

KONONENKO, NINA, 2011. Experimental and archaeological studies of use-wear and residues on obsidian artefacts from Papua New Guinea. *Technical Reports of the Australian Museum, Online* 21: 1–244.

---

## Plates

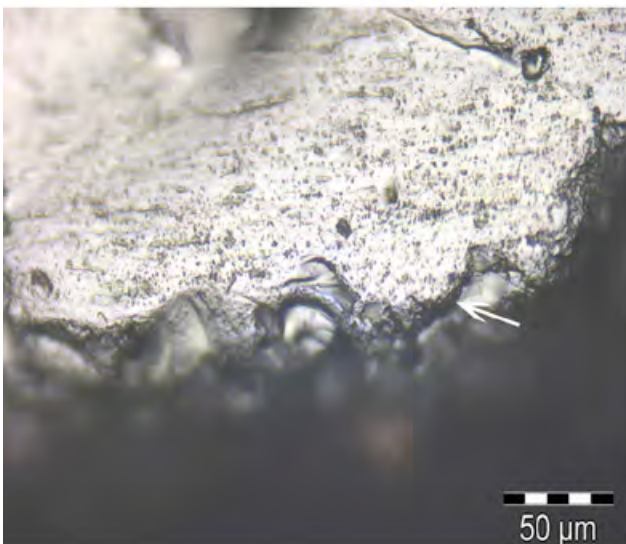
---



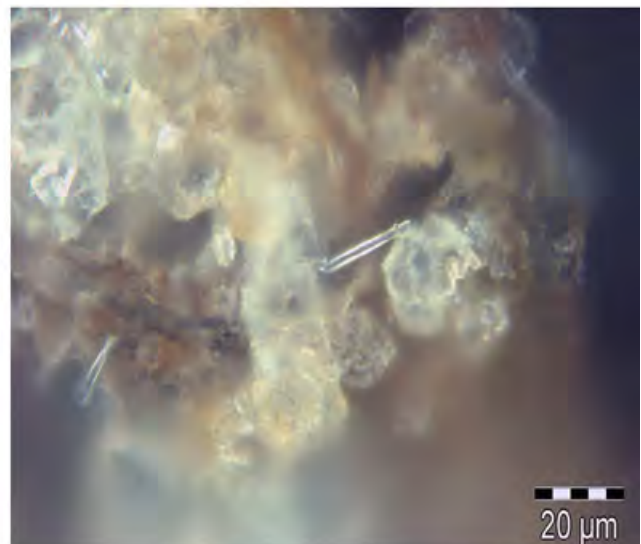
1A



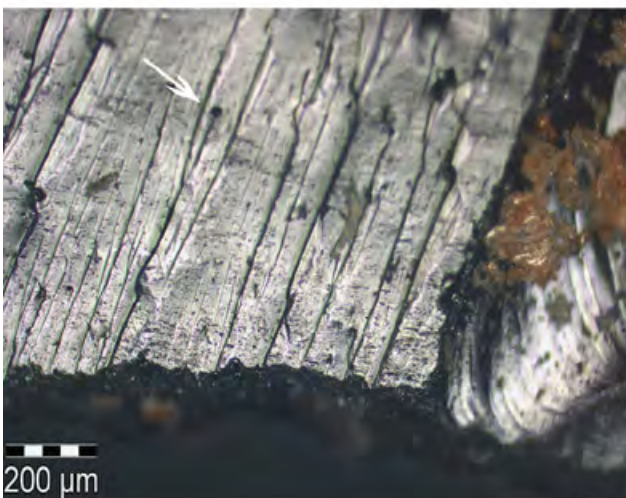
1B



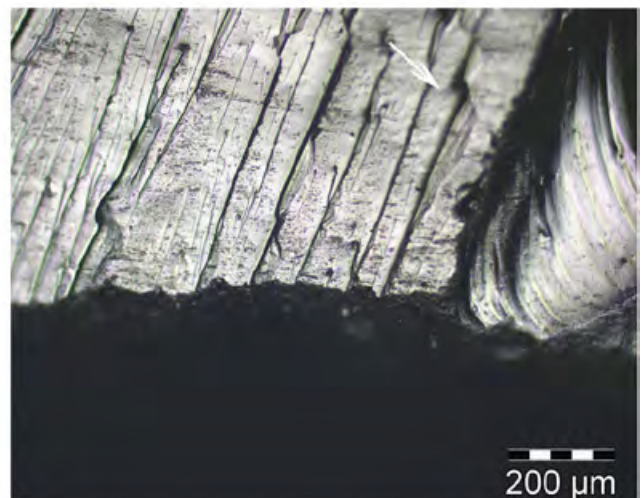
1C



1D

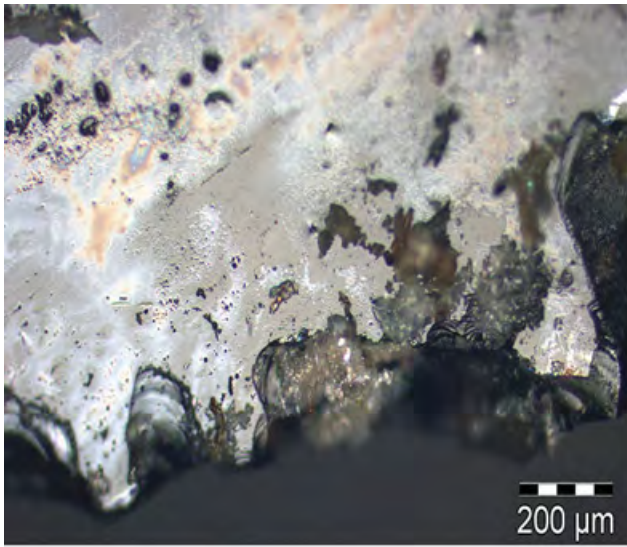


2A

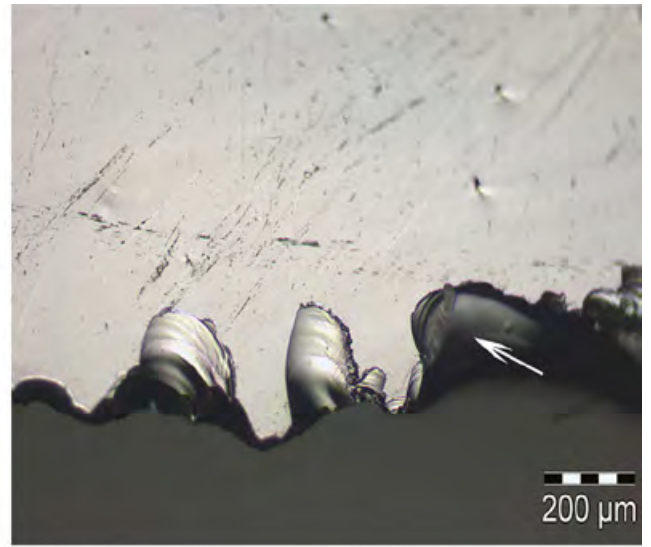


2B

**Plates 1–2.** 1A–1D Experiment 77. Sawing coconut palm for 5 minutes: (1A) before cleaning, (1B) after cleaning, (1C) polish, (1D) residue. The arrow indicates well developed polish. 2A–2B Experiment 79. Sawing coconut palm for 15 minutes: (2A) before cleaning, (2B) after cleaning. The arrows indicate stress fissure.



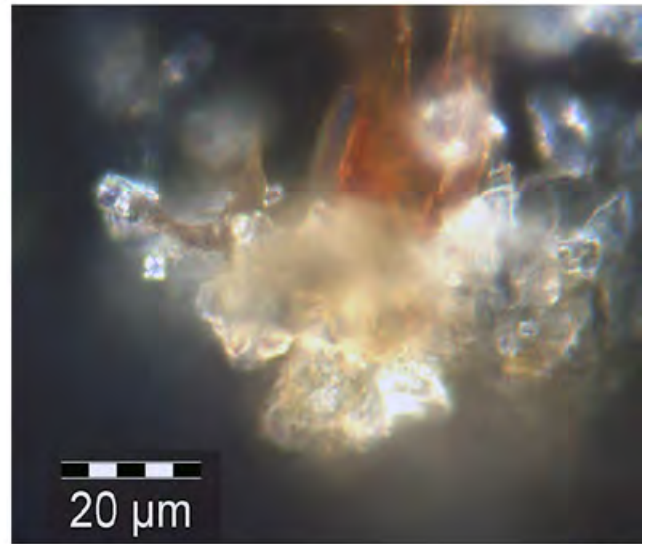
3A



3B



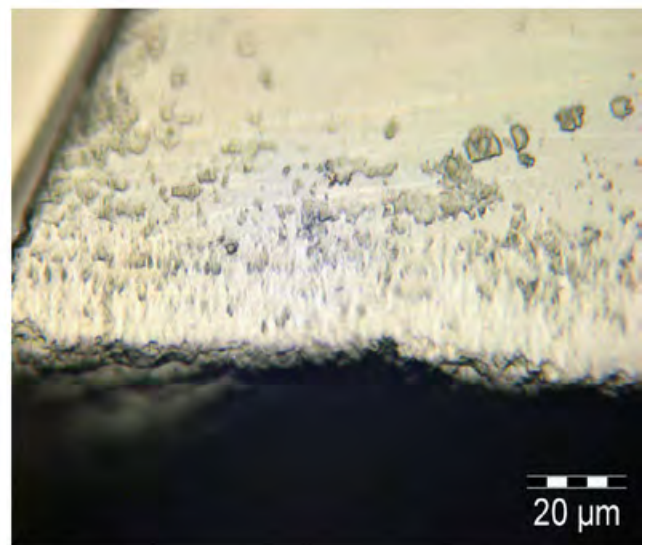
3C



3D

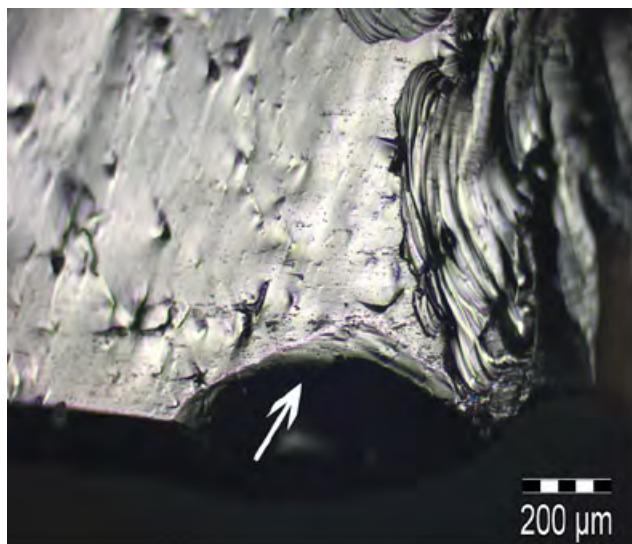


4A



4B

**Plates 3–4.** 3A–3D Experiment 164. Whittling coconut palm for 23 minutes: (3A) before cleaning, (3B) after cleaning, (3C) scars and striations, (3D) starch residue and plant tissue before cleaning. White arrow indicates bending scars and black arrow indicates feather scars. 4A–4B Experiment 87. Scraping coconut shell for 30 minutes: (4A) scraping action, (4B) polish.



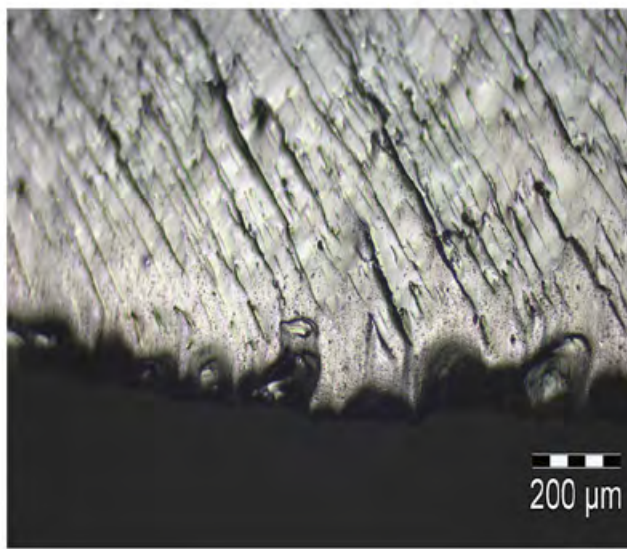
5



6



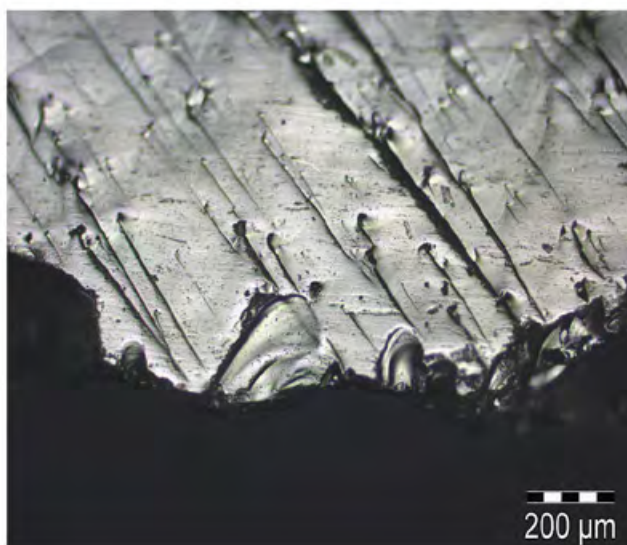
7



8A

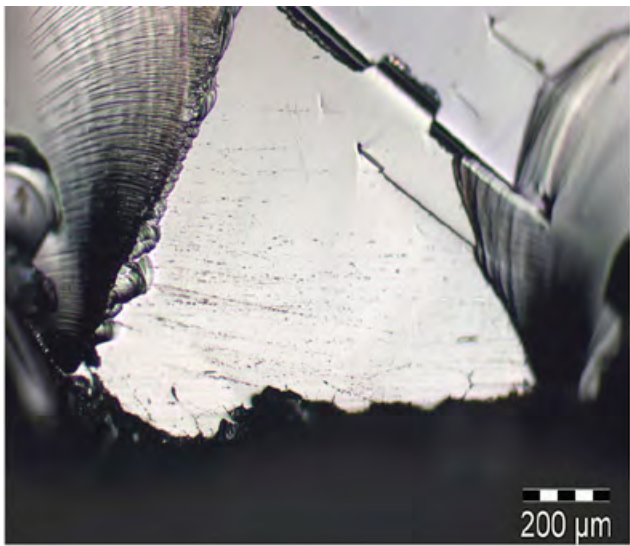


8B

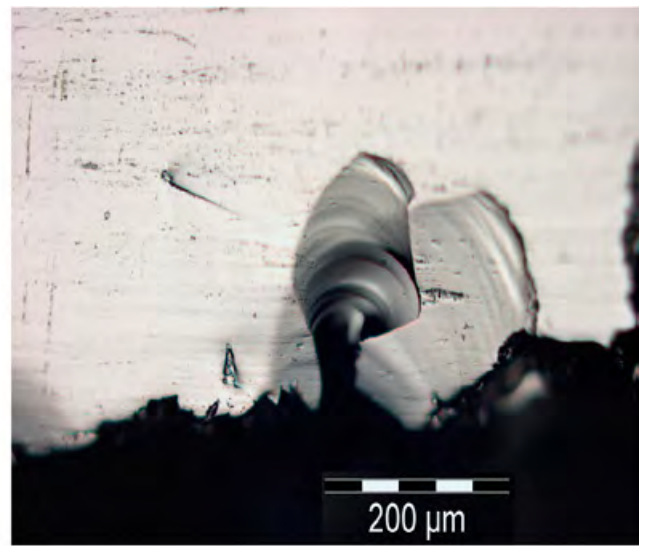


9

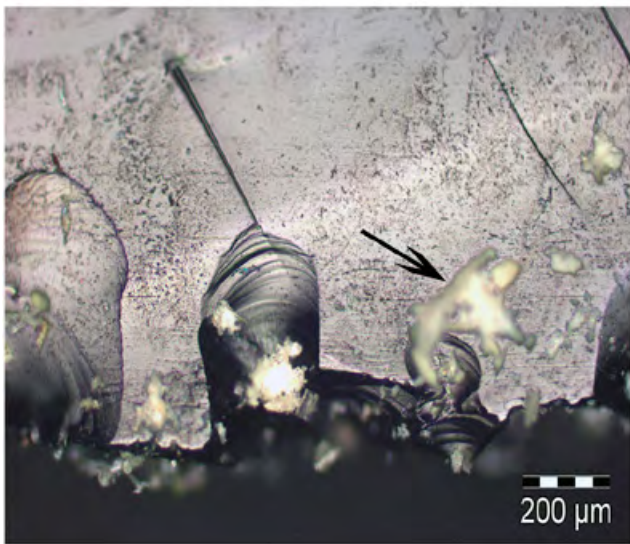
**Plates 5–9.** (5) Experiment 169. Sawing sago palm for 5 minutes. The arrow indicates bending scars. (6) Experiment 172. Sawing sago palm for 10 minutes. (7) Experiment 166. Sawing sago palm for 30 minutes. 8A–8B Experiment 269. Scraping sago palm for 30 minutes: (8A) polish, (8B) residue, (9) Experiment 180. Cutting sago palm for 1 hour 15 minutes.



