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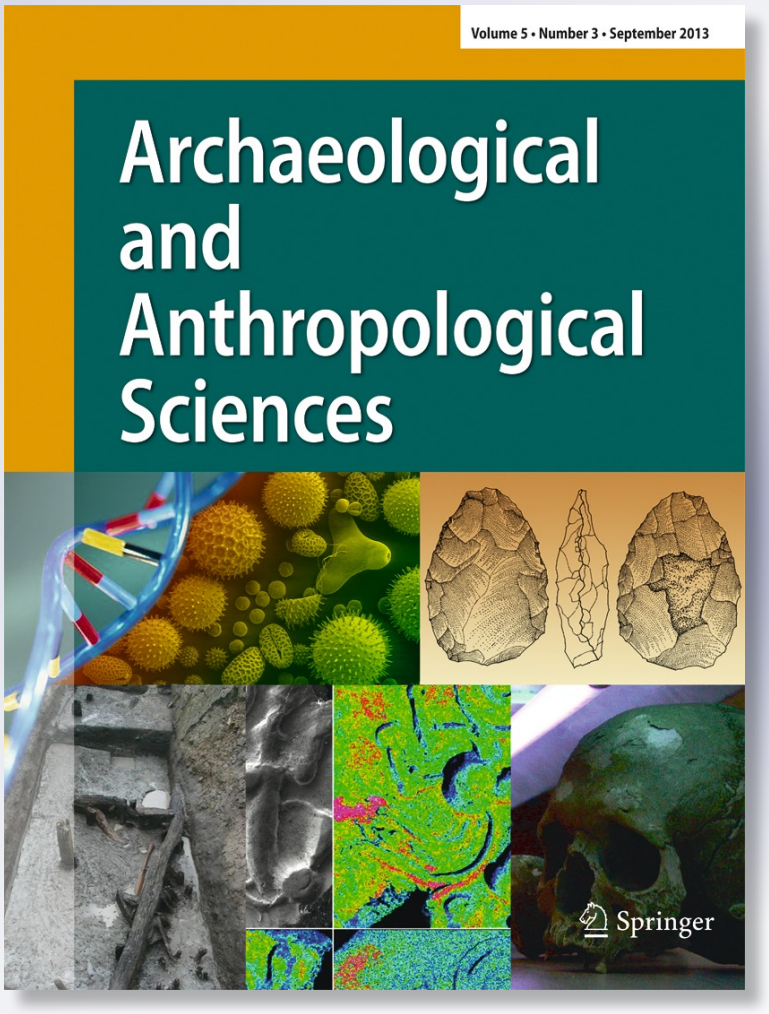

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ORIGINAL PAPER

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Abstract The present study is the first step in the elaboration of a regional base of lithic resources for an area located in the northeastern San Luis province, Argentina. Within this area lies the Estancia La Suiza archeological locality, near the hills of Sierra de la Estanzuela, where prehistoric quarry workshops have been identified. The main objective of this work was to explore the use of the different raw materials by prehistoric groups. The general geological setting of the hills of Sierra de la Estanzuela is described, and a distribution of raw material in the area is proposed. The principal sources of lithic material procurement representing the archeological record were identified, and lithic types were quantified and classified. Finally, the lithic material recovered from the Estancia La Suiza 2 quarry was characterized; the results show that the artifacts correspond to the earliest stages of production.

Keywords Lithic technology · Prehistoric quarries · Raw materials · Sierras Pampeanas · San Luis

Introduction

One of the research avenues that have gained importance in lithic technology in the last decades is the study of procurement, exploitation, and use of lithic raw materials by prehistoric groups. This source type has been widely analyzed worldwide, with the research of J.E. Ericson and Purdy (1984) as one of the pioneer works; those authors addressed the need for building a regional base of lithic resources for an area so as to understand the processes involved in the formation of the systems of lithic production, such as the modes of procurement and exchange (Church 1994; Luedtke 1992; Reher 1991; Torrence 1986).

Several authors have defined technology as a strategy (Binford 1973; Gamble 1986; Kelly 1988, among others); Nelson (1991) views it as an approach to studying lithic artifacts and defines the organization of technology as "the study of the selection and integration of strategies for making, using, transporting and discarding tools y materials needed for manufacture and maintenance" (Nelson 1991, p. 57). This approach was widely reported and accepted by several researchers (Andrefsky 1994; Binford 1979; Hayden et al. 1996; Kelly 1988, among others), centering, particularly, on economic adaptive strategies that relate the archeological record to the environment, such as knowing the type, access, and availability of raw materials; distance to these sources; mechanisms or strategies adopted to acquire new resources; schedule of activities; seasonal use; and degree of mobility of the group.

In Argentina, research on this topic has been based on ecological, economic, or social approaches that have given a central role to the study of lithic raw materials (e.g., Barros and Messineo 2004; Bayón and Flegenheimer 2004; Belardi and Carballo 2005; Belelli 2005; Berón 2006; Borrazzo 2012; Cattáneo 2004; Charlin 2007; Colombo 2011; Escola 2000; Franco 1994; Frank et al. 2007; Guraieb 1998; Pérez de Micou et al. 1992).

The works conducted in the southern portion of Sierras Pampeanas' mountain range (provinces of Córdoba and San Luis) have focused on the understanding of technological strategies involved in tool production, in some cases associating residential sites with sources (Cattáneo 1994; Pautassi 2003; Rivero and Pastor 2004). Furthermore, the advent of new geological techniques has also promoted the study of the distribution of lithic resources; indeed, most

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archeologists use some of those techniques to identify the raw materials.

