Orobanchaceae	<i>Pedicularis likiangensis</i>	zygomorphic flower	hidden		hidden pollen	4100
Orobanchaceae	<i>Pedicularis lutescens</i>	zygomorphic flower	hidden		hidden pollen	3200
Orobanchaceae	<i>Pedicularis rex</i>	zygomorphic flower	hidden		hidden pollen	2700
Orobanchaceae	<i>Phtheirospermum tenuisectum</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3200
Papaveraceae	<i>Corydalis calcicola</i>	zygomorphic flower	hidden		hidden pollen	3600
Papaveraceae	<i>Corydalis delavayi</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3600
Papaveraceae	<i>Corydalis gracillima</i> var. <i>microcalcarata</i>	zygomorphic flower	hidden		hidden pollen	3400
Papaveraceae	<i>Corydalis pachycentra</i>	zygomorphic flower	hidden		hidden pollen	3600
Papaveraceae	<i>Corydalis smithiana</i>	zygomorphic flower	hidden		hidden pollen	3200
Phrymaceae	<i>Mimulus bodinieri</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	2700
Ranunculaceae	<i>Aconitum stapfianum</i>	zygomorphic flower	hidden			3200
Ranunculaceae	<i>Delphinium beesianum</i>	zygomorphic flower	hidden		hidden pollen	4100
Ranunculaceae	<i>Delphinium grandiflorum</i>	zygomorphic flower	hidden		hidden pollen	2700
Scrophulariaceae	<i>Scrophularia spicata</i>	zygomorphic flower	hidden			3200
Violaceae	<i>Viola biflora</i> var. <i>rockiana</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3900
Violaceae	<i>Viola confertifolia</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3600
Violaceae	<i>Viola delavayi</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	2700
Violaceae	<i>Viola philippica</i>	zygomorphic flower	hidden		hidden pollen	2700

Zingiberaceae	<i>Roscoea cauleoides</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3200
Zingiberaceae	<i>Roscoea schneideriana</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	2700
Zingiberaceae	<i>Roscoea tibetica</i>	zygomorphic flower	hidden		floral guide mimics anther colour and hidden pollen	3400
Araceae	<i>Arisaema franchetianum</i>	zygomorphic flower	hidden or no nectar			2700
Araceae	<i>Arisaema erubescens</i>	zygomorphic flower	hidden or no nectar			3200
Aristolochiaceae	<i>Aristolochia faucimaculata</i>	zygomorphic flower	hidden or no nectar			3200
Campanulaceae	<i>Lobelia sessilifolia</i>	zygomorphic flower	hidden or no nectar			2700
Orchidaceae	<i>Galearis spathulata</i>	zygomorphic flower	hidden or no nectar		hidden pollen	4100
Orobanchaceae	<i>Pedicularis dunniana</i>	zygomorphic flower	hidden or no nectar		hidden pollen	4100
Commelinaceae	<i>Commelina maculata</i>	zygomorphic flower	no nectar		staminodes mimic stamens	2700
Commelinaceae	<i>Murdannia divergens</i>	zygomorphic flower	no nectar		staminodes mimic stamens	2700
Commelinaceae	<i>Streptolirion volubile</i>	zygomorphic flower	no nectar		filmental hairs mimic pollen colour	3200
Orchidaceae	<i>Amitostigma basifoliatum</i>	zygomorphic flower	no nectar		hidden pollen	3200
Orchidaceae	<i>Cypripedium flavum</i>	zygomorphic flower	no nectar		hidden pollen	3200
Orchidaceae	<i>Cypripedium plectrochilum</i>	zygomorphic flower	no nectar		hidden pollen	3200
Orchidaceae	<i>Cypripedium tibeticum</i>	zygomorphic flower	no nectar		hidden pollen	3200
Orchidaceae	<i>Orchis chusua</i>	zygomorphic flower	no nectar		hidden pollen	3600
Orchidaceae	<i>Pleione scopulorum</i>	zygomorphic flower	no nectar		floral guide mimics anther colour and hidden pollen	3200
Orobanchaceae	<i>Pedicularis alopecuros</i>	zygomorphic flower	no nectar		hidden pollen	3200
Orobanchaceae	<i>Pedicularis cephalantha</i>	zygomorphic flower	no nectar		hidden pollen	3200
Orobanchaceae	<i>Pedicularis elwesii</i>	zygomorphic flower	no nectar		hidden pollen	3900
Orobanchaceae	<i>Pedicularis gracilis</i>	zygomorphic flower	no nectar		hidden pollen	3200
Orobanchaceae	<i>Pedicularis gruina</i>	zygomorphic flower	no nectar		hidden pollen	3200
Orobanchaceae	<i>Pedicularis integrifolia</i>	zygomorphic flower	no nectar		hidden pollen	3900
Orobanchaceae	<i>Pedicularis lachnoglossa</i>	zygomorphic flower	no nectar		hidden pollen	3900
Orobanchaceae	<i>Pedicularis rhodotricha</i>	zygomorphic flower	no nectar		hidden pollen	3900

