

## Riches Ready in Red Rio Tinto 红酒河：西班牙的怪河奇景

The [Rio Tinto](#) is an unusual 100-kilometer river which runs from the [Sierra Morena](#) mountains of [Andalusia](#) into the [Gulf of Cadiz](#) on the southwestern coast of Spain. What makes it so **unique** is its deep red water. In Spanish, the name Rio Tinto **literally** means red or **stained** river.

西班牙红酒河全长 100 公里，是一条奇特的河流，从安达鲁西亚的莫雷娜山脉一路蜿蜒至西班牙西南部加的兹湾。它独特之处就在其深红色的河水。西班牙语中，「Rio Tinto」字面上的意思就是红色或被染色的河。

For the past 5,000 years, the Rio Tinto has provided **civilizations** with precious metals. The river bed has an **abundance** of elements, such as gold, silver, **copper**, **sulfur**, and iron. It **played a key role in** providing the minerals which made the Copper and [Bronze Ages](#) possible. In addition, it is believed some of the first Roman coins were made from silver and gold taken from the Rio Tinto.

过去 5 千年来，红酒河提供文明社会许多贵重的金属。这条河的河床有蕴藏量甚丰的金属元素，如金、银、铜、硫与铁。红酒河在铜器与青铜时代扮演重要角色，因它提供了这两个时期所需的矿物。此外，部分第一批的罗马钱币据信是从河中的银与金矿里提炼出来。

The river dark red color is a result of these **mining** activities. The mining process **exposes sulfide** minerals, such as [pyrite](#), to air and water which transforms sulfide into [sulfuric acid](#). This sulfuric acid then **oxidizes** iron in the river, producing the red **sediment** which has **dyed** the river red.

深红色的河水是采矿活动的结果。挖矿的过程使黄铁矿之类的硫化矿物质暴露在空气与水之中，这使硫化物转变成硫酸。硫酸接着氧化河中的铁矿，产生将河水染成红色的红色沉积物。

In addition to its economic value, the Rio Tinto has also proved helpful to the scientific community. Researchers have been able to **observe** how several strange **organisms** survive in its waters. Since the river is highly **acidic**, it is unfit for most forms of life. Yet some **microbes**, called [extremophiles](#), are able to survive and thrive in this harsh environment by **feasting on** sulfide minerals. Recently, NASA (National **Aeronautics** and Space Administration) scientists used the river to try and **replicate** what rivers might have been like on Mars. Perhaps the red waters of the Rio Tinto will aid scientists in determining whether life really can exist on the red planet.

除了经济价值外，红酒河也证实能对科学领域方面有所帮助。科学家已能够观察到一些奇怪的有机体如何在河中存活。因为此河酸性极高，所以不适合大多数生物生存。但有种称为「极端微生物」的微生物，能够藉由食用硫化矿物质，在如此严酷的环境下生存并繁衍。美国国家航空暨太空总署的科学家最近试着藉红酒河来仿造火星上的河流样貌。红酒河可能在未来帮助科学家查明生命是否可在火星上存活。

— by Jamie Blackler

## Vocabulary

**unique** [ju `nik] adj. 独一无二的；独特的

**literally** [ `lɪtərəli] adv. 按照字面上地

**stained** [stend] adj. 着色的

**civilization** [ ,sɪv!ə `zəʃən] n. 文明；文明阶段；文明世界

**abundance** [ə `bʌndəns] n. 充裕，丰富

**play a key role in** 具有关键角色

**mine** [maɪn] v. 开矿

**expose** [ɪk `spoz] v. 显露，暴露

**sediment** [ `sɛdəmənt] n. 沉积物

**dye** [daɪ] v. 把.....染上颜色

**observe** [əb `zɜ:v] v. 观察，观测

**feast on:** 尽情欣赏(或享受) to eat a great deal of something; to eat a feast built around something in particular

**replicate** [ `rɛplɪ ,ket] v. 复制

## More Information

**copper** [ `kɒpə] n. 铜

**sulfur** [ `sʌlfə] n. 硫(磺)

**sulfide** [ `sʌlfaid] n. 硫化物

**pyrite** [ `paɪraɪt] n. 黄铁矿

**sulfuric** [sʌl `fjʊrɪk] **acid** n. 硫酸

**oxidize** [ `ɒksə ,daɪz] v. 氧化；生锈

**organism** [ `ɔrgən ,ɪzəm] n. 生物，有机体

**acidic** [ə `sɪdɪk] adj. 酸性的

**microbe** [ `maɪkrɒb] n. 微生物

**extremophile** [ɪks'trɪmɒfaɪl] n. 生活在各种极端恶劣环境下的微生物

**aeronautics** [ ,ɛrə `nɒtɪks] n. 航空学[术]