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## Exhibition checklist

### *Worlds Within*

22 September–15 December 2017

Rob Kessler (1951–)

*Blastophaga psenes*, female fig wasp and *Ficus villosa*, Villous fig [*Blastophaga psenes* Linnaeus, Agaonidae; *Ficus villosa* Blume, Moraceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2008, for his and Wolfgang Stuppy, *Fruit: Edible, Inedible, Incredible* (London, Papadakis, 2013), on loan from the artist. This section through the young fruit of the common fig (length, 1.7 mm) shows the syconium, an inflorescence, which after pollination by the female fig wasp matures into the fruit (diameter, 1.2 cm).

C. Müller (fl.ca.1874–1911)

[Floral anatomy and morphology of *Aristolochia clematitis* Linnaeus, Aristolochiaceae], color lithograph, 81.5 × 66 cm, after an original by C. Müller (fl.ca.1874–1911) for Carl Ignaz Leopold Kny (1841–1916), *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 92), HI Art accession no. 6699.085.

Rob Kessler (1951–)

*Galium aparine*, Goosegrass [*Galium aparine* Linnaeus, Rubiaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2010, on loan from the artist. This transverse stem section of a detail of trichome hair is stained with Toluidine Blue O (polarized LM 400× magnification).

Carl Ignaz Leopold Kny (1841–1916)

[Demonstrating in Angiosperm the morphology and anatomy of trichome in 1. *Primula* Linnaeus, Primulaceae; 2. *Rubia tinctorum* Linnaeus, Rubiaceae; 3–5. *Urtica urens* Linnaeus, Urticaceae; 6. *Viola altaica* Ker Gawler, Violaceae; 7. *Antirrhinum majus* Linnaeus, Scrophulariaceae], color lithograph by W. A. Meyn (fl.1874–1911), 81.5 × 66 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) for his *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 6), HI Art accession no. 6699.006.

Rob Kessler (1951–)

*Chrysanthemum coronarium*, Corn marigold [*Chrysanthemum coronarium* Linnaeus, Asteraceae alt. Compositae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2010, on loan from the artist. This transverse stem section is stained with Toluidine Blue O (LM 400× magnification).

Carl Ignaz Leopold Kny (1841–1916) and W. Zopf (fl.ca.1874–1911)

[Petiole of *Polypodium vulgare* Linnaeus, Polypodiaceae], color lithograph by W. A. Meyn (fl.1874–1911), 66 × 81.5 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) and W. Zopf (fl.ca.1874–1911) for Kny, *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 14), HI Art accession no. 6699.014.

Rob Kessler (1951–)

*Dryopteris filix-mas*, male fern [*Dryopteris filix-mas* (Linnaeus) Schott, Dryopteridaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2017, on loan from the artist. This close-up of a sorus shows a dehisced sporangia around the shriveled indusium (sporangium diameter, approximately .02 mm).

Th. Waage (fl.ca.1874–1911)

[Section through a fern frond showing details of a sorus of *Aspidium filix-mas* (Linnaeus) Swartz, Tectariaceae], color lithograph by W. A. Meyn (fl.1874–1911), 66 × 81.5 cm, after an original by Th. Waage (fl.ca.1874–1911) for Carl Ignaz Leopold Kny (1841–1916), *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 93), HI Art accession no. 6699.086.

Rob Kessler (1951–)

*Quercus robur*, English oak [*Quercus robur* Linnaeus, Fagaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2009, on loan from the artist. This section shows tyloses of parenchyma cells into xylem vessels of secondary heartwood (110× magnification).

Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911)

[Periderm of *Quercus petraea* (Mattuschka) Lieblein, Fagaceae], color lithograph by von Laue (fl.1874–1911), 66 × 81.5 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911) for Kny, *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 60), HI Art accession no. 6699.060.

Rob Kessler (1951–)

*Citrus hystrix*, Kaffir lime [*Citrus hystrix* de Candolle, Rutaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2008, for his and Wolfgang Stuppy, *Fruit: Edible, Inedible, Incredible* (London, Papadakis, 2013), on loan from the artist. The longitudinal section through the flower bud reveals the attachment of the ovules in the center of the ovary (diameter of bud, 5.8 mm).

Carl Ignaz Leopold Kny (1841–1916)

[Longitudinal section of the ovule in *Viola tricolor* Linnaeus, Violaceae], lithograph by W. A. Meyn (fl.1874–1911), 81.5 × 66 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) for his *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 20), HI Art accession no. 6699.020.

Rob Kessler (1951–)

*Ophrys tenthredinifera*, Sawfly orchid [*Ophrys tenthredinifera* Willdenow, Orchidaceae], hand-colored micrograph on silk by Rob Kessler (1951–), 2010, on loan from the artist. This detail of a transverse stem section is stained with Toluidine Blue O (LM 400× magnification).

Rob Kessler (1951–)

*Ophrys tenthredinifera*, Sawfly orchid [*Ophrys tenthredinifera* Willdenow, Orchidaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2010, on loan from the artist. This detail of a transverse stem section is stained with Toluidine Blue O (LM 400× magnification).

Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911)

[Vascular tissue in root of *Musa × sapientum* Linnaeus, Musaceae], color lithograph by von Laue (fl.1874–1911), 81.5 × 66 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911) for Kny, *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 55), HI Art accession no. 6699.055.

Rob Kessler (1951–)

*Anemone pavonina*, Peacock anemone [*Anemone pavonina* Lamarck, Ranunculaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2016, on loan from the artist. This shows an anther with pollen grains (anther, 180× magnification; pollen grain, 2.5K× magnification).

Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911)

[Floral morphology of *Lythrum salicaria* Linnaeus, Lythraceae], color lithograph by W. A. Meyn (fl.1874–1911), 81.5 × 66 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911) for Kny, *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 40), HI Art accession no. 6699.040.

Rob Kessler (1951–)

*Viburnum opulus*, Guelder rose [*Viburnum opulus* Linnaeus, Caprifoliaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2008, on loan from the artist. This detail of a leaf shows stellate hairs (110× magnification).

Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911)

[Stellate hairs and sclereids (support cells) 1. *Humulus lupulus* Linnaeus,

Cannabaceae; 2. *Deutzia scabra* Thunberg, Hydrangeaceae; 3. *Nuphar lutea* (Linnaeus) Smith, Nymphaeaceae], color lithograph by W. A. Meyn (fl.1874–1911), 81.5 × 66 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911) for Kny, *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 7), HI Art accession no. 6699.007.

Rob Kessler (1951–)

*Sphagnum palustre* [*Sphagnum palustre*, Linnaeus, Sphagnaceae], hand-colored micrograph on silk by Rob Kessler (1951–), 2015, on loan from the artist. This detail of a leaf is stained with Safranin O (LM 400× magnification).

Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939)  
*Dinamoeba mirabilis* (250× magnification), framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

*Amoeba proteus* (270× magnification), framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

*Stylobyron petiolatum* (3000× magnification), framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

*Ouramoeba vorax* (200× magnification), framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

*Oikomonas steini* (600× magnification), framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

*Tympanidium foliosum*, framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

Edwin H. Reiber (1881–1967)

*Dorcadospyrus*, Protozoan skeleton, glacite model by Edwin H. Reiber (1881–1967), ca.1939, on loan from the Carnegie Museum of Natural History.

Desmid, green floating algae, glacite model by Edwin H. Reiber (1881–1967), ca.1939, on loan from the Carnegie Museum of Natural History.

The following items were included in the exhibition held at the Miller Gallery at Carnegie Mellon University, 23 September–12 November 2017.

Rob Kessler (1951–)

*Allium neapolitanum*, Naples garlic [*Allium neapolitanum* Cirillo, Amaryllidaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), on loan from the artist. This transverse stem section is stained with Toluidine Blue O (LM ×400 magnification).

Carl Ignaz Leopold Kny (1841–1916)

[Sporangium of *Eurotium* Link ex E. M. Fries, Trichocomaceae], color lithograph by von Laue (fl.1874–1911), 81.5 × 66 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) for his *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 33), HI Art accession no. 6699.033, on loan from Hunt Institute for Botanical Documentation.

Rob Kessler (1951–)

*Helleborus viridis*, Green hellebore [*Helleborus viridis*, Ranunculaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2017, on loan from the artist. This shows a petal stomatal cell (SEM 800× magnification).

Carl Ignaz Leopold Kny (1841–1916)

[Guard cells and stomata of *Thymus serpyllum* Linnaeus, Lamiaceae alt. Labiatae], color lithograph by W. A. Meyn (fl.1874–1911), 81.5 × 66 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) for his *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 13), HI Art accession no. 6699.013, on loan from Hunt Institute for Botanical Documentation.

Rob Kessler (1951–)

*Ocimum basilicum*, Sweet basil [*Ocimum basilicum* Linnaeus, Lamiaceae], hand-colored micrograph on canvas by Rob Kessler (1951–), 2009, for his and Wolfgang Stuppy, *Fruit: Edible, Inedible, Incredible* (London, Papadakis, 2013), on loan from the artist. This glandular hair contains aromatic oils (SEM 300× magnification).

Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911)

[Structure and development of glandular hairs in *Lupinus* Linnaeus, Fabaceae alt. Leguminosae], color lithograph by E. Laue (fl.1874–1911), 81.5 × 66 cm, after an original by Carl Ignaz Leopold Kny (1841–1916) and C. Müller (fl.ca.1874–1911) for Kny, *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 91), HI Art accession no. 6699.084, on loan from Hunt Institute for Botanical Documentation.

Rob Kessler (1951–)

Grass pollen grains, Poaceae, on the fibers of a car filter (SEM 1000× magnification), hand-colored micrograph on canvas by Rob Kessler (1951–), 2008, on loan from the artist.

W. Zopf (fl.ca.1874–1911)

[Fungal development in *Claviceps purpurea* (Fries) Tulasne, Clavicipitaceae], color lithograph by W. A. Meyn (fl.1874–1911), 81.5 × 66 cm, after an original by W. Zopf (fl.ca.1874–1911) for Carl Ignaz Leopold Kny (1841–1916), *Botanische Wandtafeln* (Berlin, Paul Parey, 1874–1911, pl. 43), HI Art accession no. 6699.043, on loan from Hunt Institute for Botanical Documentation.

Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939)

*Nebella collaris* (500× magnification), framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

*Deltomonas cyclosum* (3000× magnification), framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

*Diffflugia spiralis* (420× magnification), framework glass model by Leopold Blaschka (1822–1895) and Rudolf Blaschka (1857–1939), ca.1863–1890, on loan from the Carnegie Museum of Natural History.

Edwin H. Reiber (1881–1967)

*Rhizopus*, bread mold, glacite model by Edwin H. Reiber (1881–1967), ca.1939, on loan from the Carnegie Museum of Natural History.

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