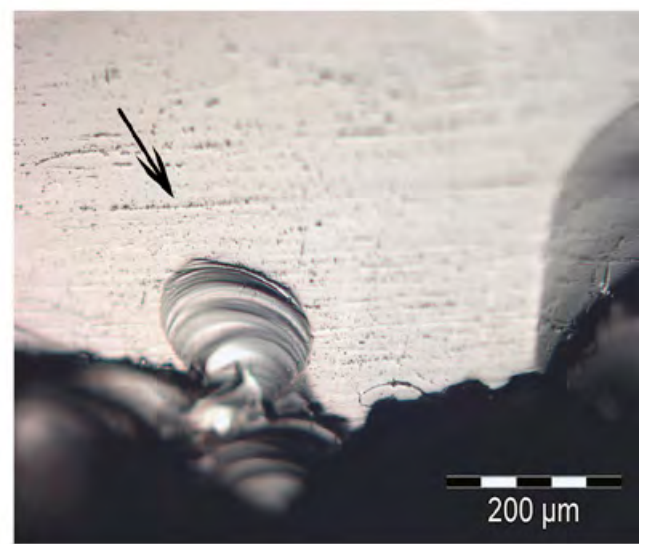
10A



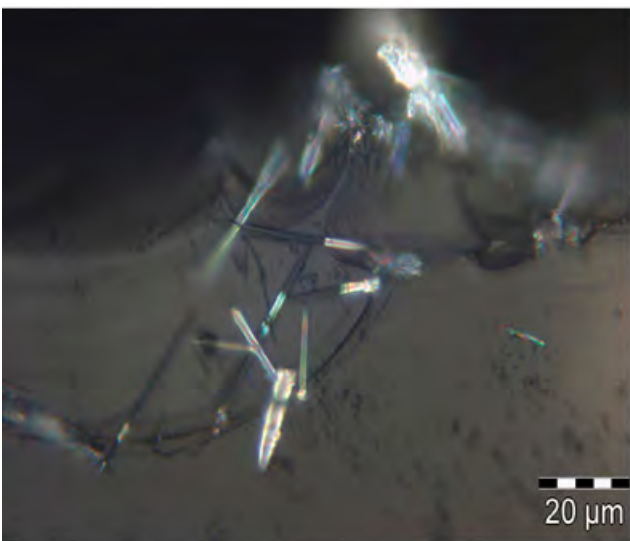
10B



11A



11B

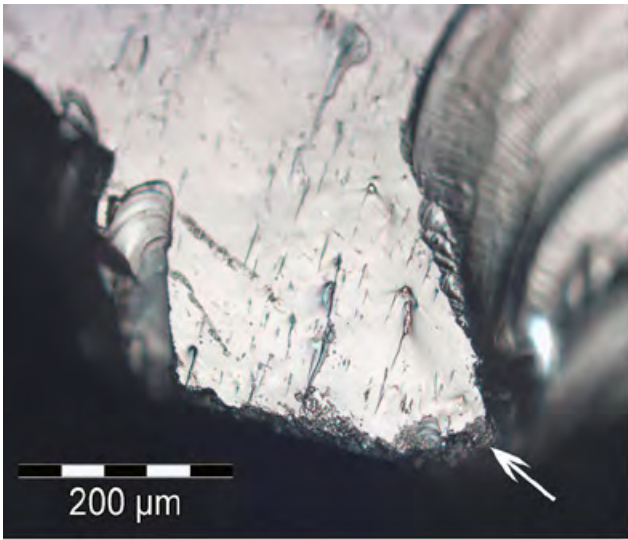


12

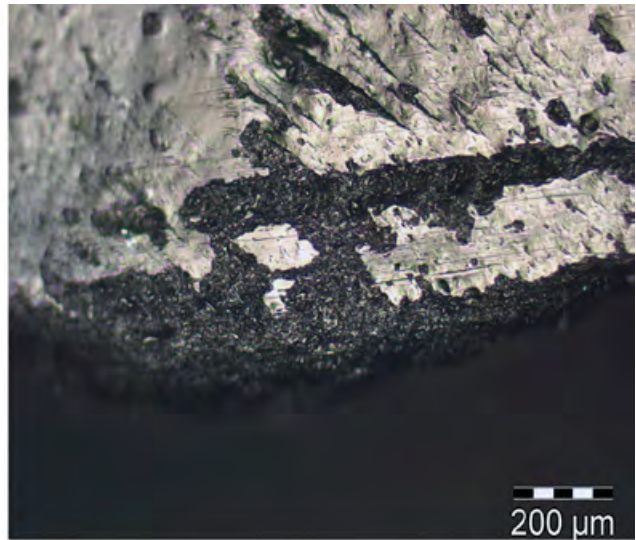


13

**Plates 10–13.** 10A–10B Experiment 219. Sawing rattan for 5 minutes: (10A) scars and striations, (10B) scars, striations and polish. 11A–11B Experiment 177. Sawing rattan for 30 minutes: (11A) before cleaning, (11B) after cleaning. The arrow indicates intermittent striations. (12) Experiment 159. Cutting rattan for 5 minutes: plant residues. (13) Experiment 120. Cutting rattan for 15 minutes: starch residue.



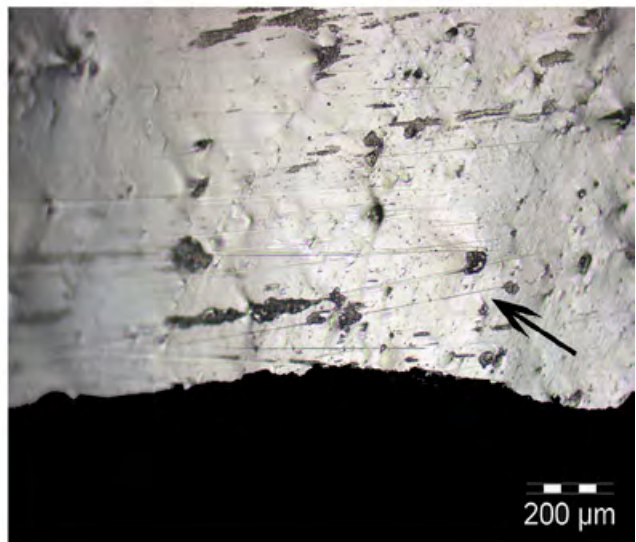
14



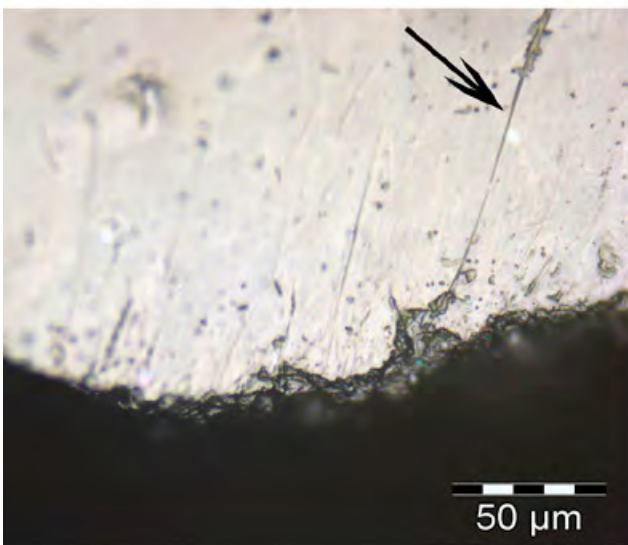
15



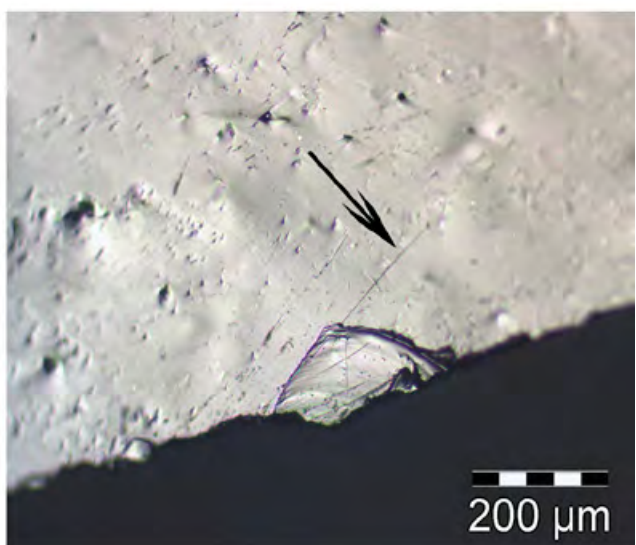
16



17

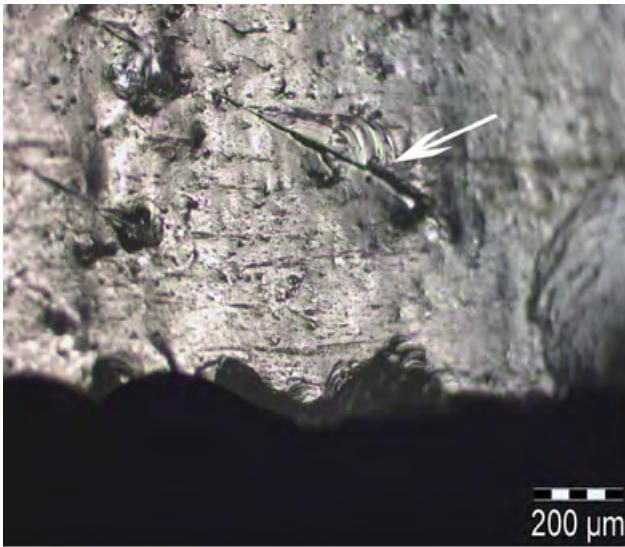


18A

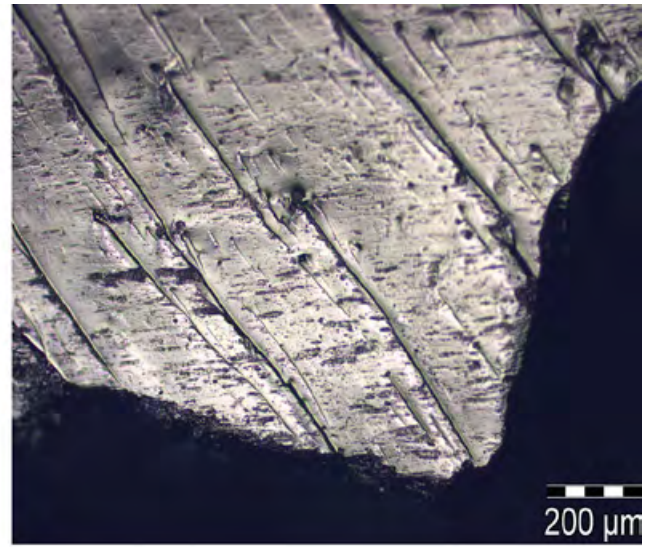


18B

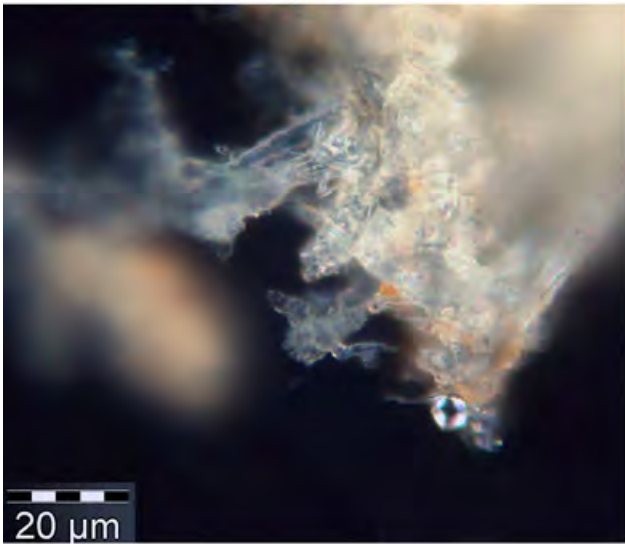
**Plates 14–18.** (14) Experiment 70. Sawing soft wood (erima) for 5 minutes. The arrow indicates developed polish. (15) Experiment 72. Sawing soft wood (erima) for 15 minutes. (16) Experimental tool in sawing action. (17) Experiment 74. Sawing soft wood (erima) for 30 minutes. The arrow indicates sleek striations. 18A–18B Experiment 128. Scraping/sawing soft wood (erima) for 1 hour: (18A) polish and striations, scraping action. (18B) scars and striations, sawing action. The arrows indicate sleek striations.



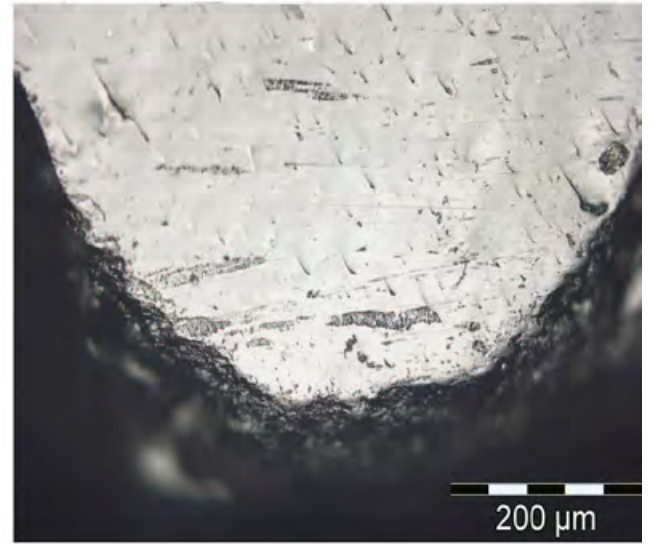
19



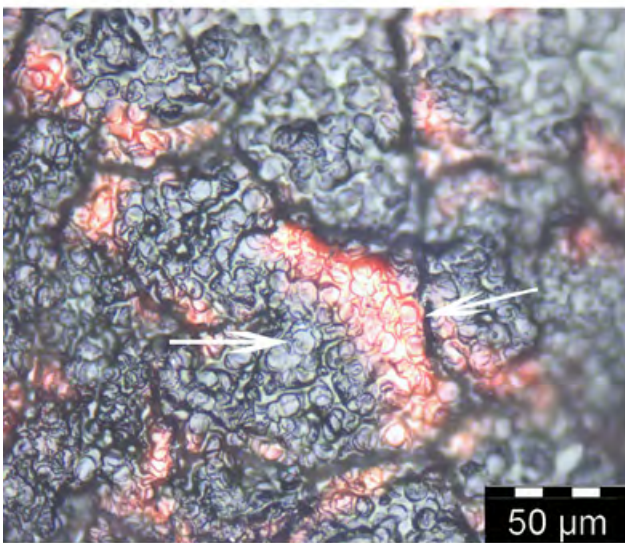
20A



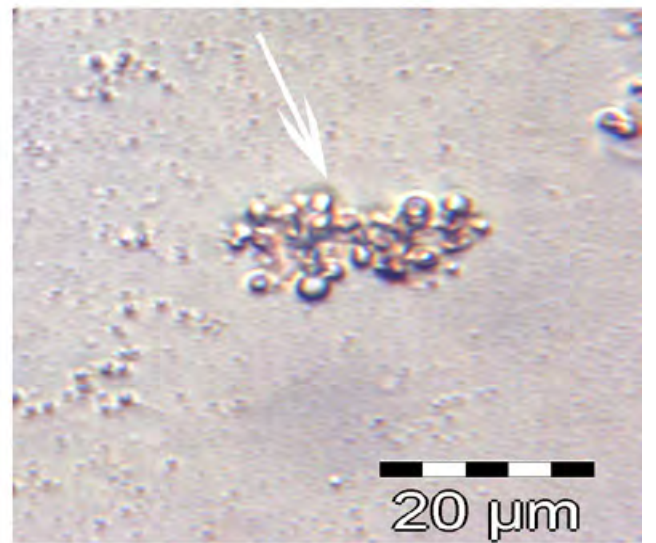
20B



21A

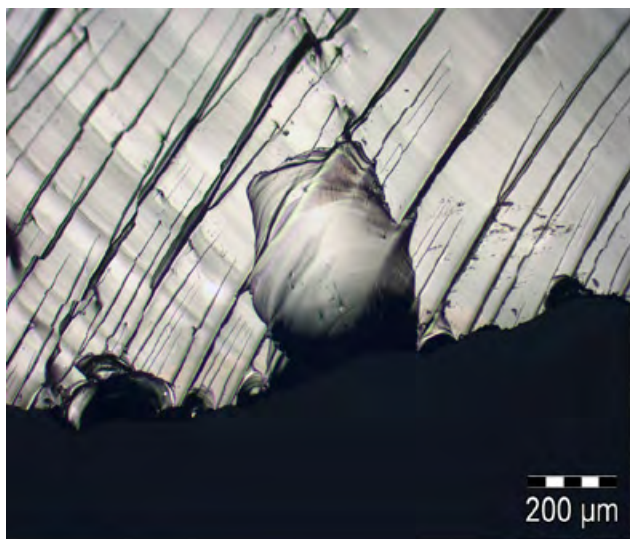


21B



21C

**Plates 19–21.** (19) Experiment 32. Sawing soft wood (malas) for 15 minutes. The arrow indicates crystalline irregularities on the surface of obsidian. 20A–20B Experiment 41. Sawing soft wood (malas) for 30 minutes: (20A) edge rounding, polish and striations, (20B) plant tissue and starch residues. 21A–21C Experiment 93. Sawing/whittling soft wood (calophyllum) for 15 minutes: (21A) edge rounding, polish and striations, (21B) blood cells on the tool, (21C) extracted blood cells. The arrows indicate human blood cells.