Estancia La Suiza (Department of Chacabuco, province of San Luis, Argentina) is situated in an area including the depression of Conlara and the hills of Sierra de la Estanzuela. Neither the area nor the region, nor even the province, depicts a history of archeological research related to pre-Hispanic lithic supply sources. Particularly, these studies have been developed within the framework of several projects funded by the national state, according to a research related to human settlement in the provinces of Córdoba y San Luis (Cattaneo and Izeta 2011; Laguens et al. 2007, 2009). Such research is situated in the context of other fields including bioanthropology perspective, highlighting craniometric studies and population genetics (Demarchi and Garcia 2008; Fabra and Demarchi 2009; Nores et al. 2011). One of the studies carried out by this research group took place in this archeological site, due to the discovery of two fragments of fishtail projectile points and other lithic artifacts that would allow answering some questions concerning the first settlement (Laguens 2009; Laguens et al. 2007, 2009; Sario 2009).

Surveys, test pits, and a systematic excavation were made, and a large variety of lithic artifacts was found, such as cores, bifaces, hammerstones, polished artifacts, and by-products. Sites, concentrations, and isolated findings were recorded; it was not possible to obtain an absolute chronology due to the lack of organic materials (Laguens et al. 2009; Sario 2009, 2011). However, according to the artifact and sediment characteristics, these sites may have belonged to hunter–gatherer societies of the early or middle Holocene; in addition, no pottery materials were found. Main sites include Estancia La Suiza 1 (ELS 1) and Estancia La Suiza 3 (ELS 3), corresponding to workshop sites, and Estancia La Suiza 2 (ELS 2), a quarry workshop. Here, in this research study, we report general results of ELS 2. This work represents a first approach to the study of rock supply as part of technology organization; it aims at achieving the following objectives: identify, in the field, lithic raw materials (including varieties) that were used in making artifacts; establish a first regional base of lithic resources for the area, including the distribution, availability, and accessibility of rocks; and gather reference information that enables, in future research work, to make considerations about the mobility of pre-Hispanic human groups/communities for this area and neighboring regions.

Here, we explore the different lithic types and their distribution in the hills of Sierra de la Estanzuela, with the aim of understanding procurement and use of the diverse raw materials by human groups/communities of the past. For this purpose, we first describe geological aspects of the site.

Geology of the hills of Sierra de la Estanzuela

The hills of Sierra de la Estanzuela, along with the hill ranges of Sierra de Tilisarao, Sierra del Portezuelo, and Sierra del Carrizal, are small ridges in the depression of Conlara; they are composed of uplifted basement blocks from the upper Miocene (Ramos 1999) in an N–S to NE–SW trend.

Sierra de la Estanzuela exhibits the asymmetric profile characteristic of Sierras Pampeanas, with steep slopes to the west and gentle slopes to the east. The Andean structuring of Sierras Pampeanas generated a group of uplifted blocks that may have influenced the movement of humans in the past.

Rocks of the Conlara Metamorphic complex (Sims et al. 1998) of Cambrian age (Steenken et al. 2005) make up a large part of the hill range of Sierra de la Estanzuela. This metamorphic complex is composed of schists and gneisses of dark gray color with light, whitish-colored pegmatitic–granitic segregations and injections. Other rocks found/reported are marbles and amphibolites (Candiani et al. 2010) (Fig. 1) that crop out with an N–S trend. Both schist and gneiss are characterized by a foliation that allows them to break along planes, and as they are composed of micaceous material, their hardness is relatively low.

Quartz is widely available in Sierras Pampeanas, found as veins and pebbles from the water courses. Quartz-bearing pegmatites are common along the entire Sierra de la Estanzuela, and they are an important source of this raw material (Fig. 2). In the area surrounding the archeological locality, quartz crops out forming small veins that are concordant with the direction of the structure of the metamorphic rock. Due to its hardness, greater than that of the surrounding rock, quartz forms small crests, facilitating its extraction.

There are siliceous breccias forming veins[1]. These breccias exhibit different color shades, with red, black, and brown being among the most represented ones (Fig. 3). Yellowish-brown, greenish gray, whitish gray, pink, among others, are colors found in a lower proportion. One of the general characteristics of these breccias is that they form small sheeted veins of variable thickness, from a few decimeters to half a meter; those veins in general are concordant with the structure of the metamorphic basement they intrude. These breccias are matrix supported and contain fragments of the host rock which is composed of marbles, amphibolites, and gneisses. It should be noted that siliceous breccias also generate small positive topographic features, which facilitate the extraction of this rock.

[1] This rock type is not abundant in Sierra de la Estanzuela, and its outcrops can be difficult to find; therefore, the ability of prehistoric human groups/communities for the selection of this material is worth noting.