Orobanchaceae	Pedicularis siphonantha	zygomorphic flower	no nectar		hidden pollen	4100
orobanchaceae	Pedicularis superba	zygomorphic flower	no nectar		hidden pollen	4100
Orobanchaceae	Pedicularis confertiflora	zygomorphic flower	no nectar		hidden pollen	4200
Ericaceae	Rhododendron fastigiatum	zygomorphic flower	potentially visible			3900
Scrophulariaceae	Verbascum thapsus	zygomorphic flower	potentially visible		filmental hairs mimic pollen colour	2700
Ericaceae	Rhododendron decorum	zygomorphic flower	visible		floral guide mimics anther colour	3200
Ericaceae	Rhododendron hippophaeoides cf	zygomorphic flower	visible			3200
Ericaceae	Rhododendron lepidotum	zygomorphic flower	visible			3200
Ericaceae	Rhododendron yunnanense	zygomorphic flower	visible		floral guide mimics anther colour	3200
Hydrangaceae	Philadelphus calvescens	zygomorphic flower	visible			3200
Liliaceae	Lilium taliense	zygomorphic flower	visible			3200
Liliaceae	Lloydia tibetica	zygomorphic flower	visible		floral guide mimics anther colour	3400
Liliaceae	Lloydia yunnanensis	zygomorphic flower	visible			3200
Liliaceae	Notholirion bulbuliferum	zygomorphic flower	visible			3600
Nartheciaceae	Aletris pauciflora var. khasiana	zygomorphic flower	visible			3200
Orchidaceae	Peristylus coeloceras	zygomorphic flower	visible		hidden pollen	3400
Orchidaceae	Peristylus forceps	zygomorphic flower	visible		hidden pollen	3200
Plantaginaceae	Veronica piroliformis	zygomorphic flower	visible			3200
Rosaceae	Agrimonia pilosa var. nepalensis	zygomorphic flower	visible			2700
Rosaceae	Fragaria vesca	zygomorphic flower	visible			2700
Rosaceae	Geum aleppicum	zygomorphic flower	visible		stigma mimics stamen	2700
Rosaceae	Rosa sericea	zygomorphic flower	visible		stigma mimics stamen	2700
Rosaceae	Rubus biflorus cf	zygomorphic flower	visible			2700
Rosaceae	Rubus fockeanus	zygomorphic flower	visible			3600
Rosaceae	Sanguisorba filiformis	zygomorphic flower	visible			2700
Rosaceae	Sanguisorba officinalis	zygomorphic flower	visible			2700
Rosaceae	Spiraea lichiangensis	zygomorphic flower	visible			greenhouse

**Table S2.** Summary of the results shown in Table S1 indication the number and percentage of species with features relevant in the context of nectar mimicry

<b>Category</b>	<b>No. of species</b>	<b>Percentage (%)</b>
species with radially symmetrical flowers	174	56.3
with glossy area	38	12.3
without glossy area	136	44.0
species with nectar visible/potentially visible	88	28.5
with glossy area	31	10.0
without glossy area	57	18.4
species with pollen-mimicking structure	75	24.3
species with glossy and with pollen-mimicking structure	17	5.5
species with hidden or no nectar	221	71.5
species with zygomorphic flowers	135	43.7
with glossy area	1	0.3
all species	309	100.0

**Table S3.** RGB-values of flowers in China from false colour photos as calculated in Irvan View (in bracts bee-visible range of wavelength)

\* indicates glossy area, adjacent area was used for calculations; Colour refers to the human-visible colour; (UV) refers to the ultraviolet reflecting (+) or UV-absorbing (-) properties