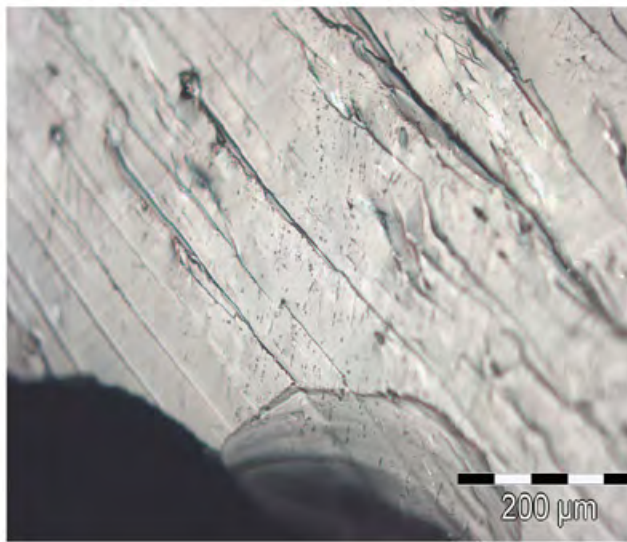
22A



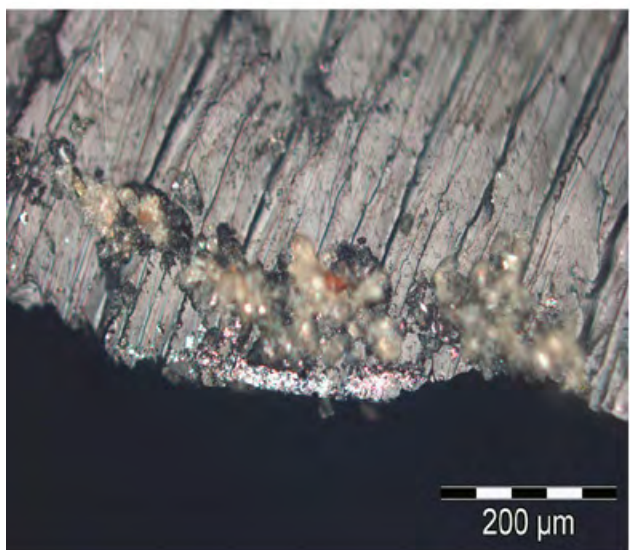
22B



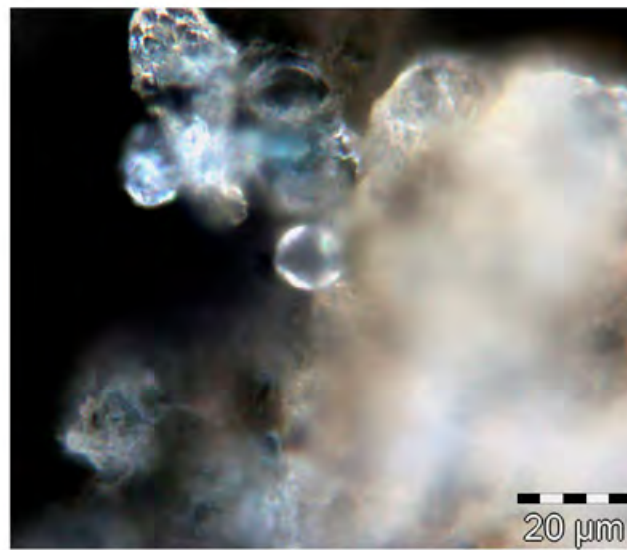
23A



23B

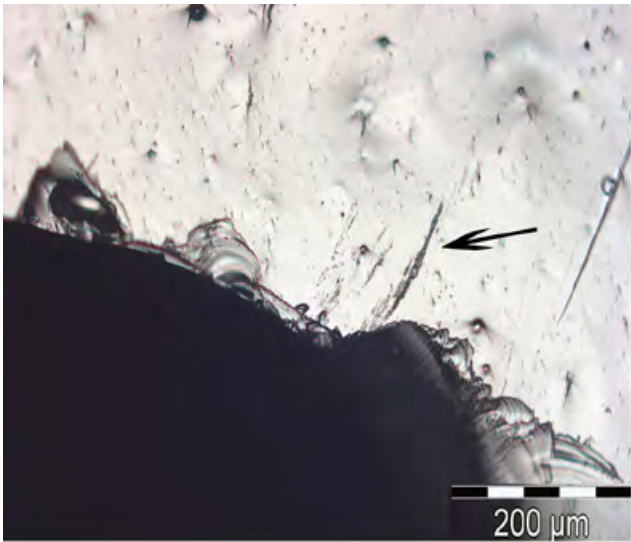


23C



23D

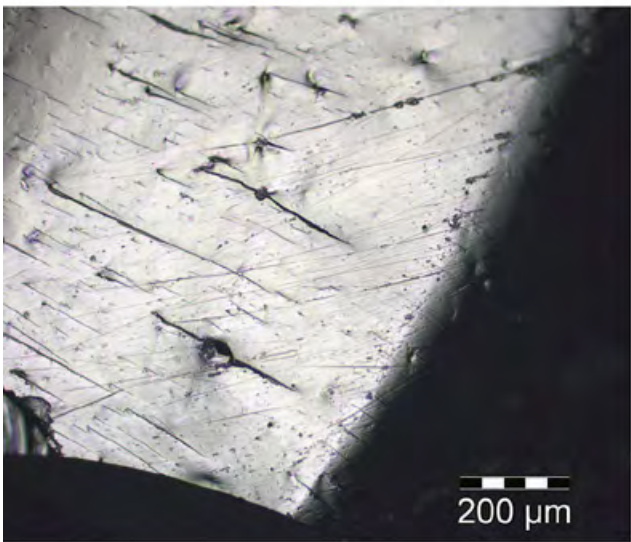
**Plates 22–23.** 22A–22B Experiment 156. Whittling soft wood (hibiscus) for 5 minutes: (22A) scars and striations, (22B) whittling action. 23A–23D Experiment 237. Whittling soft wood (hibiscus) for 30 minutes: (23A) whittling action, (23B) striations, (23C) plant tissue and white residues on the edge before cleaning, (23D) plant tissue and starch residues.



24A



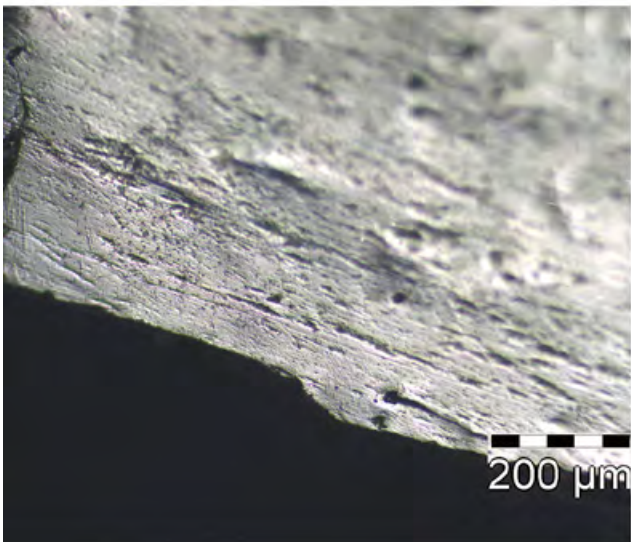
24B



25A



25B



26A

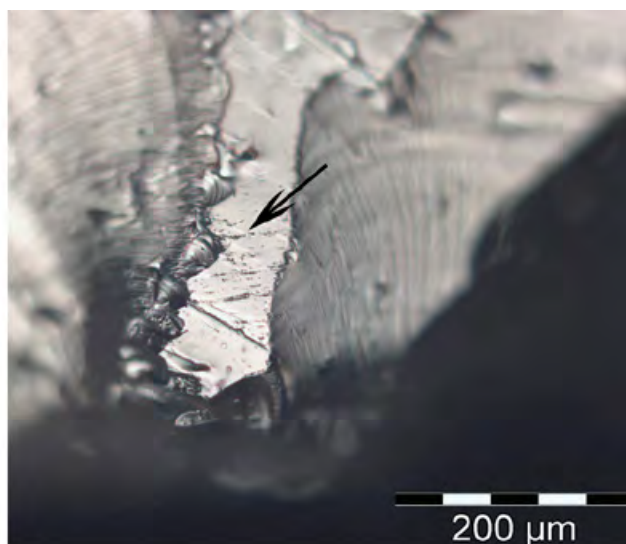


26B

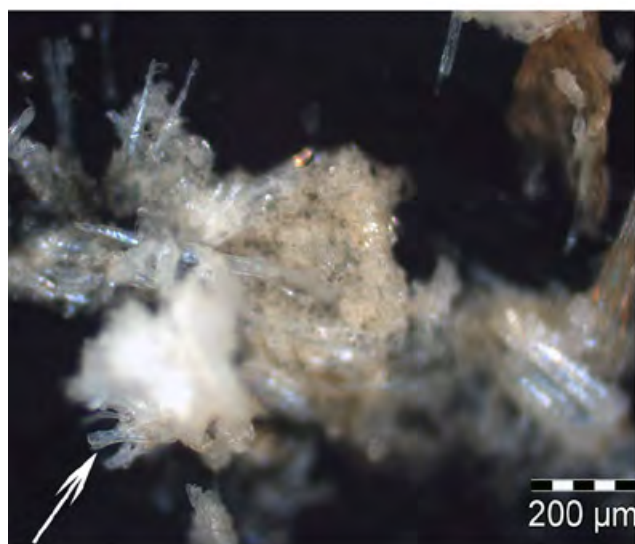
**Plates 24–26.** 24A–24B Experiment 62. Whittling soft wood (erima) for 30 minutes: (24A) scars and striations, (24B) whittling action. The arrow indicates rough-bottomed striations. 25A–25B Experiment 240. Carving soft wood (red cedar) for 1 hour: (25A) striations, (25B) carving action. 26A–26B Experiment 38. Carving soft wood (malas) for 15 minutes: (26A) striations, (26B) carving action.



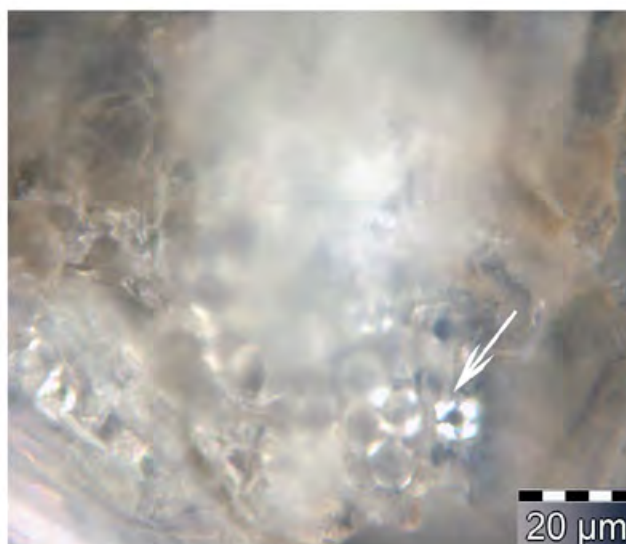
27A



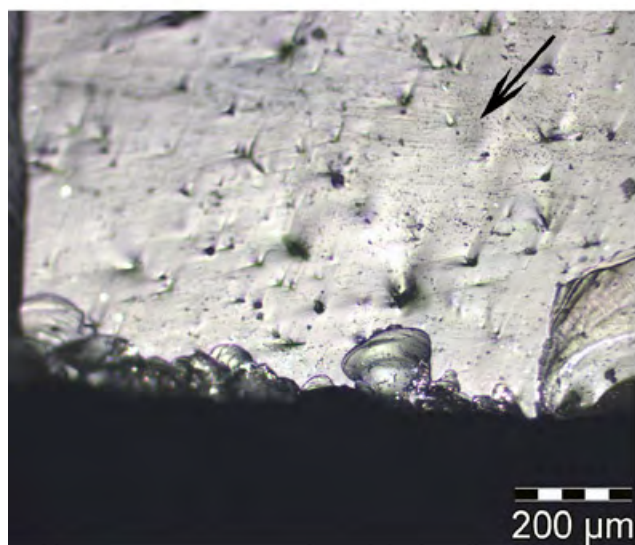
27B



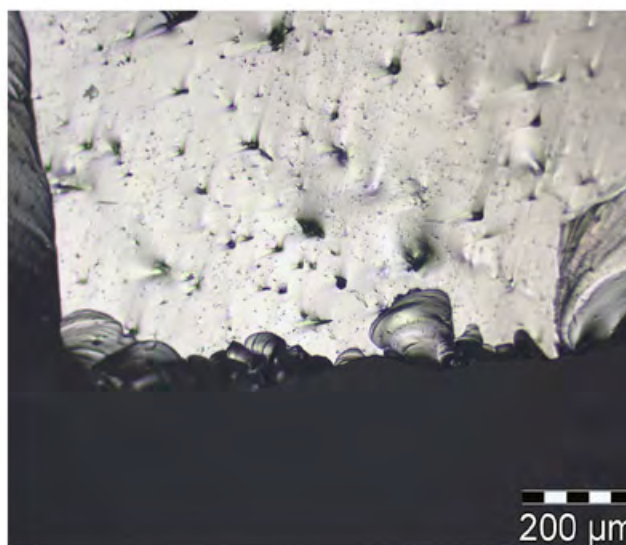
27C



27D

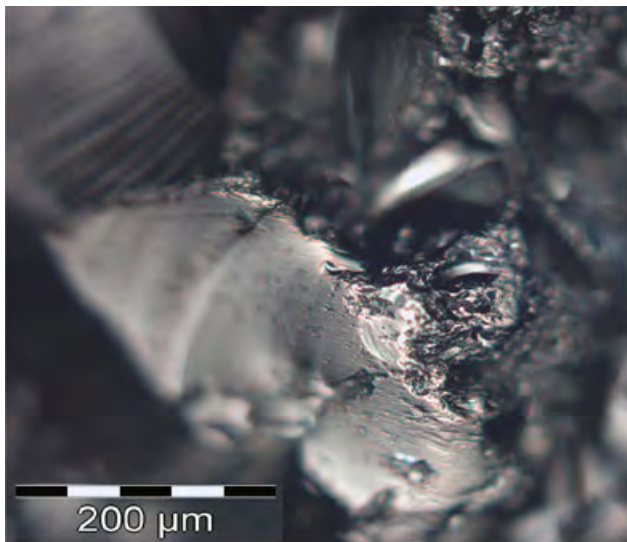


28A

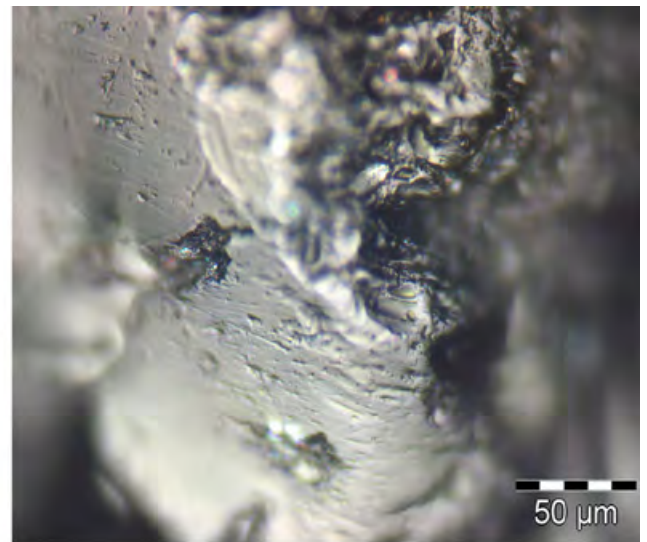


28B

**Plates 27–28.** 27A–27D Experiment 234. Carving soft wood (hibiscus) for 25 minutes: (27A) scars before cleaning. The arrow indicates plant residues. (27B) after cleaning. The arrow indicates polish and striations. (27C) residues. The arrow indicates plant fibre. (27D) plant tissue and starch residues. The arrow indicates starch grains. 28A–28B Experiment 47. Engraving soft wood (hibiscus) for 30 minutes: (28A) scars and residues before cleaning. The arrow indicates film residues. (28B) scars after cleaning.



