

been variously altered into **Ras Alhagas**, **Ras Alhagus**, **Rasalange**, **Ras al Hangu**, **Rasalangu**, **Ras Alaghue**, **Rasalhagh**, **Alhague**, and **Alangu**. The occasional **Azalange** has been traced to the Turkish title for the constellation; but "a universal star-name from that nation does not seem probable," and it is more likely that the Turks adopted and altered the Arabic. **Ras al Hayro** also has been seen for the star; and the *Century Cyclopedia* mentions **Hawwa** as rarely used.

Kazwini cited **Al Rā'i**, the Shepherd, from the early Arabs, which, although now a title for γ Cephei, may have come here from the adjacent **Raudah**, or Pasture; the near-by α Herculis, 6° to the west, being **Kalb al Rā'i**, the Shepherd's Dog; while neighboring stars, the present Club of Hercules, marked the Flock.

In China α was **How**, the Duke; and the small surrounding stars, **Hwan Chay**, a title duplicated at those in the hand.

Its spectrum is Sirian, and the star is receding from us about twelve miles a second. It culminates on the 28th of July.

β , 3.3, yellow.

Cebalrai, **Celbalrai**, and **Cheleb** are from **Kalb al Rā'i**. "The Heart of the Shepherd," which Brown gives as the meaning of his **Celabrai**, is erroneous, doubtless from confusion of the Arabic **Ḳalb**, Heart, and **Kalb**, Dog.

The star is 9° southeast of α , and 5° west of Taurus Poniatovii, the Polish Bull, now included in Ophiuchus.

γ , 4.3,

has been called **Muliphen**, but I cannot trace it here, although this title is famous in other parts of the sky.

β and γ were **Tsung Ching** in China.

γ Ophiuchi, east of β and γ in the stars of the Polish Bull, now discarded, is a most interesting binary system, with a period of about eighty-eight years. The component stars are of 4.1 and 6.1 magnitudes, yellow and purple in color, their distance varying from $1''.7$ to $6''.7$; in 1898 it was $2''.05$, and the position angle 280° . Its parallax, $0''.16$, indicates a distance of twenty light years, and certain irregularities in motion show that there may be an invisible companion.