

# Package ‘PUPMCR’

January 9, 2024

**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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**Repository** CRAN

**NeedsCompilation** no

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**Suggests** testthat (>= 3.0.0)

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fungalpigments.LAB     *fungalpigments.LAB*

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### 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)

Niña Rose E. Zapanta  
Jericho Ivan Pineda  
Rhenz Hannah R. Santos  
Lourdes V. Alvarez  
Chester C. Deocaris

### 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

## Author(s)

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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**

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

**Value**

Hue groups, 3D LAB plot, color histogram

**Author(s)**

Niña Rose E. Zapanta  
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**References**

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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**

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

**Value**

Hue groups, 3D RGB plot, color histogram

**Author(s)**

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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

**Author(s)**

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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
distance.method	Metrics for color-matching ("euclidean", or "chisq")

**Value**

Color names, 3D RGB plot, color histogram

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