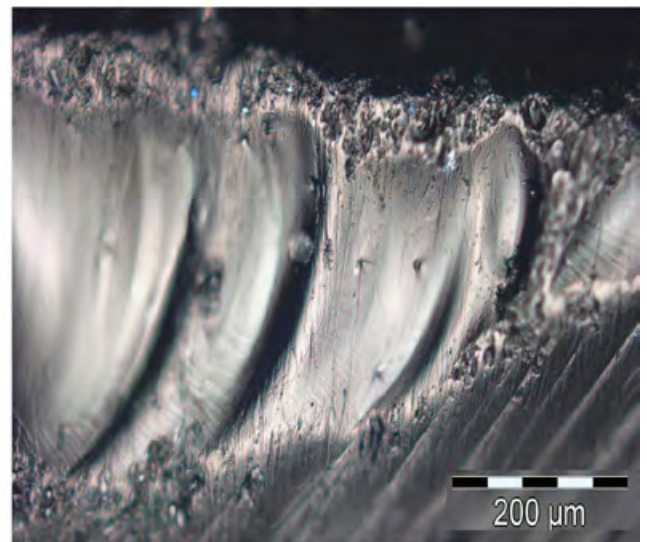
29A



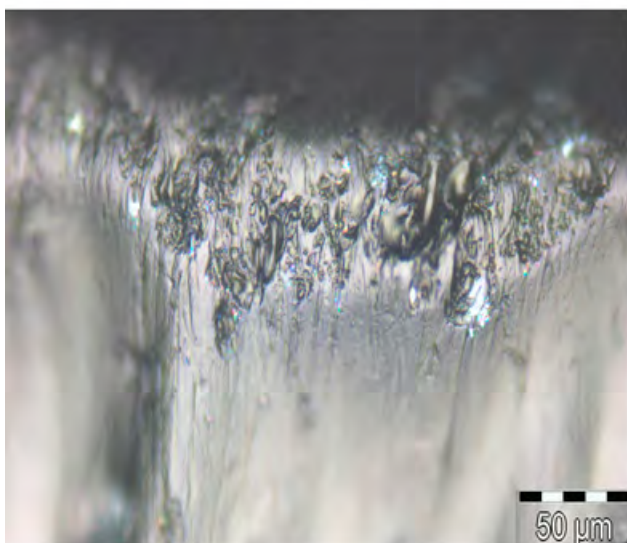
29B



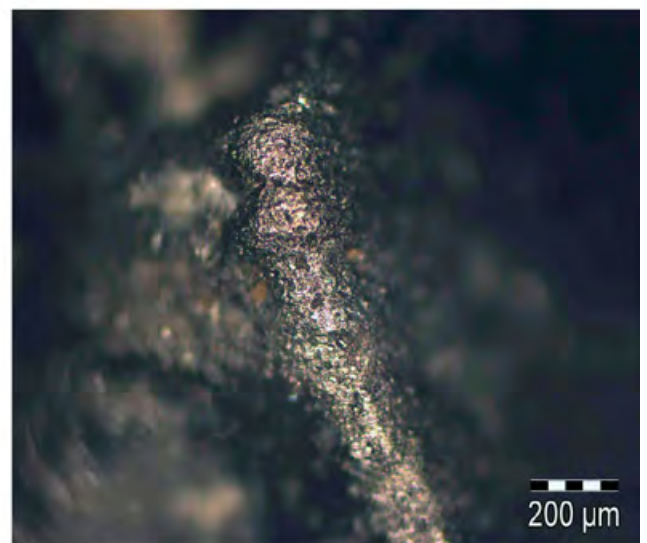
30A



30B

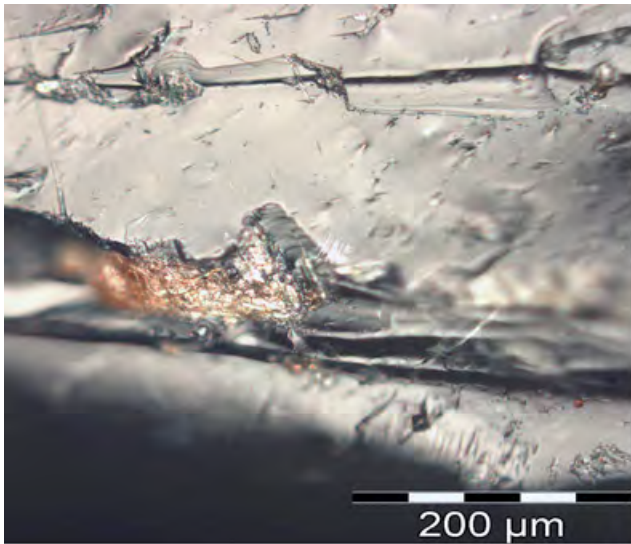


30C

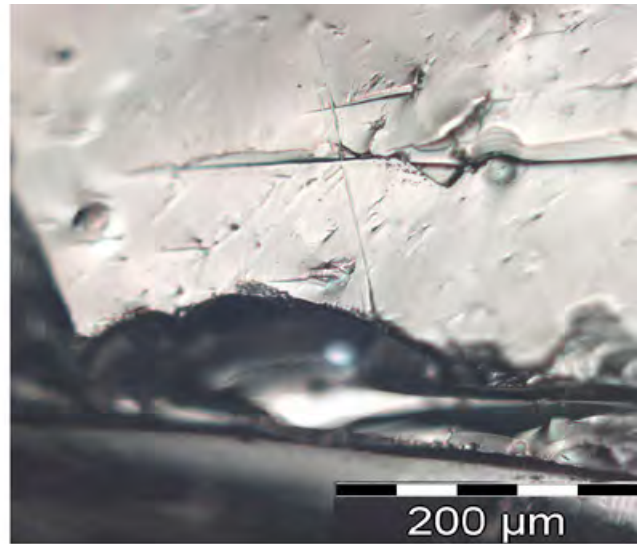


30D

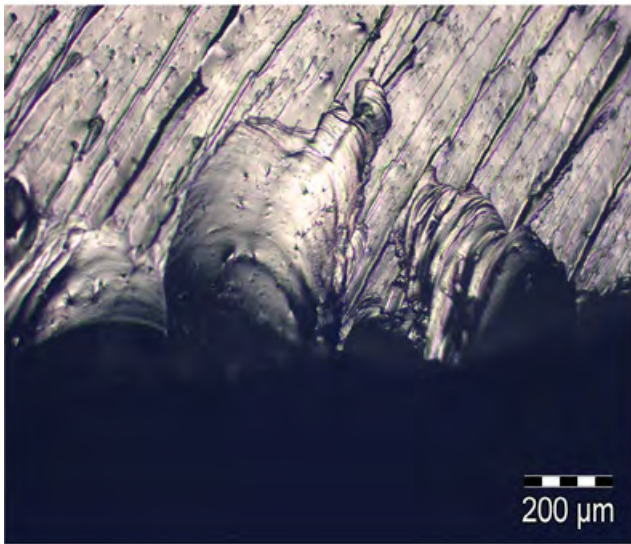
**Plates 29–30.** 29A–29B Experiment 316. Drilling soft wood for 15 minutes: (29A) striations, rounding and polish, (29B) striations and polish. 30A–30D Experiment 248. Smoothing soft wood for 15 minutes: (30A) striations and rounding, (30B) striations and polish, (30C) polish, (30D) intensive rounding, striations and polish.



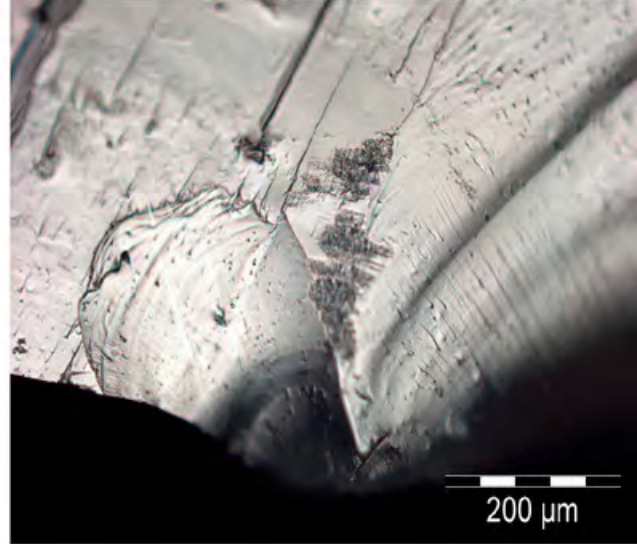
31A



31B



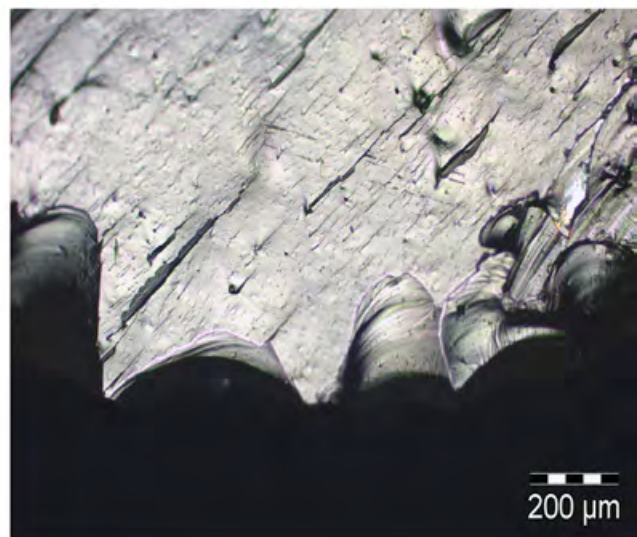
32A



32B

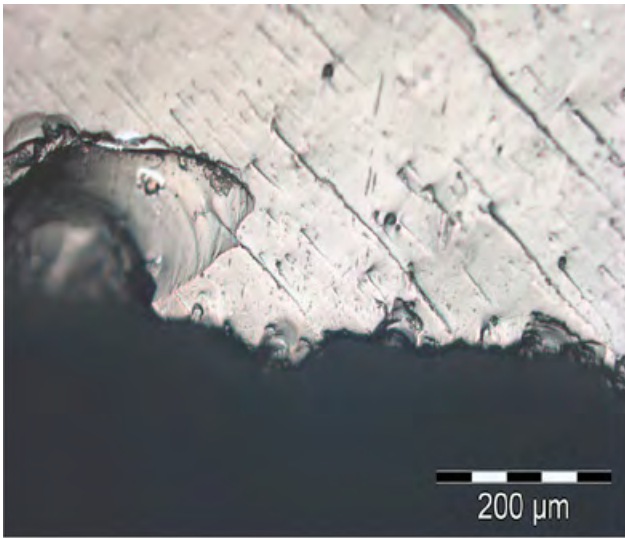


33A

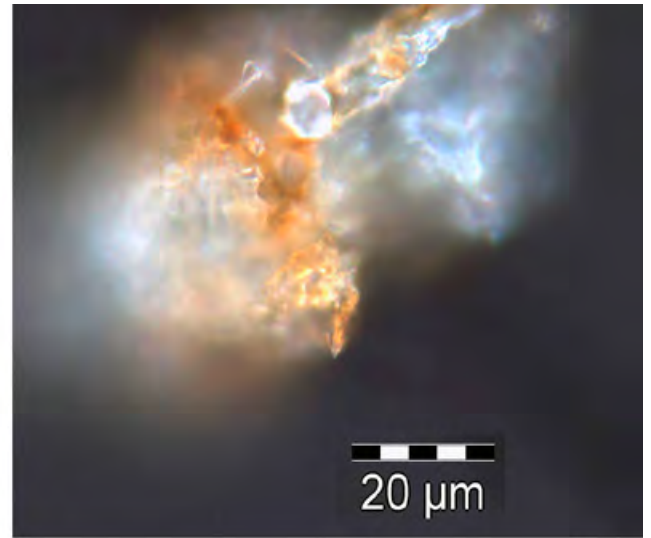


33B

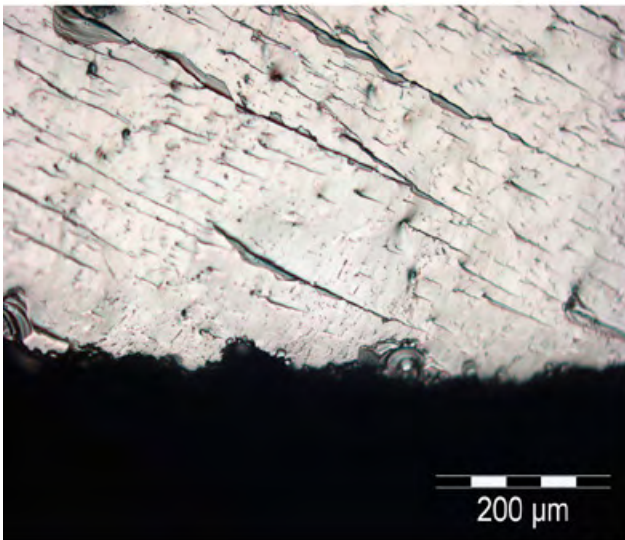
**Plates 31–33.** 31A–31B Experiment 82. Whittling hard wood (ton) for 5 minutes: (31A) before cleaning, (31B) after cleaning. 32A–32B Experiment 83. Whittling hard wood (ton) for 15 minutes: (32A) scars, (32B) scar and striations. 33A–33B Experiment 60. Whittling hard wood (ton) for 30 minutes: (33A) scars, before cleaning, (33B) after cleaning.