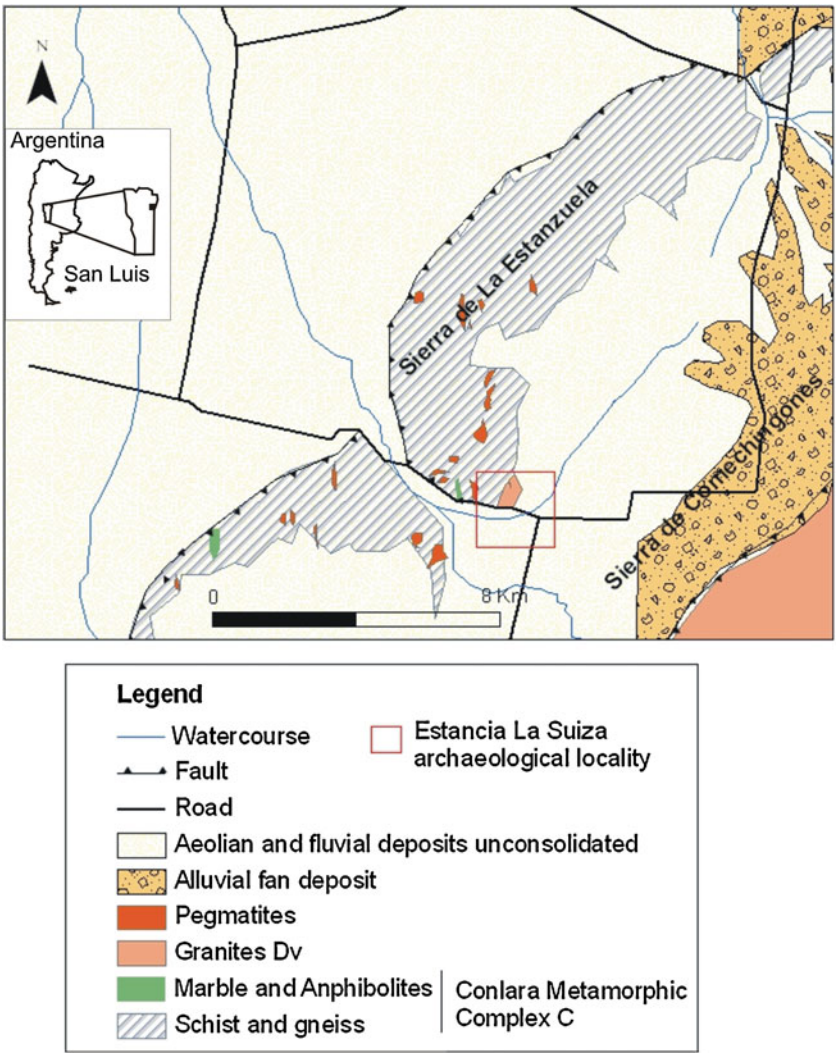

Fig. 1 Regional geologic map of the Sierra de la Estanzuela and La Suiza archeological locality location (modified from Candiani et al. 2010)

Finally, during the Quaternary, unconsolidated fluvial and aeolian sediments were deposited in the low lands, forming paleosoils of up to tens of meters in thickness. Active debris cone deposits occur along the fault scarp of Sierra de Comechingones.

Availability of raw materials: classification of lithic types

Before conducting the geoarcheological surface survey, a documentation process was undergone for systematic work on the ground. It required mapping collection, geological maps, and aerial photos of the region to determine areas of exploration for selection purposes, taking account of the distribution of likely resources in the past, and of the access to private properties and other factors such as vegetation cover. In general, systematic sampling was conducted, and transects were recorded/monitored/set up/laid out/performed/sampled following geographic directions with Global Positioning System where allowed. For these samples, fixed distances were measured, where the ground covered reached up to about 500 m long and 5 m wide. Notations were made on lithological composition of outcrops, predominant color, rock texture, inclusions, quality of raw material, flaking negatives, workshops, visibility, fraction/amount/percentage of vegetation cover, and degree of human transformation.

We classified the types of rock according to source class, which can be primary or secondary (sensu Nami 1992) (Table 1). We also quantified the outcrops of each lithic type, confirmed their use (sensu Nami 1992), and classified them according to the quality of the raw material[2] (sensu

[2] Aragon and Franco (1997) argue that there is a continuum of rock quality for tool production by percussion techniques and consider that texture is the main factor in determining quality and, secondly, crystal content or other heterogeneities. They set a nominal scale based on macroscopic characteristics of rocks, classifying them into very good, good, fair, and poor, according to their homogeneity, grain size, presence of cracks, alterations, etc.