<b>Species</b>	<b>Family</b>	<b>Structure</b>	<b>Colour (UV)</b>	<b>red (green)</b>	<b>green (blue)</b>	<b>blue (UV)</b>
<i>Parnassia wightiana</i>	Celastraceae	staminode *	green (-)	66.82	10.38	168.07
		staminode, adjacent area	green (-)	63.89	0.32	31.83
		petal, middle	white (-)	117.89	89.93	24.47
<i>Saxifraga unguiculata</i>	Saxifragaceae	protuberance, petal *	yellow (-)	113.15	0.86	208.64
		petal, adjacent area	yellow (-)	115.25	0.16	69.21
		petal, middle	yellow (-)	127.71	0.26	70.65
<i>Saxifraga nigrograndulosa</i>	Saxifragaceae	protuberance, petal *	yellow (-)	243.3	11.27	240.73
		protuberance, adjacent area	yellow (-)	129.71	0.21	86.37
		petal, middle	yellow (-)	151.33	0.23	92.3
<i>Saxifraga diversifolia</i>	Saxifragaceae	protuberance on petal *	yellow (-)	108.55	0.52	200.59
		protuberance, adjacent area	yellow (-)	104.57	0.29	73.39
		petal, middle	yellow (-)	123.66	0.31	69.98
		nectary	yellow (-)	103.7	40.04	203.43
<i>Saxifraga melanocentra</i>	Saxifragaceae	disc *	black (-)	98.02	130.95	211.37
		margin of disc	black (-)	34.63	39.4	48.94
		petal, middle	white (-)	247.96	252.33	30.53
<i>Codonopsis graminifolia</i>	Campanulaceae	basis of petal *	black (-)	93.57	110.16	212.5
		basis of petal, adjacent area	black (-)	6.96	13.63	40.56
		petal, middle	blue (+)	87.41	173.05	234.38
<i>Saxifraga signata</i>		protuberance on petal *	yellow (-)	231.82	140.64	230.61
		petal, middle	yellow (-)	180.8	54.13	82.46
<i>Anaphalis nepalensis</i>	Asteraceae	petal, base *	white (-)	159.48	160.61	254.41
		petal, tip	white (-)	96.17	77.72	82.48

<i>Trollius yunnanensis</i>	Ranunculaceae	staminode *		137.84	18.08	228.76
		staminode, adjacent area		107.53	0	109.38
<i>Parnassia delavayi</i>	Celeastraceae	staminode *	green (-)	18.54	0.96	242.94
		staminode, adjacent area	green (-)	14.84	0.22	72.98
		petal middle	white (-)	127.07	137.06	178.17
<i>Parnassia yunnanensis</i>	Celeastraceae	staminode *	green (-)	53.06	30.06	198.79
		staminode, adjacent area	green (-)	23.83	0.01	26.66
		petal middle	green (-)	141.58	70.26	173.4
<i>Potentilla lancinata</i> cf	Rosaceae	protuberance *	yellow (-)	52.05	2.21	228.28
		protuberance, adjacent area	yellow (-)	51.02	0.68	35.42
		petal, base	yellow (-)	78.97	0.29	29.49

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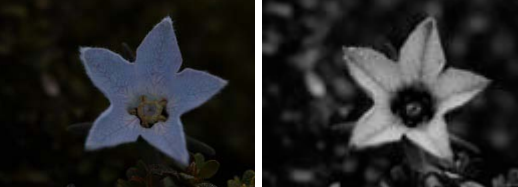
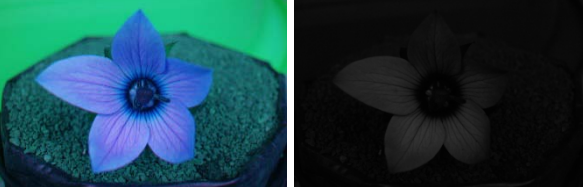

**Table S4.** RGB-values of flowers in Germany, Switzerland and Australia from false colour photos in Irvan View (in bracts bee-visible range of wavelength)












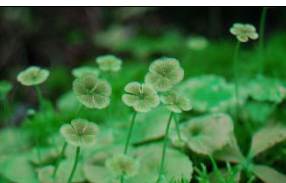



\* indicates glossy area, adjacent area was used for calculations; Colour refers to the human-visible colour; (UV) refers to the ultraviolet reflecting (+) or UV-absorbing (-) properties