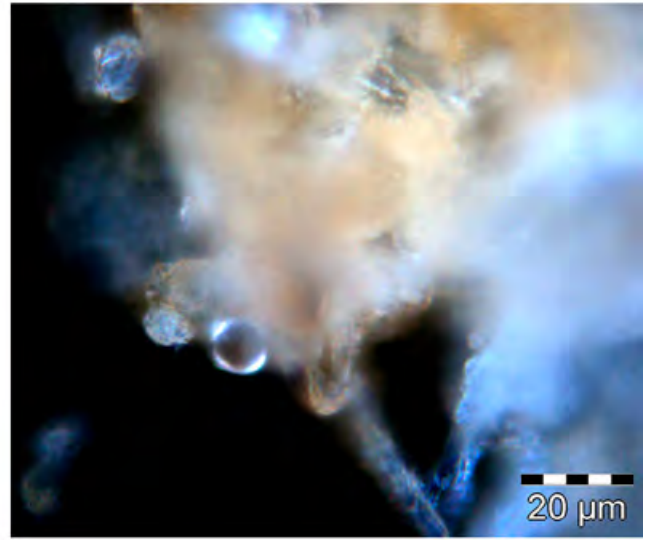
34A



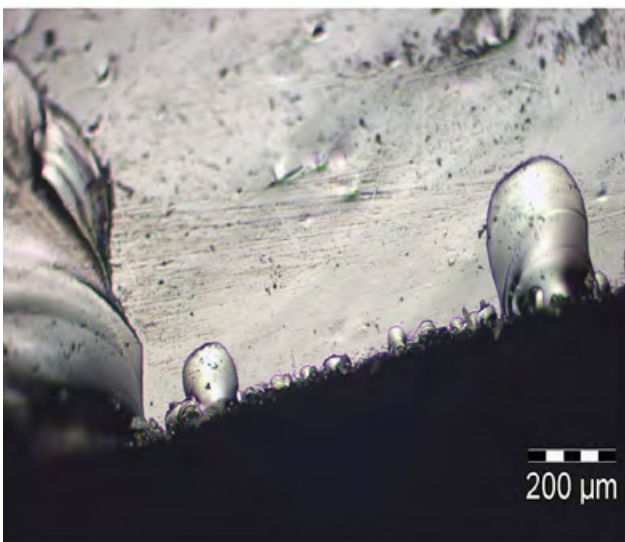
34B



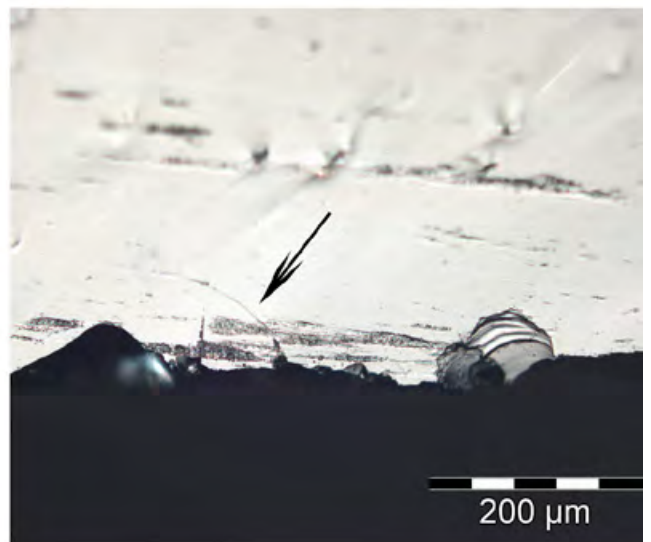
35A



35B

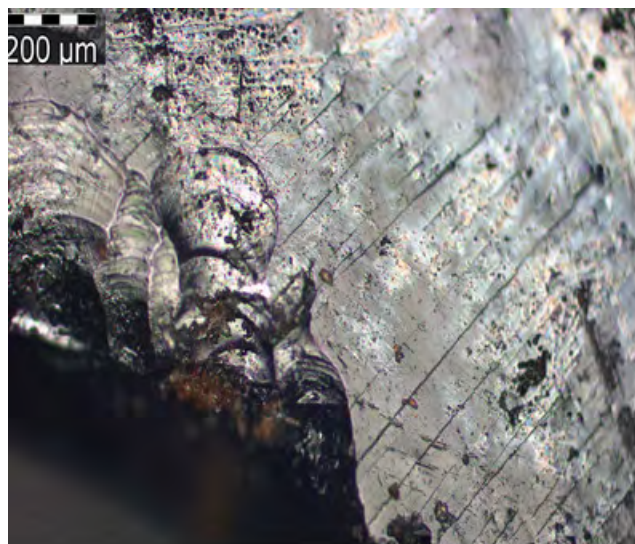


36A

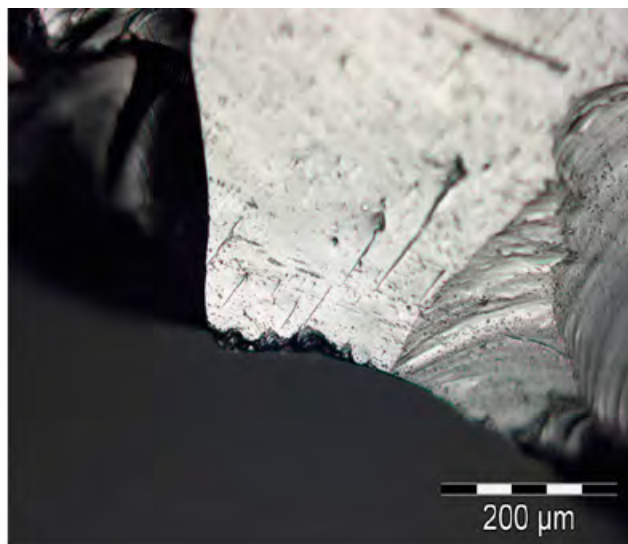


36B

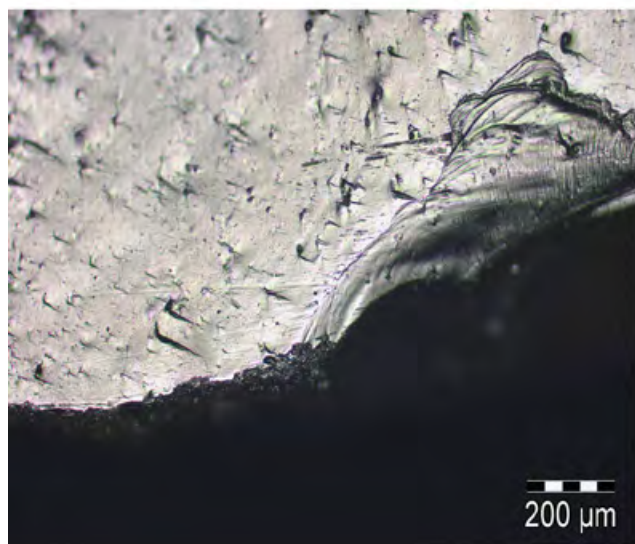
**Plates 34–36.** 34A–34B Experiment 301. Scraping hard wood (ton) for 30 minutes: (34A) scars, edge rounding, striations and polish, (34B) starch residues. 35A–35B Experiment 300. Scraping/whittling hard wood (“lipi”) for 30 minutes: (35A) scars and edge rounding, (35B) starch residues. 36A–36B Experiment 170. Whittling/sawing hard wood for 30 minutes: (36A) before cleaning, (36B) after cleaning. The arrow indicates flaked striations.



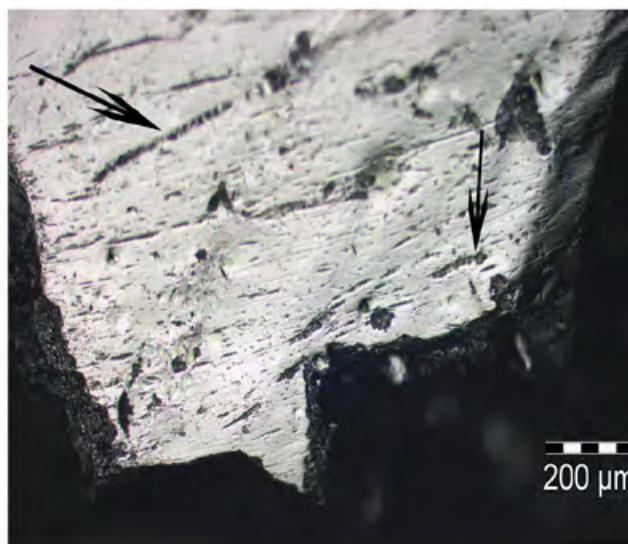
37A



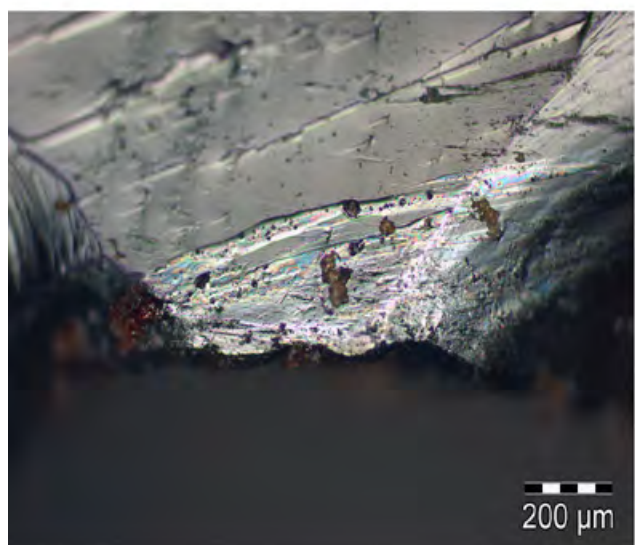
37B



38



39

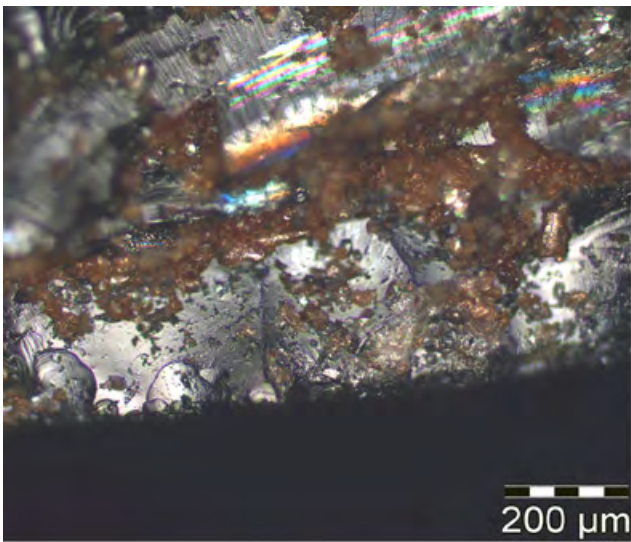


40A

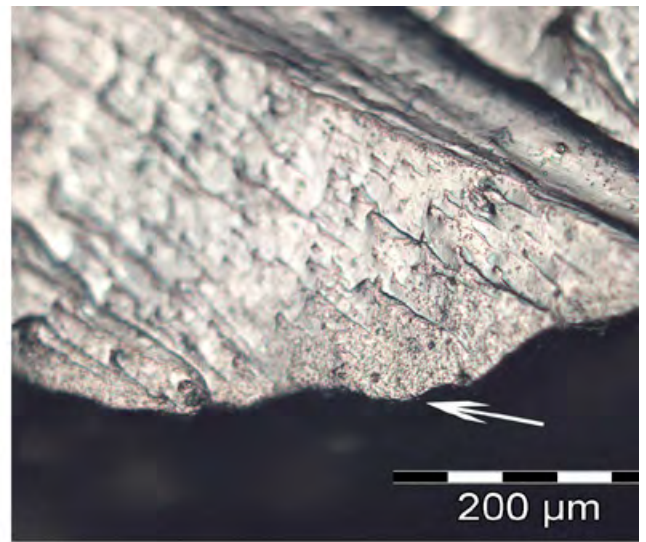


40B

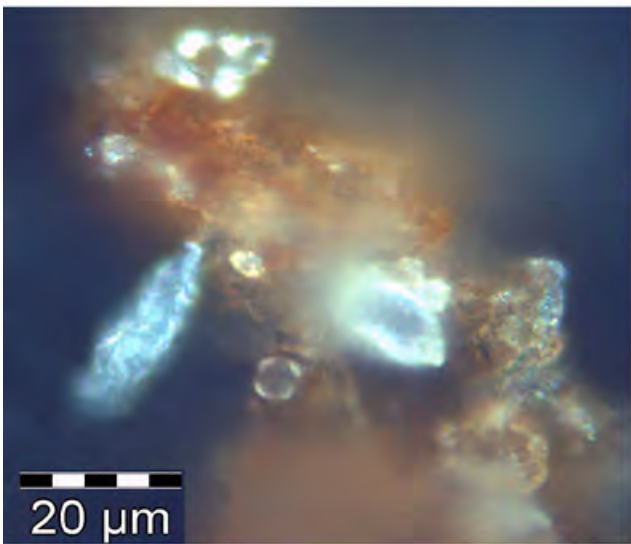
**Plates 37–40.** 37A–37B Experiment 134. Whittling bark (casuarina) for 30 minutes: (37A) residues before cleaning, (37B) scars, edge rounding, polish and striations. (38) Experiment 75. Sawing hard wood (mango) for 5 minutes. (39) Experiment 71. Sawing hard wood (mango) for 15 minutes. The arrows indicate intermittent striations. 40A–40B Experiment 187. Sawing black palm for 5 minutes: (40A) before cleaning, (40B) edge rounding, polish and striations.



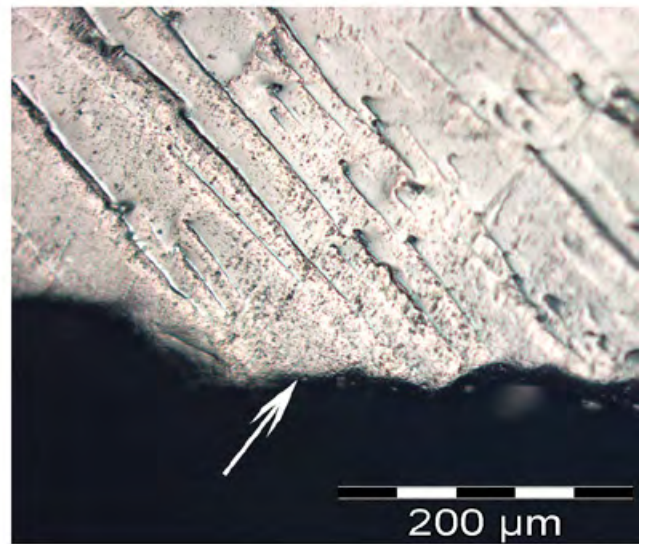
41A



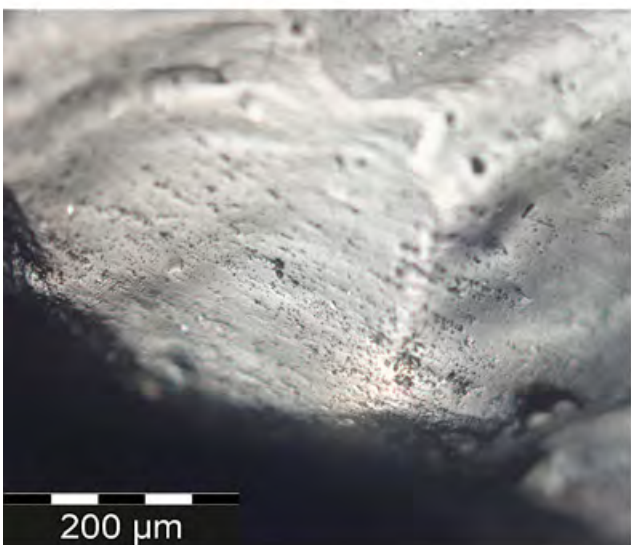
41B



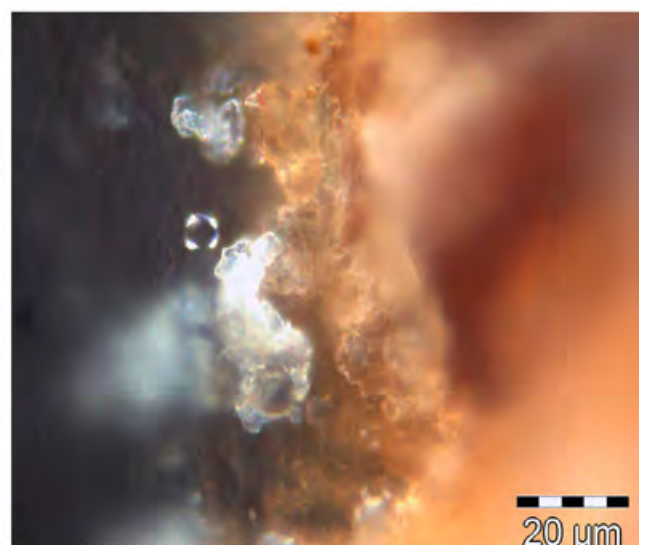
41C



42



43A

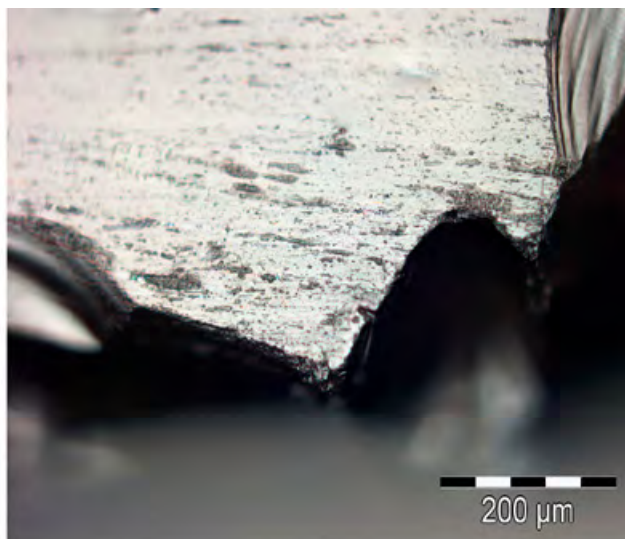


43B

**Plates 41–43.** 41A–41C Experiment 188. Scraping black palm for 5 minutes: (41A) scars and residues before cleaning, (41B) edge rounding and polish, (41C) starch residues. (42) Experiment 270. Scraping black palm for 45 minutes. The arrow indicates edge rounding and polish. 43A–43B Experiment 218. Sawing black palm for 30 minutes: (43A) polish and striations, (43B) starch residues.