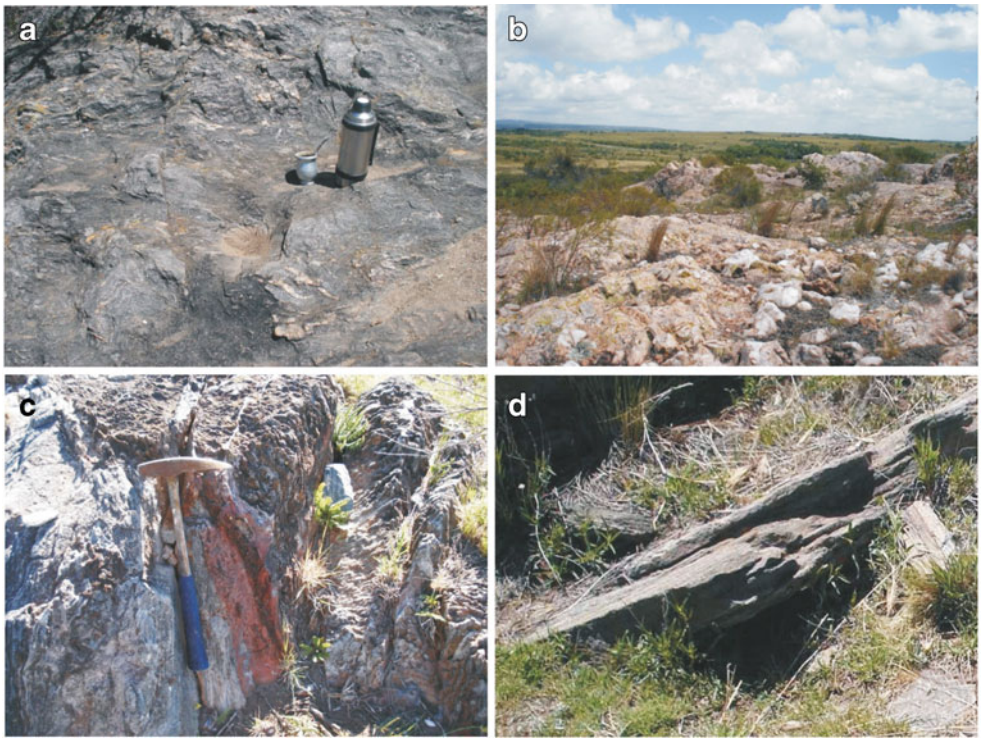

Fig. 2 Different outcrops in the Sierra de la Estanzuela hills. Gneiss (**a**), granite (**b**), marble (**c**), and schist (**d**)

Aragón and Franco 1997). Likewise, we calculated the distance between each outcrop and the first site surveyed in the area (ELS 1) (Table 2).

The total number of outcrops counted/determined was 29, with a variable number of outcrops for each lithic type. The use of schist, gneiss, quartz, granite, and siliceous breccias has been confirmed; the quality of raw materials (only for those of knappable stone) ranged from poor to very good. The minimum distance from ELS 1 to the outcrops was 350 m (Fig. 4).

The quarry workshop sites

Quartz and siliceous breccias make up the quarry workshop sites. These rocks are the best represented in the archeological record of the locality.

Estancia La Suiza 5

The first quartz outcrop corresponds to a quartz quarry workshop that is 600 m southwest of ELS 1; it shows good visibility and poor flaking quality. The prevailing color of this outcrop is milky white. Its cores, tools and by-products were found on the surface. Because of the number of artifacts identified, the site was named Estancia La Suiza 5 (ELS 5).

Concentration 5 (C5 ELS)

The second outcrop is located 2,000 m northwest of ELS 1. It exhibits poor visibility and good flaking quality and has a prevailing translucent white–gray color. Due to surface findings, cores, and by-products, it was called concentration 5 quartz quarry workshop.

Estancia La Suiza 4

This silica rock quarry identified as Estancia La Suiza 4 (ELS 4) is located 650 m southwest of ELS 1. It depicts poor visibility and a very/particularly good flaking quality. Its prevailing colors include brown, yellow, reddish, and pink. This single outcrop comprising this quarry is one of the largest recorded so far in the locality. Some sectors still exhibit raw material of good quality for extraction; there are also silica rock sheets with cortex. Lithic material has been recovered from the surface for analysis.

Estancia La Suiza 2

Estancia La Suiza 2 (ELS 2), in Sierra de la Estanzuela, 1,500 m northwest of ELS 1, corresponds to a silica rocks quarry workshop, with an outcrop and a surface material area of about 36 m^2. The site would have been much larger in prehistoric times had it not been for a modern marble quarry that destroyed a large part of the archeological quarry.

Five siliceous breccia outcrops were recognized at this site. Outcrop number 1 has very good visibility and quality. Its prevailing color is reddish brown. It is located in one of the most elevated areas of the ELS 2 site; sectors with rocks that can be used for extraction can still be observed. The outcrop