<b>Species</b>	<b>Family</b>	<b>Structure</b>	<b>Colour (UV)</b>	<b>red (green)</b>	<b>green (blue)</b>	<b>blue (UV)</b>
<i>Saxifraga stolonifera</i>	Saxifragaceae	disc *	yellow (-)	111.45	0.65	247.99
		disc, adjacent area	yellow(-)	101.4	0.55	69.23
		petal, downward	white (-)	170.36	174.96	239.7
<i>Rudbeckia fuliginosa</i>	Asteraceae	anthers *	black (-)	85.98	93.63	238.26
		anthers, adjacent area	black (-)	16.89	7.88	58.79
		petal, base	yellow (-)	243.69	5.13	107.07
<i>Tulipa gesneriana</i>	Liliaceae	petal, base *	black (-)	119.02	126.78	176.57
		petal, base adjacent	black (-)	30.11	35.24	54.42
		petal middle	red (-)	27.85	30.28	45.2
<i>Massonia pustulata</i>	Asparagaceae	nectar *	black (-)	38.52	28.96	139.54
		nectar, adjacent	black (-)	41.34	32.01	19.29
		filament	white +	181.17	177.33	10.27
<i>Parnassia palustris</i>	Celastraceae	staminode, head *	yellow (-)	92.93	30.4	142.8
		staminode, adjacent area	yellow (-)	57.5	11.58	14
		petal		134.05	119.79	21.48
<i>Solanum dulcamara</i>	Solanaceae	floral guide *	green (-)	163.88	152.16	133.02
		floral guide, adjacent area	green (-)	142.2	89.99	36.35
		petal	pink +	112.43	143.69	66.83
<i>Anemone coronaria</i>	Ranunculaceae	petal, base *	white (-)	216.83	225.38	104.44
		petal, base, adjacent	white (-)	182.17	191.58	18.22
		petal, middle	red (-)	41.73	0.38	14.23
<i>Swainsonia formosa</i>	Fabaceae	bulb *	black (-)	230.75	241.51	218.32
		bulb, adjacent	black (-)	12.72	24.61	24.83
		corolla	red (-)	17.55	20.37	8.3







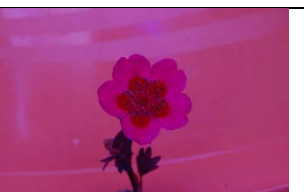


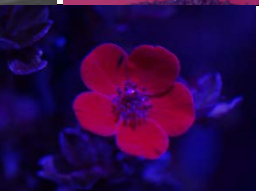




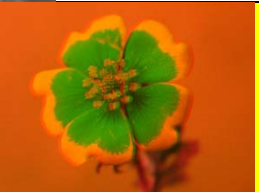














**Table S5.** Species with glossy structures in the Hengduan mountains. Species, from which quantitative measurements were taken are highlighted in yellow. Remarks explain the reasons why from some species were excluded.








SPECIES (FAMILY)	VISIBLE NECTAR & GLOSSY STRUCTURE	REMARKS	COLOUR PHOTO / UV-PHOTO / FALSE COLOUR PHOTO
Anaphalis chlamydophylla (Asteraceae)	glossy floral guide with hidden nectar	photos taken without sunshine, inflorescences only open in full sunshine, evidence for glossy structures from personal observation	
Anaphalis nepalensis (Asteraceae)	glossy floral guide with hidden nectar	quantitative data collected	Photos see Fig. 1g-i
Anaphalis yunnanensis cf (Asteraceae)	glossy floral guide with hidden nectar	photos taken with a different camera system, photos of insufficient quality, evidence for glossy structures from personal observation	
Codonopsis bulleyana (Campanulaceae)	radially symmetrical flower with visible nectar, glossy basal part of petal	photos taken without sunshine, evidence for glossy structures from personal observation	
Codonopsis convolvulacea (Campanulaceae)	radially symmetrical flower with visible nectar, glossy basal part of petal	photos taken without sunshine and different camera system	
Codonopsis graminifolia (Campanulaceae)	radially symmetrical flower with visible nectar, glossy basal part of petal	quantitative data collected	Photos see Fig. 1m-o
Cyananthus formosus (Campanulaceae)	glossy part of petal with hidden nectar	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation	

