

This note, that [was found here](#), as a part of [a collection](#) is written (completely with human hands) by [Rupadarshi Ray](#), was created on April 21, 2026 1:11:39 AM, was last modified on August 29, 2026 5:08:03 PM, and was exported on September 7, 2026 3:10:02 PM.

Hurwitz scheme, the moduli of simple ramified covers

[1]

Let X be a compact Riemann surface.

Definition.

$$H_d(X,b) := \left\{ \text{ramified cover } \Sigma \xrightarrow{d} X \text{ with } b \text{ branch points} \right\}_{\cong}$$

There is a natural map

Definition.

$$\delta : H_d(X,b) \rightarrow \mathbf{Ord}^b X$$

There is a natural topology on

Definition.

$$H_d(X,b) := \left\{ \text{ramified cover } \Sigma \xrightarrow{d} X \text{ with } b \text{ branch points} \right\}_{\cong}$$

such that

Definition.

$$\delta : H_d(X,b) \rightarrow \mathbf{Ord}^b X$$

is a covering map.

Current note has 0 direct children and 0 total descendants.

- stem
 - Objects stemming from $\mathbb{R}$ -spaces of dimension 2
 - Riemann surfaces
 - Hurwitz scheme

And it has 16 siblings.

- stem
 - Objects stemming from $\mathbb{R}$ -spaces of dimension 2
 - Riemann surfaces
 - Vector bundles on complex 1-manifolds
 - Classification of complex 1-manifold
 - Riemann's existence of holomorphic maps between compact Riemann surfaces
 - Divisors on compact Riemann surfaces
 - Fluid
 - Meromorphic differentials on Riemann surfaces
 - Holomorphic functions on a complex 1-manifold
 - Holomorphic maps of type $0 \xrightarrow{3} 0$
 - Rational maps
 - Hurwitz scheme
 - Moduli space of $\mathbb{C}$ -manifolds
 - Meromorphic functions on a Riemann surface
 - Normalization of plane projective $\mathbb{C}$ -curves and Riemann surfaces
 - Riemann surfaces defined over a number field
 - Hyperelliptic Riemann surfaces
 - Riemann surfaces with a holomorphic 1-form

1. <https://people.math.harvard.edu/~rcass/MinorThesisHurwitzSchemes.pdf> <->