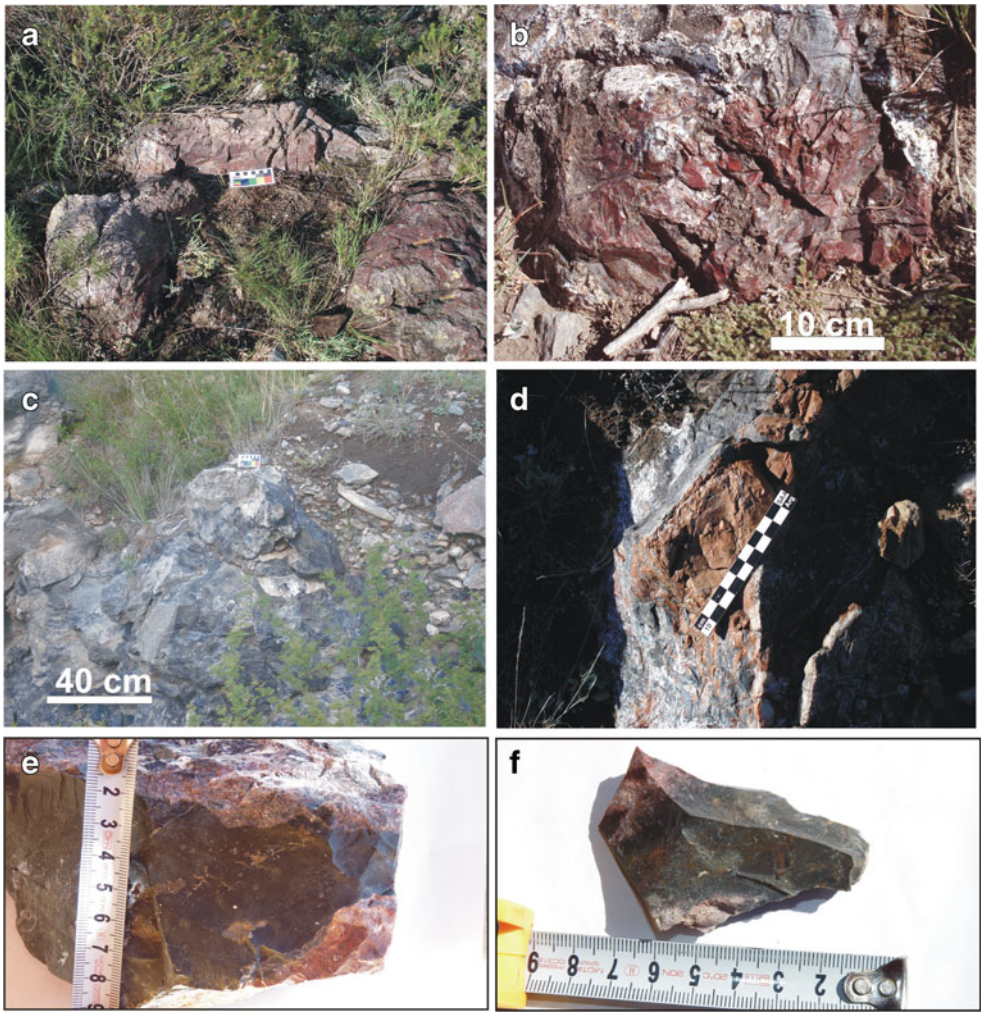

Fig. 3 Siliceous breccia outcrops of the red (**a** and **b**), black (**c**), and brown (**d**) varieties in the Sierra de la Estanzuela. **e** Hand specimen of black siliceous breccia with silified clast of the host rock and clast of the red siliceous variety from an outcrop. **f** Archeological specimen of black variety showing clast of similar composition to the outcrops

still shows dorsal scars; fragments of lithic material with cortex were also found.

The second outcrop depicts high visibility and very good quality. Its prevailing color is black. Sectors with rocks that can be used for extraction can also be observed. Outcrop number 3 has good visibility and poor quality. Its prevailing color is greenish gray. Although lithic materials of this variety have been found in surveys and excavation, at present, this outcrop does not have sectors that can be used for extraction because it is cracked.

Outcrop number 4 shows good visibility and poor quality. Yellowish-brown colors prevail. It still has sectors that can be used for extraction, although it has large proportions of cortex that hinder observations on the characteristics of the silica rocks.

The fifth and last silica rock outcrop identified in this site exhibits good visibility and very good quality. Its prevailing color is reddish brown. The outcrop can still be used for extraction, although it does not have fissures or cracks that facilitate extraction.

Table 1 Characteristics of the rock type according to the type of source

Lithostatigraphic unit	Lithic type	Source type
Conlara Metamorphic Complex	Schist	Primary
	Gneiss	Primary
	Marble	Primary
	Quartz	Primary and secondary
Pegmatites associated with Devonian granitoids	Quartz	Primary and secondary
Siliceous breccias	Siliceous breccias	Primary

Siliceous breccias: macroscopic and microscopic description

Breccias generally consist of three main elements: first, the matrix, which is the most abundant component and is composed of a hard material of conchoidal fracture. The second, the clasts, of varying composition according to the rock

Table 2 Number and confirmed use of outcrops and quality of raw material

Lithologic type	Number of outcrops	Confirmed use	Quality of raw material	Distance to ELS 1
Schist	2	Yes		≥1,500 m
Gneiss	10	Yes		≥1,000 m
Marble	3	No		≥1,000 m
Quartz	2	Yes	Poor–good–very good	≥600 m
Granite	6	Yes		≥700 m
Silica	6	Yes	Poor–good–very good	≥650 m

which intrudes, may involve fragments of marble, amphibolite, or even the same silica matrix. Clasts are usually angular. Host rocks may be replaced by silica. The third component involves the hollows/cavities which are generally covered with quartz crystals.

Petrographic analysis of thin sections is required to characterize lithic raw materials in order to define their technological and functional characteristics/capabilities. Hence, it provides a basis for considering/tracing the origin of lithic artifacts and establishing the patterns of mobility among prehistoric human communities of the same or different regions. With the petrographic study, we can determine the lithological nature or source of the raw material; however, it generally does not allow an accurate identification of the place of supply (Bonomo and Blasi 2010).

With the aim of determining the macro- and microscopic characteristics of siliceous breccias, four thin sections of the most representative varieties (brown, red, and black) were performed. Three of the sections belong to samples taken from ELS 2 outcrops (samples 1, 2, and 3) and the fourth to an archeological artifact. In general, the matrix of these rocks is composed mostly of chalcedony and fine-grained quartz. Lee (2005, pp. 5–6) stated that Heaney (1993) reported that the term chalcedony has been applied loosely to a number of microcrystalline silica polymorphs and that technically the term relates to microcrystalline fibrous silica; typically, fiber lengths are between 50 and 350 nm in length. Fine quartz is a microcrystalline variety of quartz with a granular texture which displays a random mutual orientation of strained grains with sizes typically <20 μm (Flörke et al. 1991). Quartz is a well-defined crystal, which does not contain the crystallographic complexities associated with disordered microcrystalline quartz. Opal is scarce and is recognized because it appears as isotropic material under crossed nicols. Besides silica in its different crystalline states, iron oxides, calcite, and fragments of host rock are present in a lower proportion.