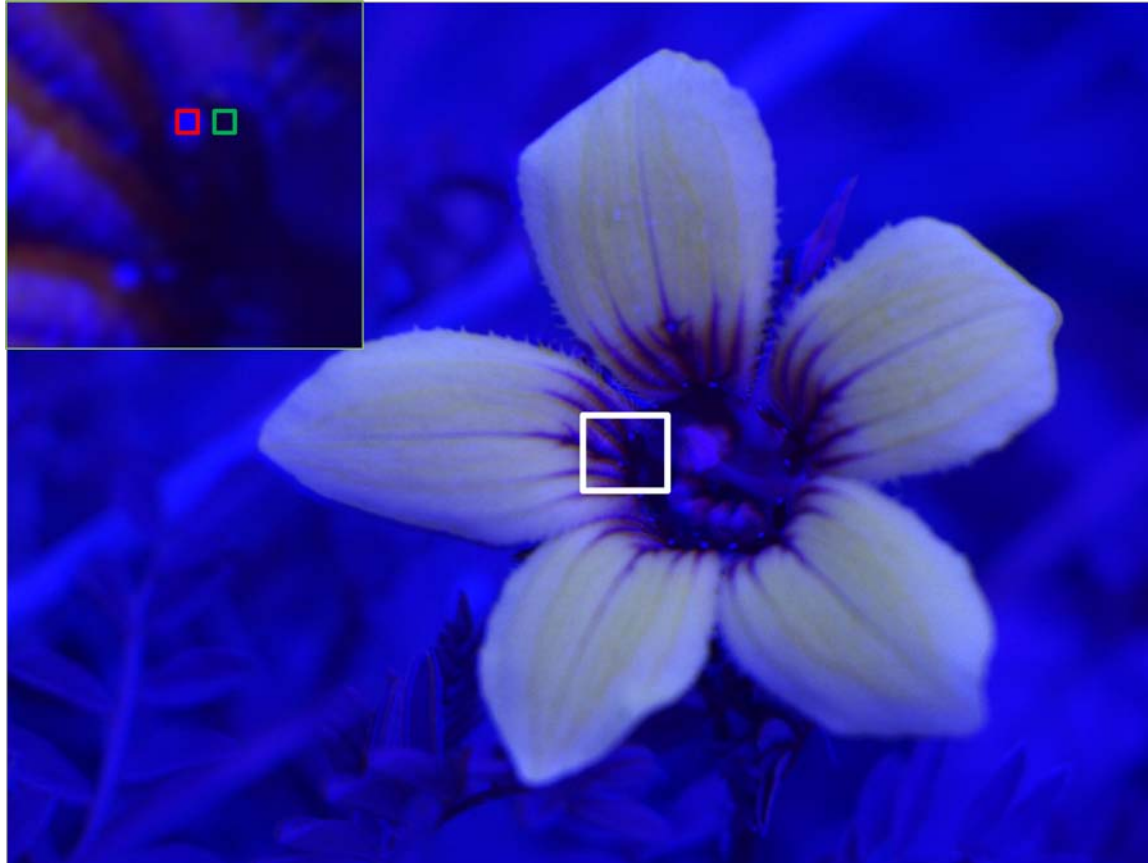
Cyananthus longiflorus (Campanulaceae)	glossy part of petal with hidden nectar	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation				
Cyananthus hookeri (Campanulaceae)	glossy part of petal with hidden nectar	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation				
Parnassia delavayi (Celastraceae)	glossy staminodes, nectar visible	quantitative data collected				
Parnassia mysorensis (Celastraceae)	glossy staminodes, visible	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation				
Parnassia tenella (Celastraceae)	glossy staminodes, nectar visible	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation				
Parnassia wightiana (Celastraceae)	glossy staminodes, nectar visible	quantitative data collected	Photos see Fig. 1j-l			
Parnassia yunnanensis (Celastraceae)	glossy staminodes, nectar visible	quantitative data collected				

