A Further Note on Flaked Stone Material from Seram, Eastern Indonesia

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IN A RECENT article (Glover and Ellen 1975), we reported on a previously unrecognized flaked stone tradition from the Amahai district of south Seram in the central Moluccas. On the basis of an essentially ethnographic collection, it was suggested that there was evidence for a small flake industry with broad affinities to prehistoric industries elsewhere in Indonesia and in the Philippines. In addition, it was clear from the context in which the material was collected, and by analogy, that some pieces had been reused as strike-a-lights, and were still used in this way by Nuaulu villagers. It was suggested that such reuse of implements for purposes different from those for which they were originally intended deserved greater attention from archaeologists, as did fire making as a possible object for the use and manufacture of stone artifacts.

A further collection of 626 pieces was made by Ellen in July and August, 1975, which considerably augments the collections made in 1970–71 and 1973, and brings the total now to 779. Although containing a larger proportion of waste and chips than before, this new material contains many deliberately struck flakes, a few fine blades (Fig. 1, 789–791) and retouched artifacts (Fig. 1, 765), some pieces with a known history of regular use as strike-a-lights, as well as many whose function as such can reasonably be inferred from the pattern of edge fracturing (see Glover and Ellen 1975: 59 and pl. I). As with the earlier collections, all these pieces were given to Ellen by Nuaulu informants in Ruhuwa, who found them around the village and in the side of a small stream. All are chert, with the exception of one piece of iron-stained quartzite (786, *K. putie*), and are glossed by the Nuaulu terms *kinonote warata, k. buane nehene,* and *k. metene* in order of increasing darkness (Glover and

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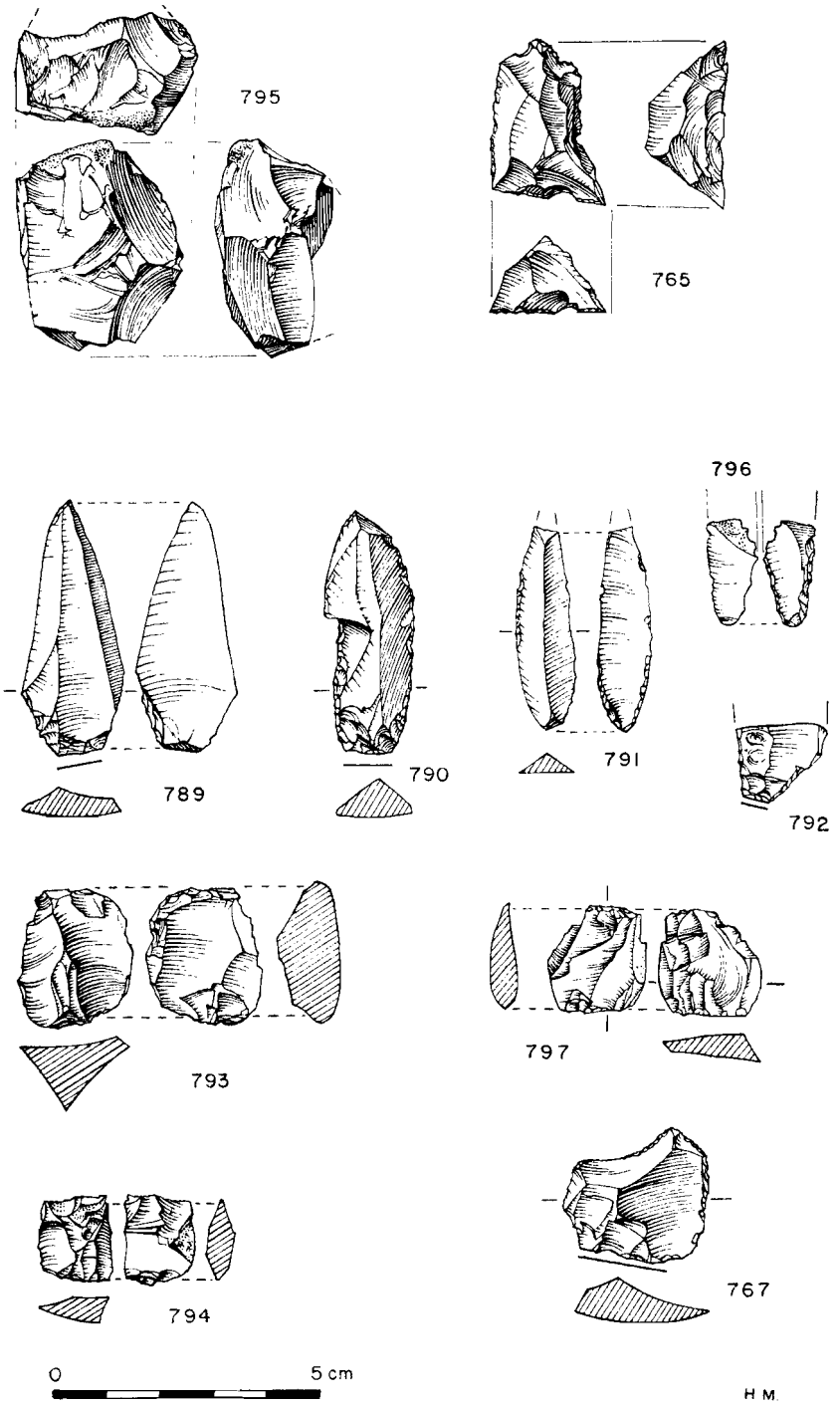

Fig. 1 Flaked stone tools from Ruhuwa, Seram—1975 collection. Drawings by Hazel Martingell. *795,* core, group 1; *765,* steep-sided scraper, group 4; *789,* point with retouched butt for hafting, group 4; *790,* blade, retouched at butt and on margins, group 4; *791,* broken blade, retouched at butt and on margins, group 4; *796,* broken blade, retouched at butt and on margins, group 4; *792,* broken blade, retouched at butt for hafting, group 4; *793,* fabricator, groups 7–10; *797,* fabricator, groups 7–10; *794,* fabricator, groups 7–10; *767,* flake with edge utilization, group 5.