Sample number 1, corresponding to the brown variety (Fig. 5a), is macroscopically described as a fine-grained rock of prevailing dark brown color and shows quartz-lined cavities. It has angular siliceous fragments of different colors and is covered by a whitish brown calcareous crust.

The microscopic observation shows abundant anhedral fine quartz which in crossed polars displays wavy extinction. Quartz grains (>0.10 mm) rarely form elongated crystals or line cavities (Fig. 5b). Fan-shaped areas of chalcedony are abundant (Fig. 5c). Opal is scarce, and this sample also exhibits microfissures filled with chalcedony

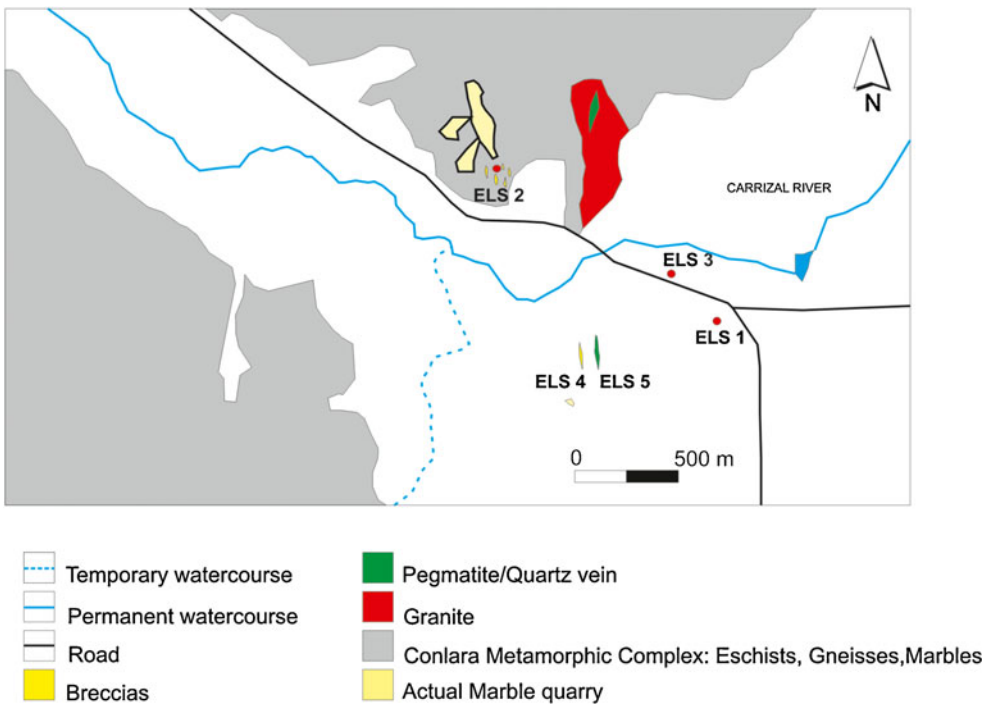

Fig. 4 Map of principal sites and of the outcrops at the Estancia La Suiza locality

and opal. The latter is recognized because it appears as isotropic material under crossed nicols.

Sample number 2 is a section of the red variety (Fig. 5d). The macroscopic description shows a fine-grained rock of variable coloration between medium to dark reddish brown. It usually exhibits small veinlets of different color, prevailing dark gray.

Microscopic analysis shows that quartz crystals are mostly elongate, slightly plumose, and with a mostly chaotic arrangement and subhedral development. Mean size is 0.20 mm.

Interstitially, there is another generation of anhedral fine quartz, with grain size below 0.005 mm. Fibrous chalcedony sometimes forms fan-shaped areas (Fig. 5e). The proportion of granular quartz is low, with a mean size of 0.052 mm.

The presence of calcite crystals is remarkable (Fig. 5f), although to a significantly lower proportion than that of siliceous minerals. Some of these crystals have developed and have almost completely filled the cavities, with subhedral development and an individual size of 0.16 mm. The remaining carbonate material is present interstitially between the silica, prismatic and subhedral to anhedral habit, with a size of 0.025 mm. Cracks filled with chalcedony are observed.

Sample number 3 corresponds to the black variety (Fig. 5g). Macroscopically, it is a dark gray, massive fine-grained rock, in which minerals cannot be observed without the aid of a petrographic microscope. It has cavities often filled with fine-grained quartz and includes siliceous fragments of different colors.

Microscopically, banded chalcedony forms parallel-fibrous aggregates in a fine quartz matrix (Fig. 5h, i). It is described as a chert, composed of quartz, chalcedony, and possibly opal. The iron oxide–hydroxide proportion is low; it is present interstitially and not all along the section. The most abundant mineral in the sample is fine and anhedral quartz with undulatory extinction. Chalcedony is scarce and shows spherulitic arrangement in alternate bands with quartz.

Description of lithic materials

In the areas surrounding the outcrops identified, lithic materials were found and recovered using four systematic collection units. The site selected for collection is near the five outcrops of silica rocks called ELS 2, which are very close to one another.

The first collection was of 4 m^2 and the remaining three of 2 m^2 each. A total of 204 artifacts were recovered; they are mostly of siliceous breccias, except for a quartz artifact. The prevailing types of artifact are by-products, with 91 % (n=187); a lower proportion of artifacts corresponds to cores with 5 % (n=10) and tools with 4 % (n=7). Among by-products, we found mainly debris, primary flakes, with flat and cortical striking platform. The cores are amorphous, with cortex remains and an exhausted core. The tools are mostly retouched flakes.