Geranium delavayi (Erodaceae)	radially symmetrical flower with visible nectar, glossy basal part of petals and sepals	photos taken without sunshine, evidence for glossy structures on petal and sepals from personal observation			
Geranium strictipes (Erodaceae)	radially symmetrical flower with visible nectar, glossy basal part of petals and sepals	photos taken without sunshine, evidence for glossy structures on petals and sepals from personal observation			
Swertia cincta (Gentianaceae)	radially symmetrical flower with visible nectar, glossy basal part of petal	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			
Swertia macrosperma (Gentianaceae)	radially symmetrical flower with visible nectar, glossy basal part of petal	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation,			
Swertia punicea (Gentianaceae)	radially symmetrical flower with visible nectar, glossy basal part of petal	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			
Trollius yunnanensis (Ranunculaceae)	glossy staminodes, no nectar	quantitative data collected	Photos see Fig. 1p-r		
Potentilla anserina (Rosaceae)	radially symmetrical flower with visible nectar, glossy central structures and glossy sepals	photos taken without sunshine, evidence for glossy structures in center and on sepals from personal observation			

Potentilla articulata (Rosaceae)	radially symmetrical flower with visible nectar, glossy central structures and glossy sepals	photos taken with different camera system, evidence for glossy structures in center and on sepals from personal observation			
Potentilla coriandrifolia (Rosaceae)	radially symmetrical flower with visible nectar, glossy central structures and glossy sepals	photos taken without sunshine and different camera system, evidence for glossy structures in center and on sepals in center and on sepals from personal observation			
Potentilla eriocarpa (Rosaceae)	radially symmetrical flower with visible nectar, glossy central structures and glossy sepals	photos of insufficient quality, evidence for glossy structures in center and on sepals from personal observation			
Potentilla fruticosa (Rosaceae)	radially symmetrical flower with visible nectar, glossy central structures and glossy sepals	photos taken with different camera system, evidence for glossy structures in center and on sepals from personal observation			
Potentilla glabra (Rosaceae)	radially symmetrical flower with visible nectar, glossy central structures and glossy sepals	photos taken with different camera system, evidence for glossy structures in center and on sepals from personal observation			
Potentilla lancinata cf (Rosaceae)	radially symmetrical flower with visible nectar, glossy central structures and glossy sepals	quantitative data collected			
Potentilla peduncularis var. curta (Rosaceae)	radially symmetrical flower with visible nectar, glossy central structures and glossy sepals	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			

Saxifraga melanocentra (Saxifragaceae)	radially symmetrical flower with visible nectar, glossy disc	quantitative data collected	Photos see Fig. 1a-c		
Saxifraga rufescens (Saxifragaceae)	zygomorphic flower with visible nectar, glossy disc	photos taken without sunshine, evidence for glossy structures from personal observation			
Saxifraga aristulata (Saxifragaceae)	glossy protuberances, nectar visible	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			
Saxifraga diversifolia, (Saxifragaceae)	glossy protuberances, nectar visible	quantitative data collected	Photos see Fig. 2d-f		
Saxifraga filicaulis (Saxifragaceae)	glossy protuberances, nectar visible	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			
Saxifraga gemmipara (Saxifragaceae)	glossy protuberances, nectar visible	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			
Saxifraga hispidula (Saxifragaceae)	glossy protuberances, nectar visible	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			
Saxifraga nigroglandulosa (Saxifragaceae)	glossy protuberances, nectar visible	quantitative data collected	Photos see Fig. 2g-i		

Saxifraga strigosa (Saxifragaceae)	glossy protuberances, nectar visible	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			
Saxifraga wallichiana (Saxifragaceae)	glossy protuberances, nectar visible	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			
Saxifraga signata (Saxifragaceae)	glossy protuberances, nectar visible	quantitative data collected	Photos see Fig. 1d-f		
Saxifraga unguiculata (Saxifragaceae)	glossy protuberances, nectar visible	quantitative data collected	Photos see Fig. 2a-c		
Nicandra physalodes (Solanaceae)	radially symmetrical flower with no nectar	photos taken without sunshine and different camera system, evidence for glossy structures from personal observation			



**Fig. S1.** Example of *Parnassia delavayi* for quantification of the difference in the reflection in the ultraviolet, blue, and green ranges of wavelengths was quantified using IrfanView image's histogram (free from [www.irfanview.com](http://www.irfanview.com)). Enlarged area of the false color picture used for the measurements (white). Inset: Uniformly coloured, glossy area (red) and adjacent, non-glossy area of the same structure (green) were measured in the same way.



**Fig. S2.** Example of *Codonopsis graminifolia* showing that the gloss of the concave structures in the dark basal part of the petals is strictly dependent of the angle of the flower and the sun. Note the shadow on the fingers in order to estimate the position in relation to the sun.