# **Luristan Type 1 Iron Swords**

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First Iron Swords

# Science

### **New Pictures**

A large part of the "<u>Luristan Special</u>" link-hub module already covers the iron Luristan mask swords or Luristan type I swords as I call them here. So what's new?

Not much; I'm afraid. I have some new pictures, one new finding, and some new thoughts, that is all. Pictures first. By accident I found some pictures of a remarkable type I sword sold in 2003 by Hermann Historica in Munich and offered 2020 on Catawiki. It features remarkably well preserved figures on the pommel plate with a kind of "decoration" I haven't seen before:







Luristan type I sword with decorated heads on the pommel plate

- This may help to unravel the mystery of what the "animal" signifies that seems to grow out of the head. Once more, we see that the old Luristan smiths were fabulous masters of their trade.
- A very strange kind of mask sword appeared on the market in Sept 2021: An all-bronze sword. Here it is:



Arrtemission, the company that offered it for \$ 3.000.-, had nothing of interest to say ("Luristan bronze sword, ca. 1000 BC...). Here are some details:





If that sword is real, it would be sensational. However, the style of the "lions" and the heads is completely different from all that we know from Luristan. It neither bears any resemblance to the iron mask swords nor to the style of the master of animals. The sword is also suspiciously well preserved.

As long as its authenticity is not proven, I will consider it a modern fake, done by an artist who thought he could make those heads and animals far more natural than those old amateurs.

## **New Findings**

In 2020 I had access to a somewhat unusual Luristan iron mask sword (called type 1 here). That's what it looks like:

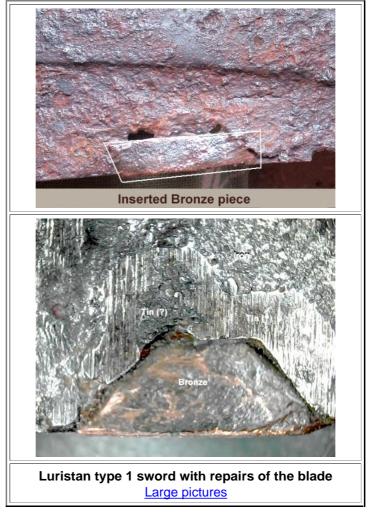


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### **Unusual Luristan type 1 sword**

Heavily corroded and not very remarkable on a first glance. On a second glance, however, you note that the blade is triangular, not a common feature of Luristan type 1 swords.

After some cleaning and looking more closely, you realize that two serious damages to the edge of the blade have been repaired by soldering (with pure tin?) a small piece of bronze into the gap. Here are pictures.



- The silvery metal around the bronze pieces (identified by its typical color) is very soft (easily pierced with a needle) and thus must be tin.
- It's a fake, of course. That's what every serious archaeologist would conclude. I'm not so sure, however. Here are my reasons:
  - 1. The sword itself is definitely genuine and not a fake. The only fake then can be the repair, possibly done by a modern craftsman trying to make the old sword look better.
  - 2. When I received the sword, it was covered with grime and rust;: see the topmost picture. The repairs were not visible and neither were the two big holes in the blade, see below and the small holes next to one bronze insert (whit arrows). All holes and the bronze inlays only became obvious after cleaning.



- 3. While it is possible that the forger artificially corroded and dirtied the sword after making the repair, it makes no sense whatsoever. Why didn't he fill up the holes too? And why making the appearance much worse by corrosion if his goal was to make the sword look better?
- 4. Now to the killer argument: If the two holes behind the bronze inlay were there originally, the then incomplete repair makes no sense at all. If they were produced by artificial corrosion after the repair, the whole process makes no sense at all once more.
- So let's assume that the repair was done when the sword was in use. The holes visible now are due to corrosion taking place for almost 3000 years.

The questions now is: Would the old Luri smiths have been capable of doing a repair like this? My answer is: yes! They certainly had noticed that tin has a low melting point and that you could melt it just by touching it with a medium hot copper rod. Moreover, the molten tin will wet the copper and coat the surface - provided the copper (or bronze) was clean. The hard part is to get liquid tin to wet iron. That needs a flux of some kind. While not any fatty substance (like bees wax) will work, some might. We just don't know those secrets anymore because we buy some working flux somewhere without having the faintest idea of what it contains.

Wikipedia claims that olive oil and Ammonium chloride would work for soldering iron. Ammonium chloride, if you wonder, can be made from urine. If the old Luristanis had ammonium chloride is doubtful but they may have had similar substances and who knows what else might work.

Why did the use a piece of bronze and not a piece of iron to fill the holes? Who knows, My guess is that it is just much easier to work with. It it was completely covered with tin, it looks like like iron and you hardly could see the repaired part of the blade.

My conclusion is

The Luristan smiths could do complex repairs
The sword shown here is the only known example of this antique technique

There are probably more examples of repaired blades or other parts of formerly expensive swords. It's just that nobody noticed so far. First, it might be hard to see below the corrosion layers, and second, if the repair was good, it is hardly visible.

# **New Thoughts**

Not many new thoughts either. Actually, so far just one.

If the Luristan type 2 swords found Saruq al-Hadid were forged in Luristan, there must have been some trading of Luristan goods. The question then is

Why wasn't there any trade with mask swords or the Master of Animal bronzes?

Disregarding one or two (somewhat unclear) exceptions, these things seem to come exclusively from graves in Luristan. Considering their aesthetic appeal and uniqueness, this is quite strange.