Regarding silica varieties, based on the Munsell color chart, 38 artifacts are of white color, 106 are gray (variety formerly known as black), and 53 are brown, with further varieties: red, weak red, pale red, and reddish brown. According to these varieties, and for comparing the thin sections from the outcrop samples with the archeological samples, a section was made to core.

Sample number 4 corresponds to the brown variety (Fig. 5j). The macroscopic description of this archeological sample shows a banding composed of light brown bands and dark brown-colored bands. Grain size is very fine and minerals cannot be observed. It is primarily made up of quartz and shows two granulometric varieties; the one mostly found consists of anhedral fine grain with undulatory extinction. The other variety shows anhedral to subhedral quartz with a size larger than 20 μm and smaller than 50 with normal extinction. Calcite grains, to a lesser extent, are abundant filling opaque minerals and iron oxides (Fig. 5k, l).

Discussion and final considerations

At the beginning of this work, we set three aims focused on the study of lithic raw materials and the role they could play in a pre-Hispanic society. Based on the study of the geological map of Sierra de la Estanzuela and the identification of the procurement sources, four relevant lithic types were obtained: gneisses, schists, quartzes (both from the Conlara Metamorphic Complex and from pegmatites associated with Devonian granites), and siliceous breccias. According to the distances between sites and procurement sources, all these rocks can be considered to be immediately available, since they are found within a radius of less than 10 km from the first site (ELS 1) identified in the locality.

While these sources were located in Sierra de la Estanzuela, they could also be found in other nearby hill areas, such as Sierras de Tilisarao and del Portezuelo, whose geology is similar to that of Estanzuela, with Conlara Metamorphic Complex as the dominant lithology. By contrast, Sierra del Morro has a greater presence of volcanic–volcaniclastic rock related to a Miocene volcanic event that affected Sierras Pampeanas, where other rock types stand out (Llambías and Brogioni 1981). These three ranges are within a radius of 20–30 km from the archeological locality.

The identification of 29 outcrops for all the lithic types is a first quantification that may be improved with further studies. Schists and gneisses would have been obtained by prehistoric human groups to manufacture polished stones. The foliation they present, especially the schists, favors the elaboration of this type of artifacts. Some schists presented