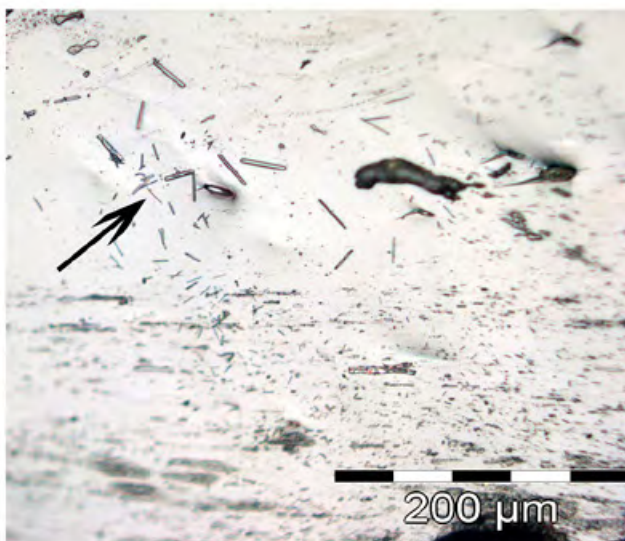
44A



44B



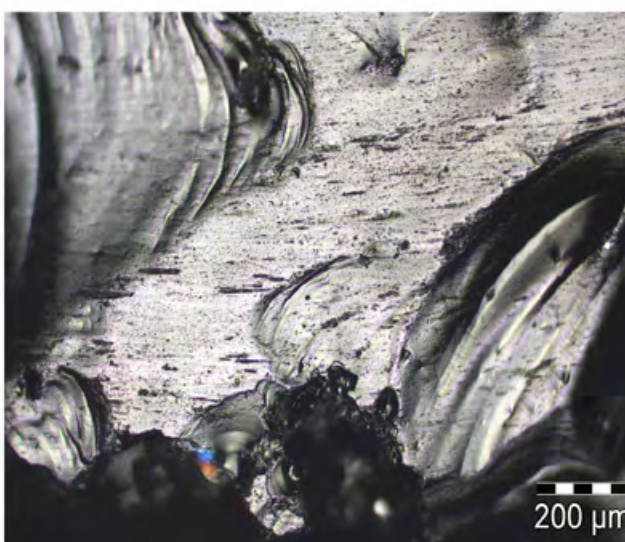
44C



44D



44E

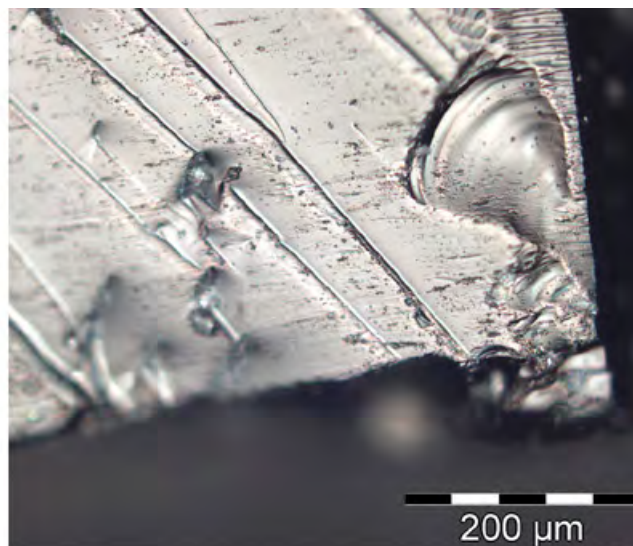


45

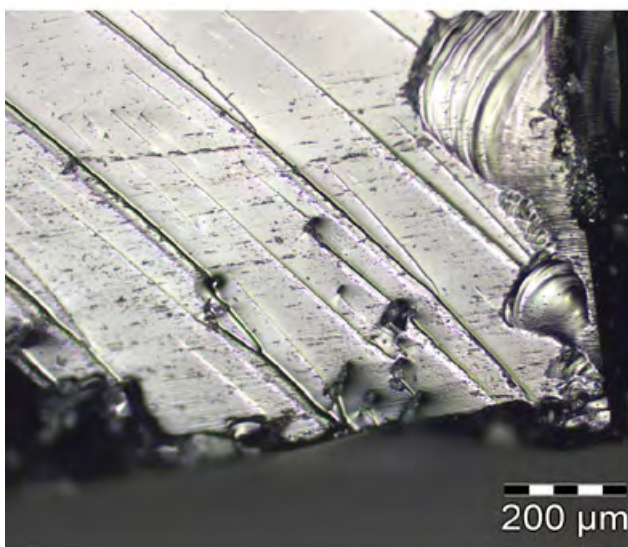
**Plates 44–45.** 44A–44E Experiment 280. Sawing bamboo for 5 minutes: (44A) sawing action, (44B) polish and striations, (44C) residues on the tool edge, (44D) polish, striations and residues. The arrow indicates needle-like residues. (44E) needle-like residues. (45) Experiment 231. Sawing bamboo for 15 minutes: scars, polish and striations.



46A



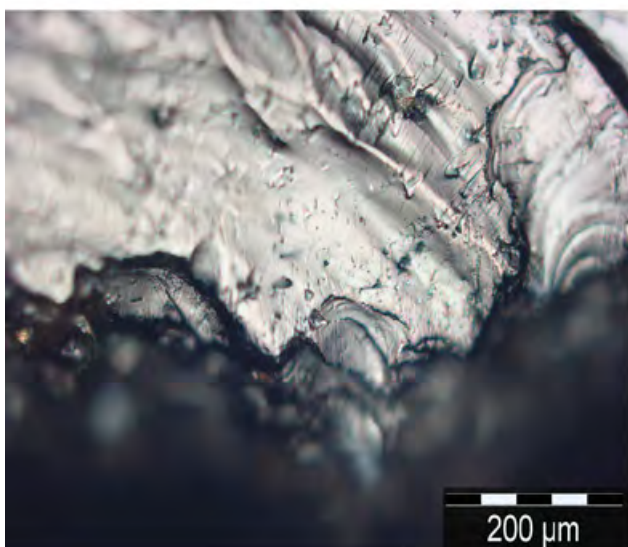
46B



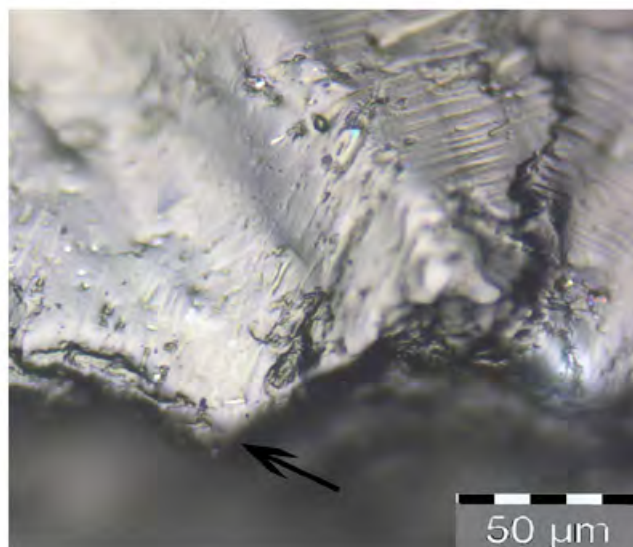
46C



46D



47A

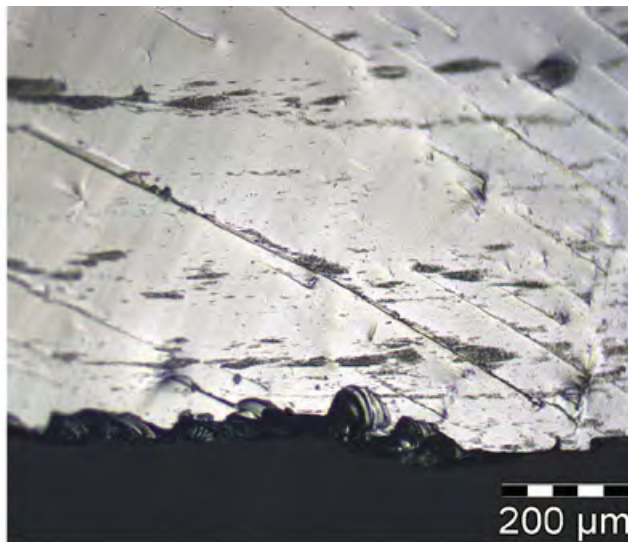


47B

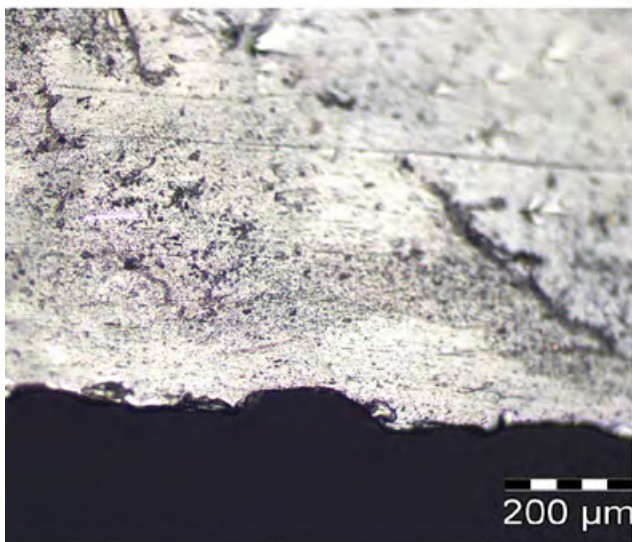
**Plates 46–47.** 46A–46D Experiment 236. Carving bamboo for 15 minutes: (46A) scraping action, (46B) scars, polish and striations before cleaning, (46C) scars, polish and striations after cleaning, (46D) flakes used for carving bamboo comb. 47A–47B Experiment 258. Scraping bamboo for 45 minutes: (47A) scars, edge rounding, polish and striations, (47B) edge rounding, polish and striations.



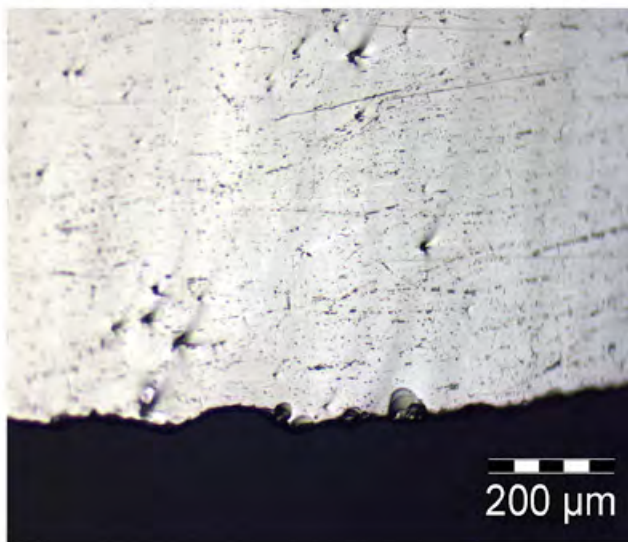
48A



48B



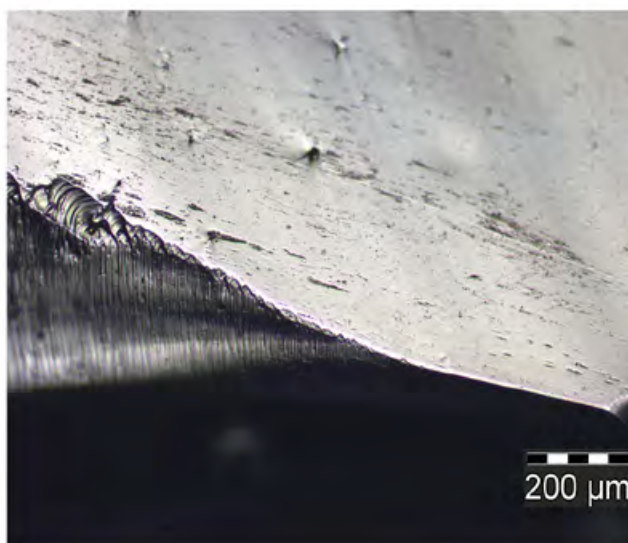
49A



49B



50A

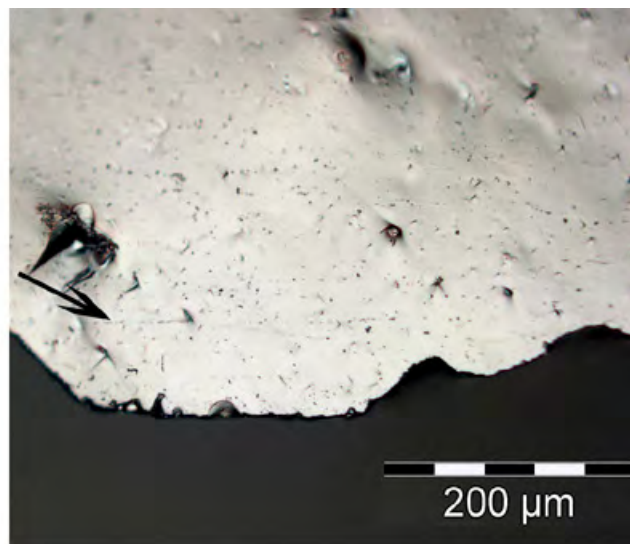


50B

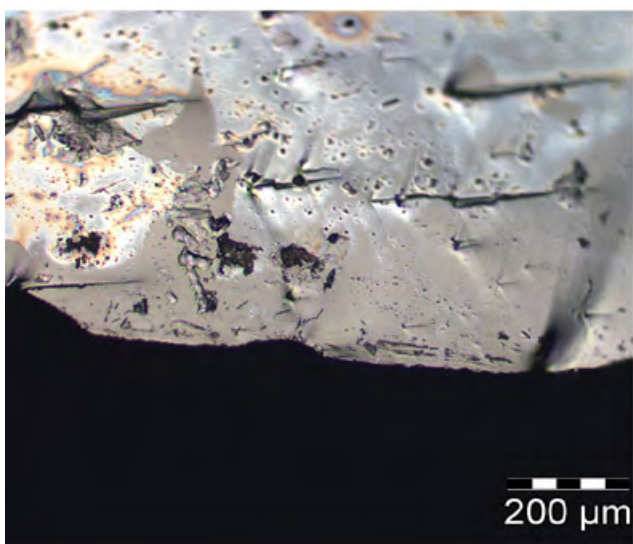
**Plates 48–50.** 48A–48B Experiment 141. Cutting sugar cane for 5 minutes: (48A) cutting action, (48B) scars and striations. 49A–49B Experiment 140. Cutting sugar cane for 15 minutes: (49A) scars, striations and film residue before cleaning, (49B) scars and striations after cleaning. 50A–50B Experiment 139. Cutting sugar cane for 30 minutes: (50A) edge rounding, striations and residue before cleaning, (50B) edge rounding, polish and striations after cleaning.