Ellen 1975: table 2). We believe that the material described here is important insofar as it confirms the existence of a hitherto unknown stone-working tradition in an archaeologically unexplored region of Indonesia, while supporting our earlier suggestions about the reuse of "prehistoric" flake tools for fire making by contemporary and recent historic populations.

The collection is now in the possession of the Museum Siwalima in Ambon and the Pusat Penelitian Purbakala dan Peninggalan Nasional in Jakarta.

Analysis

The collection closely matches those made earlier, and all the material can be attributed to one or other of the same 13 morphological or functional groups (Table 1) with the exception of a few pieces with traces of edge gloss. This latter is of interest, for it extends eastward the range of a class of small, unretouched flake tools which had previously been reported from Buad in the Philippines (Scheans et al. 1970: 180), east Timor (Glover 1971: 168–173), and South Sulawesi (Glover 1975: 136 and fig. 6). In the last two islands, these tools form a regular component in mid-Recent cave assemblages. Microscopic examination of the edge gloss shows that it most closely resembles the silica gloss known on composite sickle blades in many parts of the Old World, although the distribution along the edge differs. In

TABLE 1. Typological Classification of Flaked Stone Collections from Ruhuwa, South Seram, Indonesia

Group	Artifacts	1970/71, 1973	1975	Total
1	Cores	9	8	17
2	Burins	2	0	2
3	Blades, unmodified	1	4	5
4	Retouched flakes	3	15	18
5	Flakes or blades with edge utilization	28	52	80
6	Flakes or blades with bifacial edge battering (strike-a-lights)	11	10	21
9	Flakes with no signs of use or modification	28	186	214
7, 8, 10	Flakes with bifacial battering at both ends (fabricators)	17	17	34
11, 12	Lumps and pseudoflakes and small, broken pieces	47	331	378
13	Broken glass	1	0	1
14	Unretouched flakes or pseudoflakes with edge gloss	0	3	3
	Total	147	626	773

Note: The table shows a breakdown into exclusive categories, but in reality some pieces show more than one characteristic; thus, one core, four fabricators, and four small, broken pieces were probably used briefly as strike-a-lights, and a few of the small, broken pieces show slight signs of use or have traces of edge gloss.

the case of these Southeast Asian tools, the gloss occurs mainly on the dorsal surfaces of unretouched flakes with thin, sharp edges which have suffered little breakage. It seems likely that the gloss comes from working some of the many silica-rich plant materials of the tropics, such as agave, pandanus, bamboo, rattan, or palm leaf for basket and mat making.

The 1975 collection contained a much higher proportion of small, broken pieces of chert than earlier (53% : 32%), and this can probably be accounted for by the greater persistence of small Nuaulu children in searching the village area. It would also account for the smaller average size of completed flakes as shown in Table 2. Retouched flakes and blades, however, comprise just over 2% in each collection and share some important characteristics, especially that of steep secondary working on both margins near the butt end of blades and pointed flakes (see Glover and Ellen 1975: fig. 1, nos. 724 and 697, and Fig. 1, Nos. 789–792 and 796 here). Of the 15 retouched artifacts, five are worked in this way, indicating that it was a regular practice to modify point bases for hafting. Some rare points from South Sulawesi also show this sort of butt modification, and in Timor the tanged Maubesi points show the same practice, although in a more extreme form (Glover 1972: fig. 6).

TABLE 2. FLAKE SIZE IN MM OF 176 COMPLETE FLAKES

RANGE	LENGTH	BREADTH	THICKNESS
	7–47	3–38	1–14
$\bar{x}$	15.6	13.8	4.3

Of the other retouched pieces, there are two steep-sided, concave-side scrapers (e.g., Fig. 1, 765), six broken flakes with thinner, low-angle, and irregular scraper edges, and two broken blade sections steeply worked from one face, none of which are illustrated.

Pieces recognized as strike-a-lights from the heavy bifacial edge battering are relatively fewer than before, but it is clear from the ethnographic record that many other flakes were used for this purpose, although not regularly enough for the effects to be distinguished from other forms of use. The only other category worth a special mention is what are often called fabricators, or bipolar scalar cores (Fig. 1; 793–794 and 797). In Table 1 they have, for convenience, been included with groups 7, 8, and 10 of the earlier collections, which they most nearly resemble. But this time we have some very distinctive specimens which were lacking earlier. Again, the presence of these strengthens the resemblance between the Ruhuwa finds and those of the post-Pleistocene flake industries of eastern Indonesia. It is worth noting that one well-used strike-a-light is stained with red dye from being carried in a pouch with the requisites of betel chewing.

A few parallel-sided blades occur in both collections, although no blade cores were recovered; as in Timor and South Sulawesi, blade production appears to be a minor element in the flaking technology.

There are only two stream-rolled pieces in the collection (both in group 14), supporting Ellen's observations on the absence of naturally occurring chert cobbles

in the streams near Ruhuwa, but 44 flakes distributed across all the groups except one (cores) show traces of fire shattering. Whether this is from ancient hearths, or from exposure on the ground surface to fires during garden clearing, is not clear.

In summary, there is little to add to our comments made earlier, but we believe that this new material strengthens them insofar as the larger collection matches closely, and adds some new and distinctive types, to those previously described. As before, we refer to the need for systematic investigation into the archaeology of Seram.

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