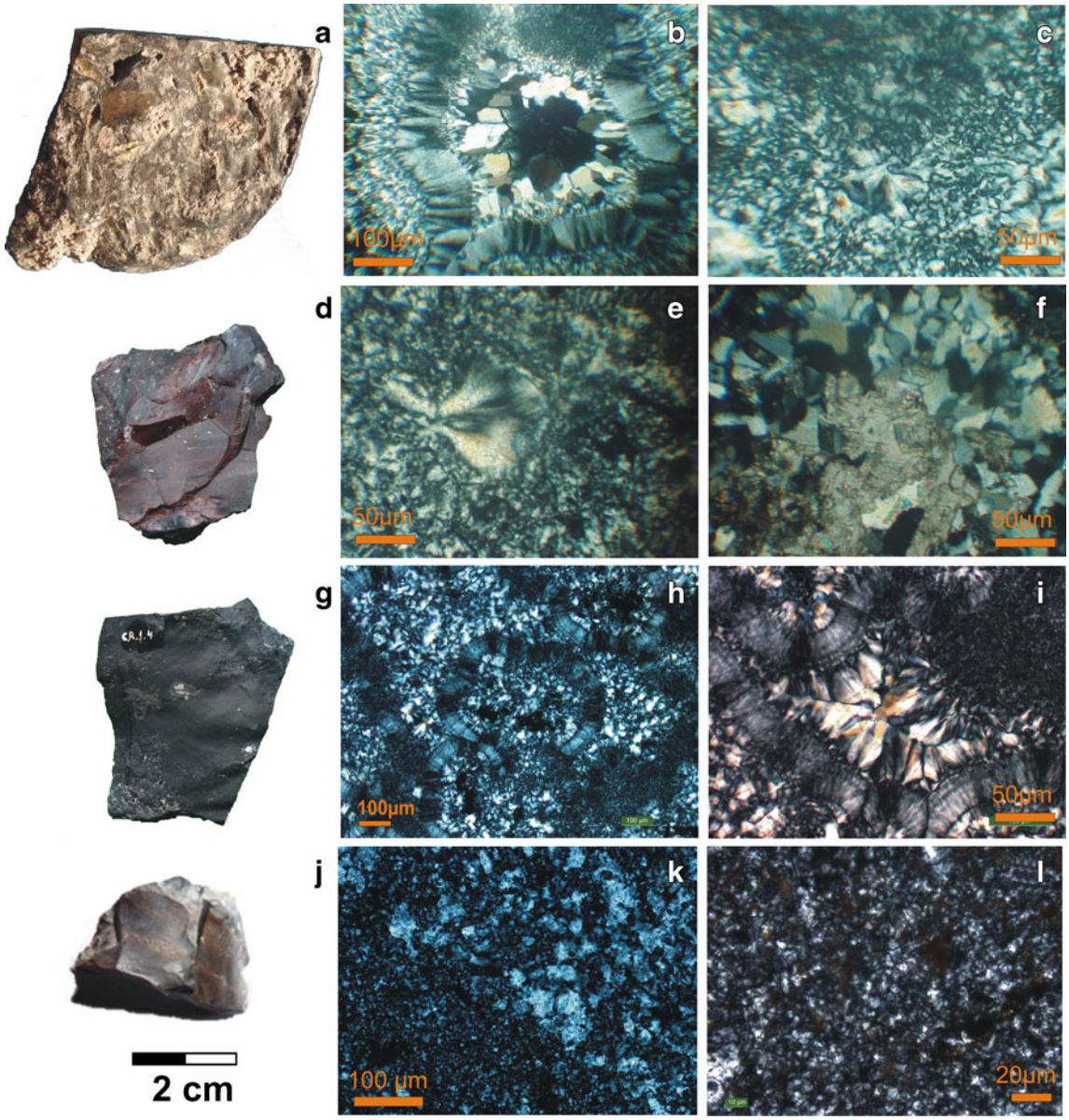

Fig. 5 Hand samples and petrographic sections representing each siliceous breccia variety. **a** Brown variety siliceous breccia, hand sample. **b** Thin-section photomicrograph, crossed nicols showing fine quartz matrix, wall lining chalcedony, and quartz filling a cavity. **c** Microquartz matrix and fan-shaped chalcedony areas. **d** Red variety siliceous breccia hand specimen. **e** Photomicrograph of microquartz and fan-shaped chalcedony areas. **f** Photomicrograph of interstitial calcite crystals. **g** Hand specimen of black variety siliceous breccia. **h** Horizontal banded chalcedony in a fine quartz matrix. **i** Detail of banded chalcedony and fan-shaped areas of chalcedony. **j** Archeological siliceous breccia hand specimen. **k** Microphotograph of mesoquartz in a fine quartz matrix. **l** Detail of the fine quartz matrix

polished surfaces, probably fragments of flat metates or other polished surfaces. Metates and manos have been also identified on gneisses and granites in several sectors of Sierra de la Estanzuela. However, up to the present, marble has had no use as raw material for the elaboration of polished or kapping tools.

The use of quartz is evidenced in the finding of hammerstones (in other sites of the locality), cores, by-products, and tools. This is the only raw material that has two source types: primary and secondary, in the latter case, in the form of pebbles from water courses. Here, the few artifacts recorded in the locality mostly come from primary sources.

Overall, the six outcrops of silica rocks in general are of good to excellent flint-knapping quality and the observed varieties (red, brown, and black) and the varieties of silica rocks in the artifacts found throughout the locality. Breccias are relatively scarce in Sierras Pampeanas, and further, this specific kind of breccias is matrix supported and has few angular clasts. Mineral composition of the matrix is similar

in archeological and geological samples, and both share the same clast composition. The last factor is one of the most accurate ways to characterize the source of the raw material, since these bits of rocks are unique for every breccia and they reflect the host rock composition.

On the basis of these results, we propose that prehistoric human groups present in the locality used three varieties of siliceous rock to manufacture their tools, which derive from different sources known for Sierra de la Estanzuela. Furthermore, studies on X-ray diffraction and microprobe are being carried out to characterize more precisely the raw material.

In ELS 2, the identification of five outcrops that are very close to one another allows us to propose the existence of a single quarry workshop, where different knapping sectors are present. The general results of the lithic materials recovered in that site indicate that earliest knapping stages were performed, evidenced by the presence of primary flakes with flat and cortical striking platform, big size, presence of cortex, and low number of dorsal scars. Tools were also found, suggesting that other activities may have been performed in the quarry.

This quarry may have played a key role in the supply of rocks, since the site where it is located and its access and availability are favorable. It is possible that factors such as the quality of raw materials, proximity to water sources, and good visibility proved attractive even for people/communities from other regions. While research results on lithic technology have yet not been reported in neighboring areas, artifacts of silica have been found in different museums of the province, macroscopically similar to those found in the locality. This leads us to think that pre-Hispanic human groups could have probably moved to the quarries or that artifacts could have been obtained by exchange. The supply of these rocks could have been their inclusion (sensu Binford 1979) in other activities, without planning special trips intended for this or resorting to people who exclusively could deal with this task. Other factors may have also been involved, such as those related to social organization, including the control of access to sources by certain groups, the selection of rocks from specific sources due to their inherent properties, among others (Bellelli 2005).

The results of the study on the sources of supply in this locality complement the information gathered to date for other sites, providing a more comprehensive picture of pre-Hispanic hunter–gatherer societies. In previous research, we analyzed the lithic assemblages of excavation site 3 of Estancia La Suiza (ELS 3), where technomorphological attributes and nontypological analysis of by-products allowed interpreting the place as a workshop site where intermediate and final processes of silica tool manufacturing were taking place (Sario 2009, 2011). Although the study of the sites faces the limitation of chronology, ongoing studies are being performed in search of residential sites which allow finding radiocarbon dates.

Archeological research works conducted so far in the southern part of Sierras Pampeanas (provinces of Córdoba and San Luis) recognize the importance of quartz as a dominant raw material (González 1952, 1960; Pautassi 2003; Rivero 2006). However, there are other raw materials of good flint-knapping quality that, along with quartz, are of interest according to the region (Cattáneo 1994; Sario 2011), as in Estancia La Suiza.

Future investigations will propose the search of new sites and will improve knowledge on prehistoric lithic resources from the northeastern region of San Luis which, in turn, will provide greater insights into archeological studies of the southern part of Sierras Pampeanas.

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