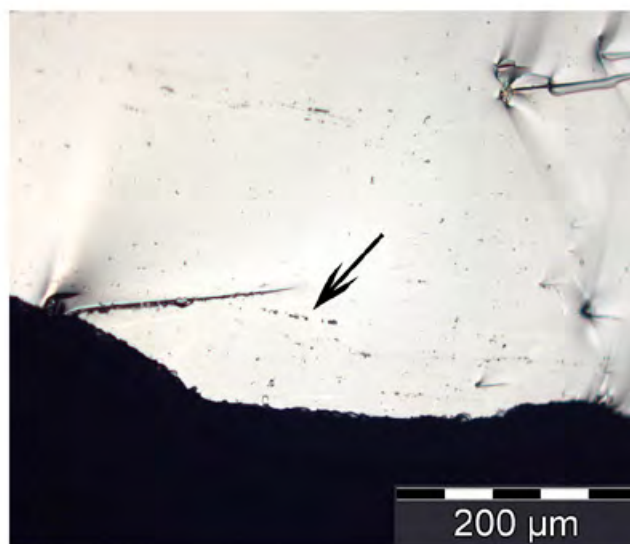
51



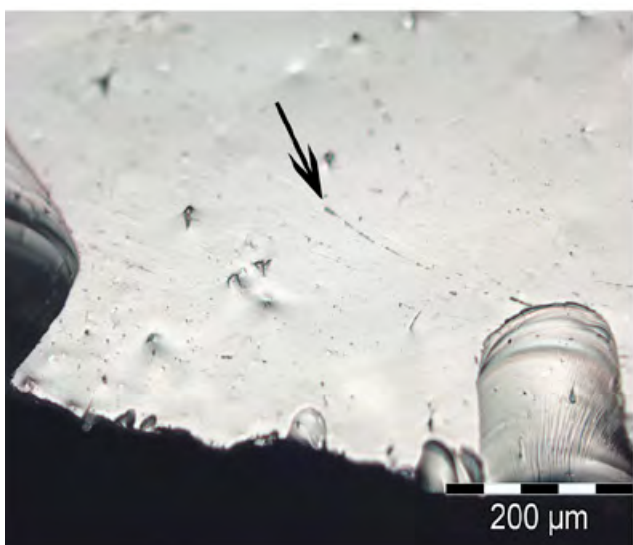
52



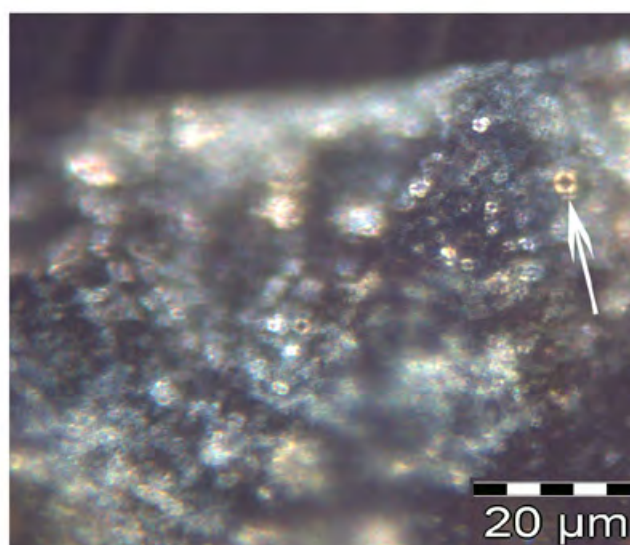
53A



53B

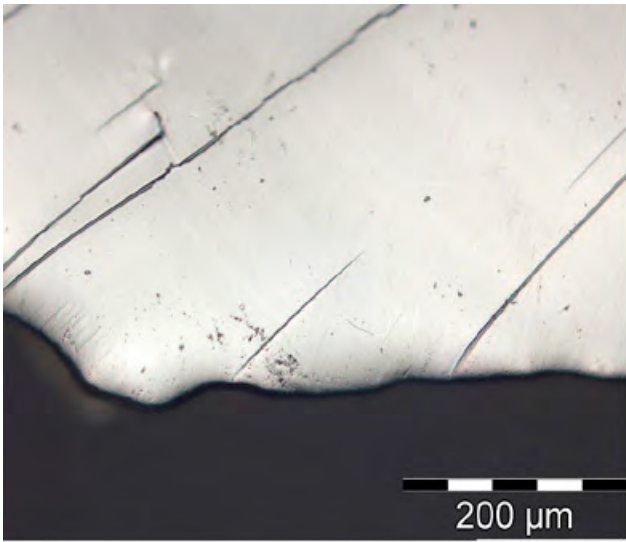


54

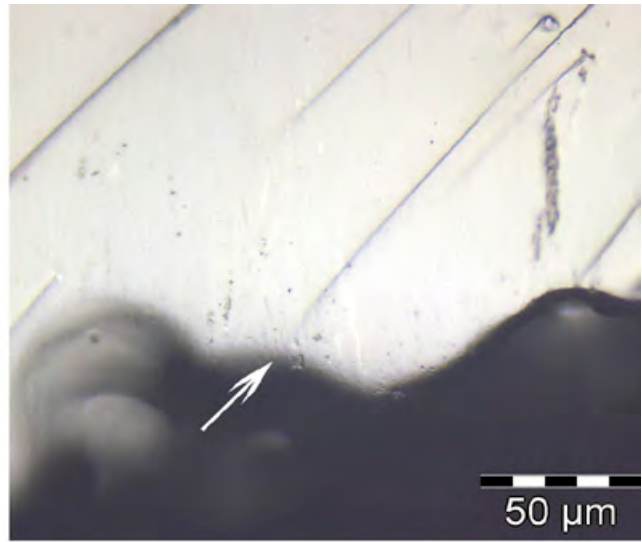


55

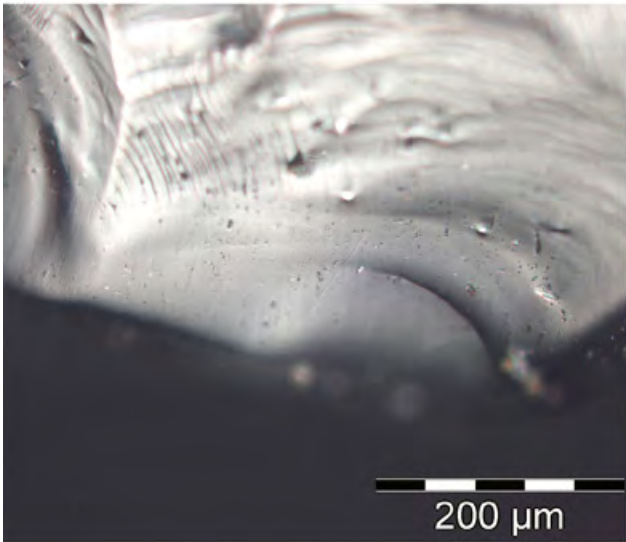
**Plates 51–55.** (51) Cutting banana leaf in action. (52) Experiment 105. Cutting banana leaves for 5 minutes. 53A–53B Experiment 97. Cutting banana leaves for 15 minutes: (53A) residues on the edge before cleaning, (53B) polish and striations. The arrow indicates striations. (54) Experiment 112. Cutting banana leaves for 30 minutes: polish and striations. The arrow indicates striations. (55) Experiment 100. Cutting banana leaves for 30 minutes: starch residues. The arrow indicates starch residue.



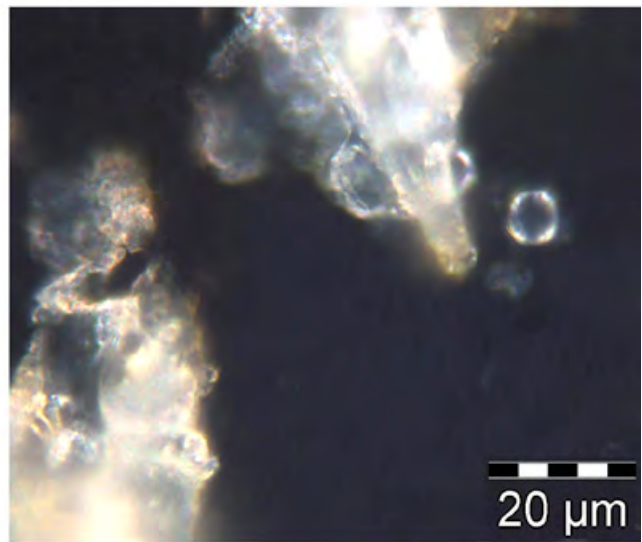
56A



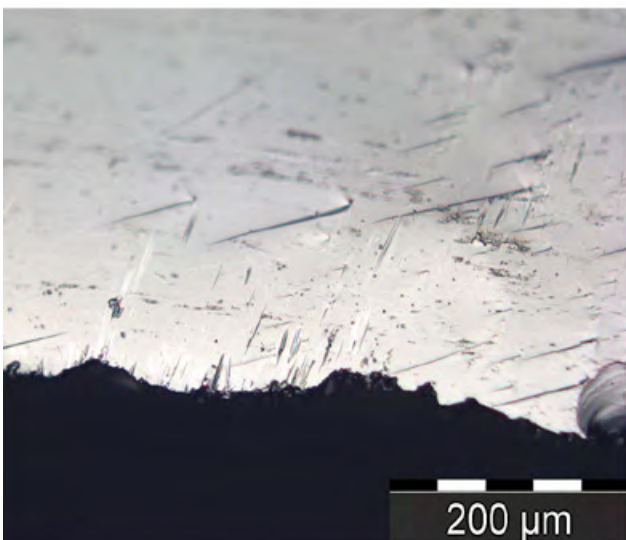
56B



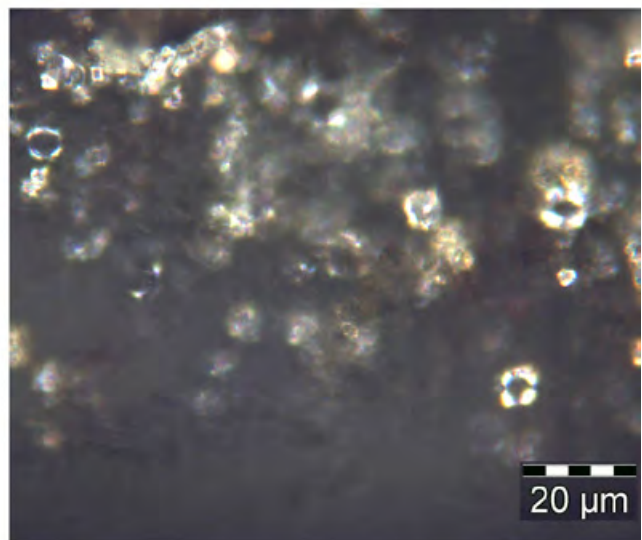
57A



57B

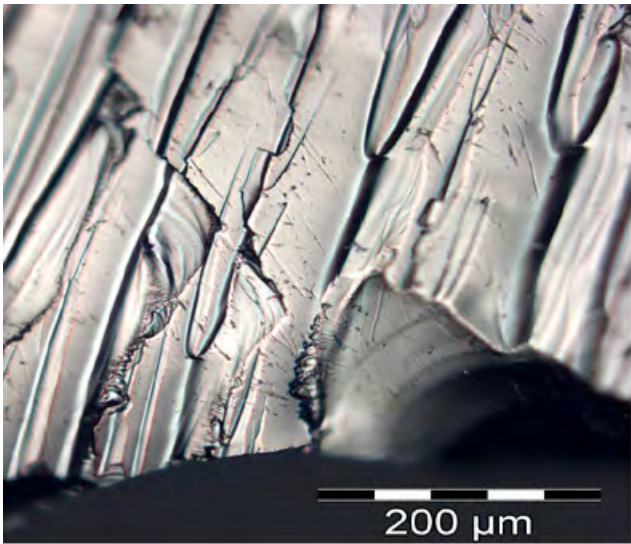


58A

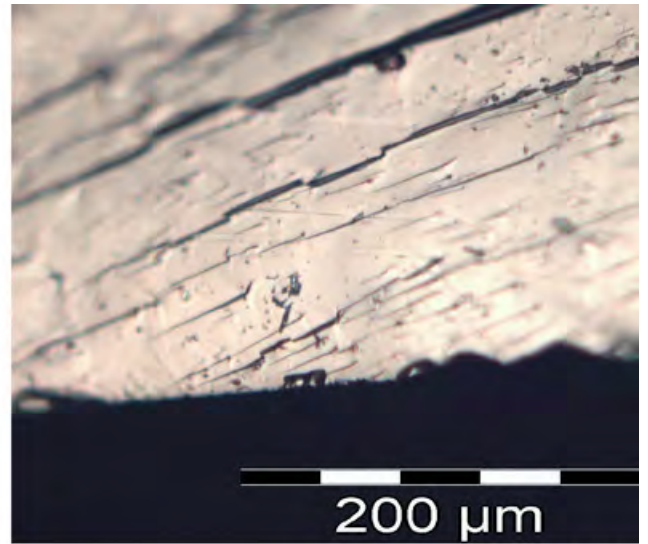


58B

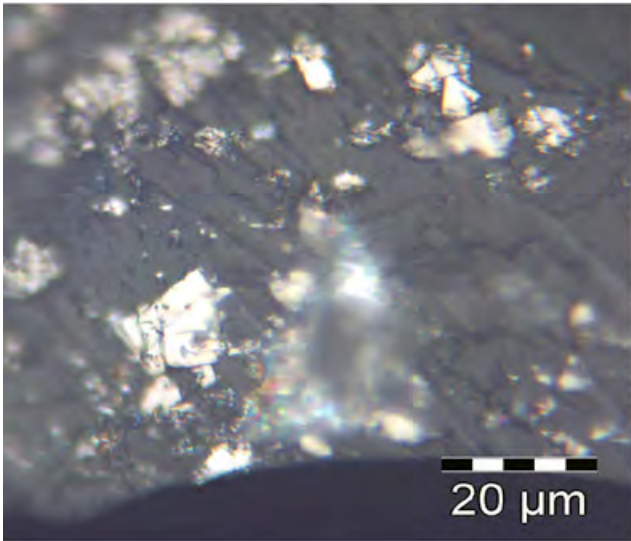
**Plates 56–58.** 56A–56B Experiment 127. Scraping banana midrib for 15 minutes: (56A) edge rounding and polish, (56B) polish and striations. The arrow indicates striations. 57A–57B Experiment 116. Scraping banana midrib for 25 minutes: (57A) polish, (57B) starch residues. 58A–58B Experiment 118. Cutting fern for 5 minutes: (58A) edge scarring and striations, (58B) starch residues.



59



60A



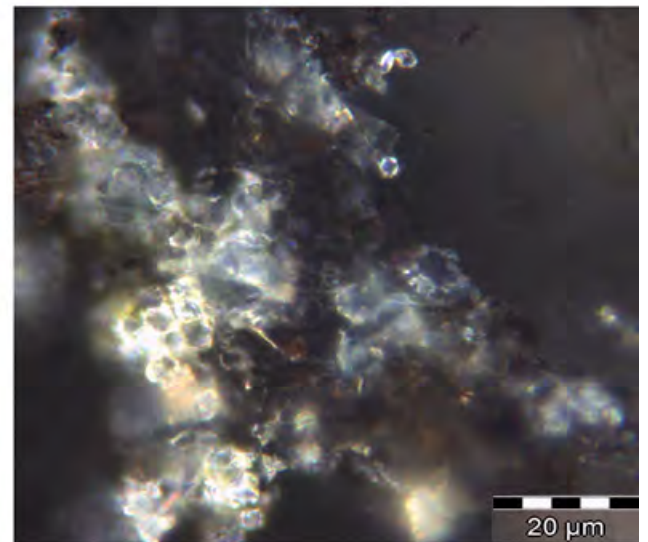
60B



61A

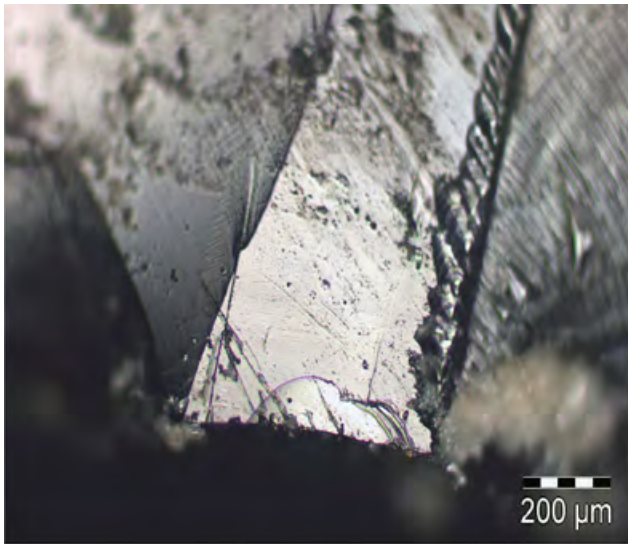


61B

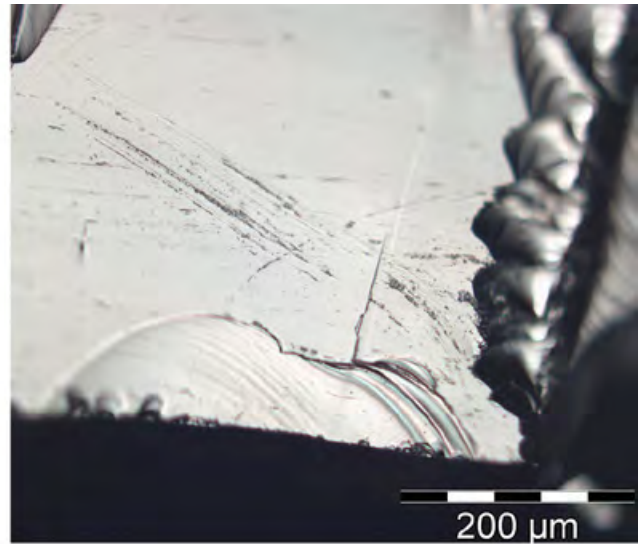


61C

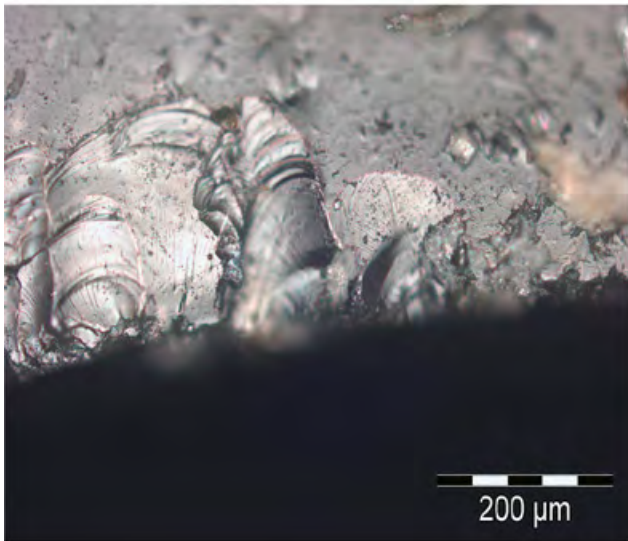
**Plates 59–61.** (59) Experiment 281. Whittling fern for 10 minutes: scars and striations. 60A–60B Experiment 217. Cutting aibika for 15 minutes: (60A) scars and striations, (60B) white residues. 61A–61C Experiment 102. Cutting taro leaves and stem for 15 minutes: (61A) cutting action, (61B) scars and striations, (61C) starch residues.



