Package: PUPMCR (via r-universe)

October 11, 2026

Title Image-Based Identification of Color Based on Rayner (1970) Terminology and Known Fungal Pigments

Version 0.2.0

Description Image-based color matching using the ``Mycological Colour Chart'' by Rayner (1970, ISBN:9780851980263) and its associated fungal pigments. This package will assist mycologists in identifying color during morphological analysis.

License GPL-2

Encoding UTF-8

Imports colordistance, readxl

RoxygenNote 7.2.3

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NeedsCompilation no

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Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

Config/pak/sysreqs cmake make libicu-dev libjpeg-dev libpng-dev libuv1-dev libssl-dev

Repository https://chesterdeocaris.r-universe.dev

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`fungalpigments.LAB` *fungalpigments.LAB*

Description

Generates results for associated fungal pigments / class of compounds based on the CIELAB color matches

Usage

```
fungalpigments.LAB(fungi, distance.method = "euclidean")
```

Arguments

`fungi`	Image of fungi in transparent background
`distance.method`	Metrics for color-matching ("euclidean", or "chisq")

Value

Fungal pigments, 3D LAB plot, color histogram

Author(s)

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References

Rayner, R. (1970, ISBN:9780851980263). Mycological Colour Chart. UK: Commonwealth Mycological Insitute and British Mycological Society.

Conlan, X. A., Kalra. R., and Goel M. (2020) <doi:10.3389/fchem.2020.00369> Fungi as a Potential Source of Pigments: Harnessing Filamentous Fungi. Front. Chem, 8:369.

Cejpek, K. and Valisek, J. (2011) <doi:10.17221/524/2010-cjfs> Pigments of Higher Fungi: A review. Czech J. Food Sci., 29:87-102.

Examples

```
fungalpigments.LAB(system.file("fungi.png", package = "PUPMCR"))
## Not run: fungalpigments.LAB("fungi_image_format")
```

`fungalpigments.RGB` *fungalpigments.RGB*

Description

Generates results for associated fungal pigments / class of compounds based on the RGB color matches

Usage

```
fungalpigments.RGB(fungi, distance.method = "euclidean")
```

Arguments

`fungi`	Image of fungi in transparent background
`distance.method`	Metrics for color-matching ("euclidean", or "chisq")

Value

Fungal pigments, 3D RGB plot, color histogram

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Examples

```
fungalpigments.RGB(system.file("fungi.png", package = "PUPMCR"))
## Not run: fungalpigments.RGB("fungi_image_format")
```

hue.LAB *hue.LAB*

Description

Generates results for hue groups based on the CIELAB color matches

Usage

```
hue.LAB(fungi, distance.method = "euclidean")
```

Arguments

`fungi`	Image of fungi in transparent background
`distance.method`	Metrics for color-matching ("euclidean", or "chisq")

Value

Hue groups, 3D LAB plot, color histogram

Author(s)

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Examples

```
hue.LAB(system.file("fungi.png", package = "PUPMCR"))
## Not run: hue.LAB("fungi_image_format")
```

hue.RGB *hue.RGB*

Description

Generates results for hue groups based on the RGB color matches

Usage

```
hue.RGB(fungi, distance.method = "euclidean")
```

Arguments

fungi	Image of fungi in transparent background
distance.method	Metrics for color-matching ("euclidean", or "chisq")

Value

Hue groups, 3D RGB plot, color histogram

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Examples

```
hue.RGB(system.file("fungi.png", package = "PUPMCR"))
## Not run: hue.RGB("fungi_image_format")
```

raynercolor.LAB *raynercolor.LAB*

Description

Generates results for color names from the CIELAB color space

Usage

```
raynercolor.LAB(fungi, distance.method = "euclidean")
```

Arguments

fungi	Image of fungi in transparent background
distance.method	Metrics for color-matching ("euclidean", or "chisq")

Value

Color names, 3D LAB plot, color histogram

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Examples

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## Not run: raynercolor.LAB("fungi_image_format")
```

raynercolor.RGB *raynercolor.RGB*

Description

Generates results for color names from the RGB color space

Usage

```
raynercolor.RGB(fungi, distance.method = "euclidean")
```

Arguments

fungi	Image of fungi in transparent background
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