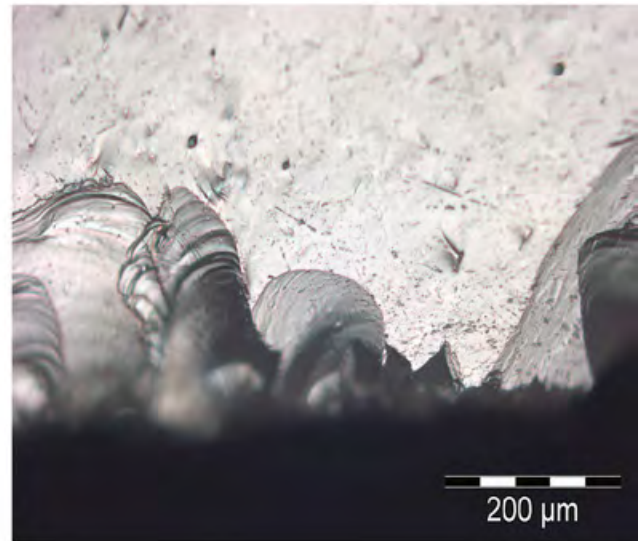
62A



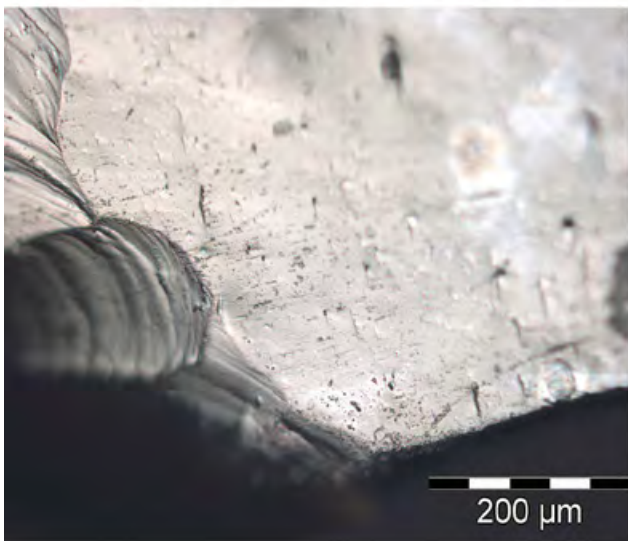
62B



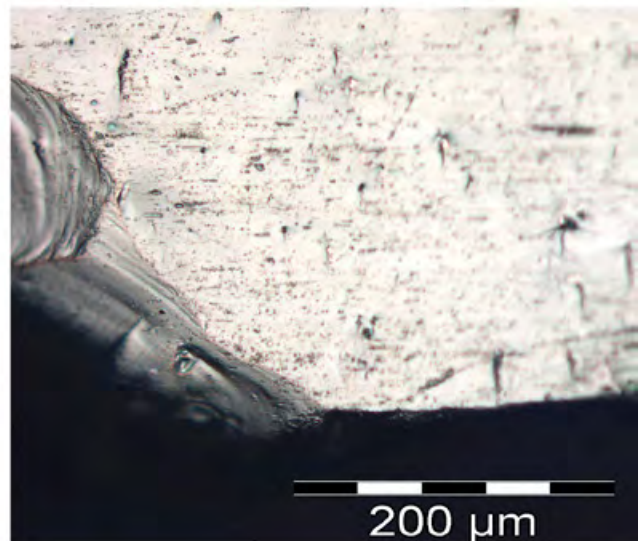
63A



63B

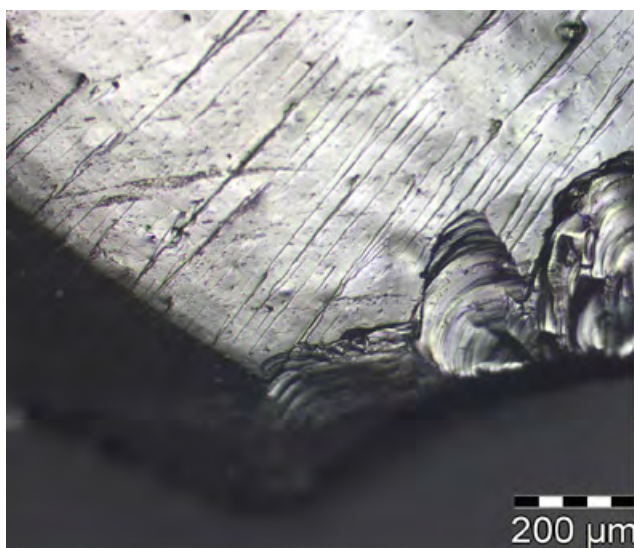


64A

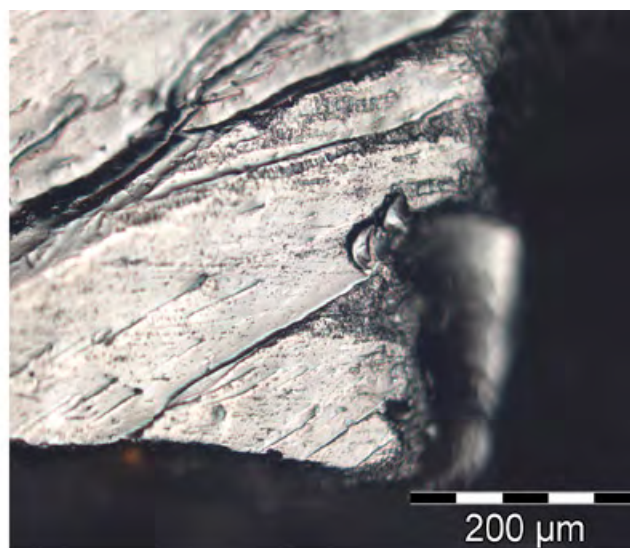


64B

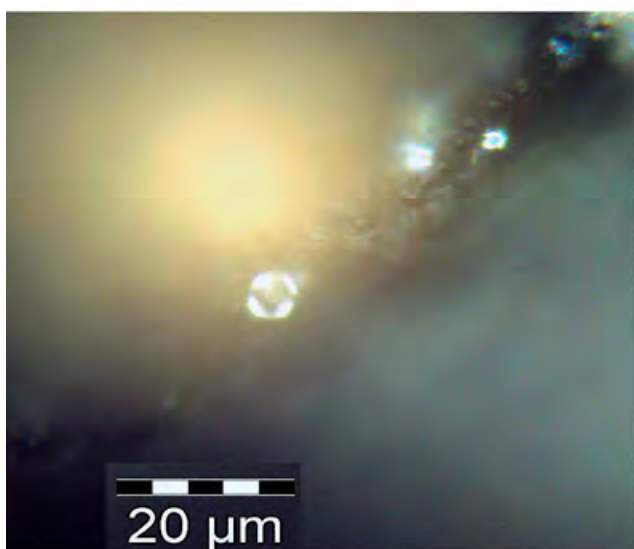
**Plates 62–64.** 62A–62B Experiment 104. Cutting croton for 5 minutes: (62A) before cleaning, (62B) scars and striations after cleaning. 63A–63B Experiment 108. Cutting croton for 15 minutes: (63A) before cleaning, (63B) scars and striations after cleaning. 64A–64B Experiment 107. Cutting croton for 30 minutes: (64A) before cleaning, (64B) polish and striations after cleaning.



65



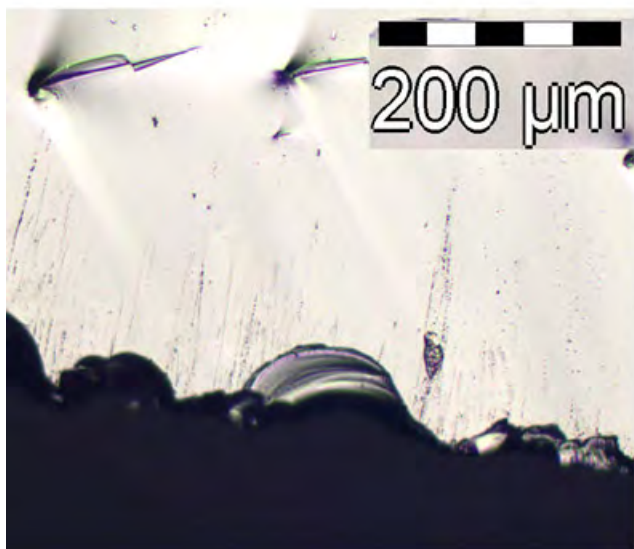
66A



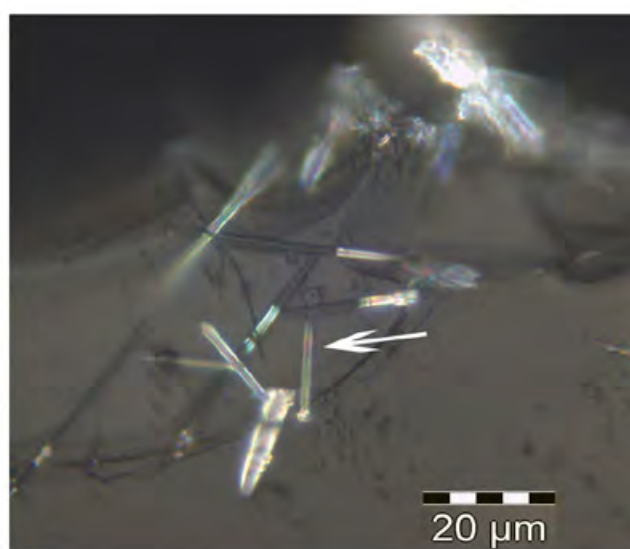
66B



67A

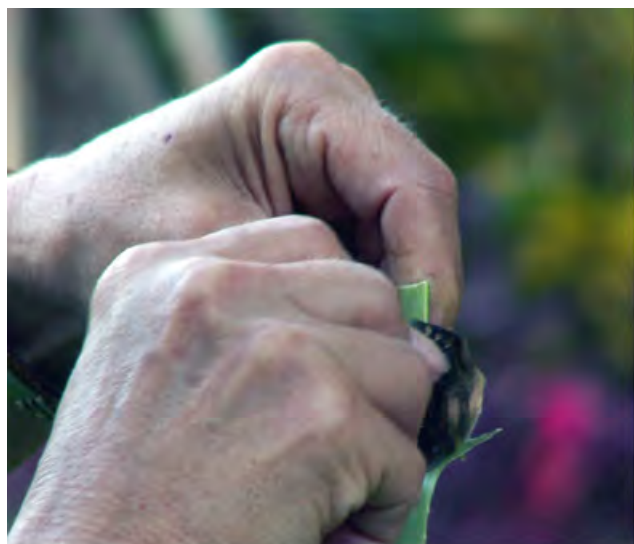


67B

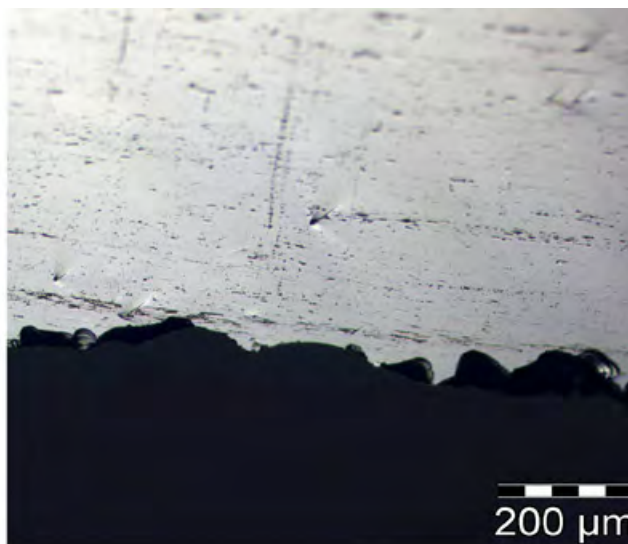


67C

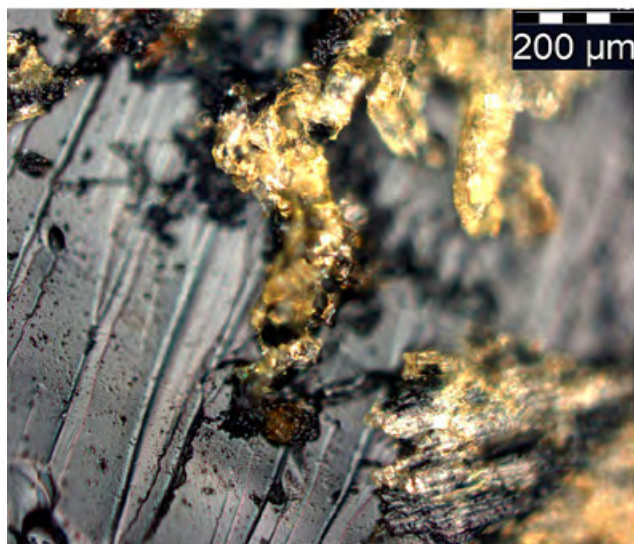
**Plates 65–67.** (65) Experiment 129. Cutting ginger for 5 minutes. 66A–66B Experiment 12. Cutting ginger for 15 minutes: (66A) striations and polish, (66B) starch residues. 67A–67C Experiment 159. Cutting rattan for 5 minutes: (67A) cutting action, (67B) scars and striations, (67C) plant residues. The arrow indicates needle-like residues.



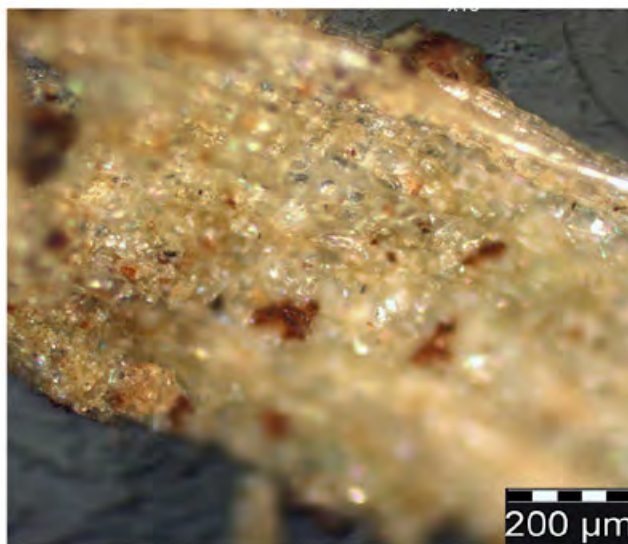
68A



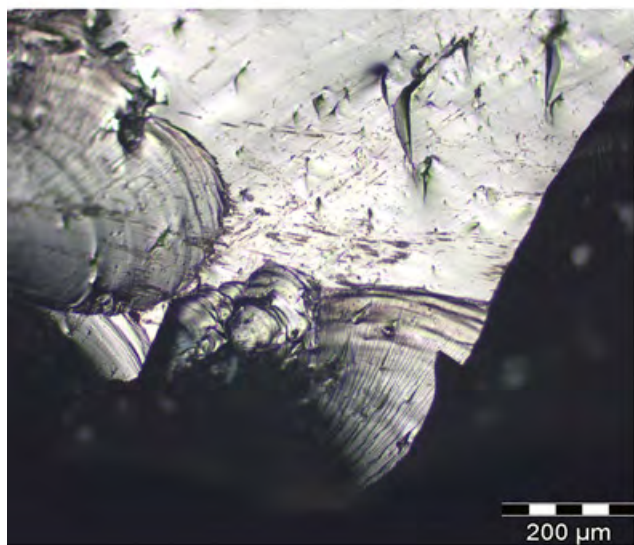
68B



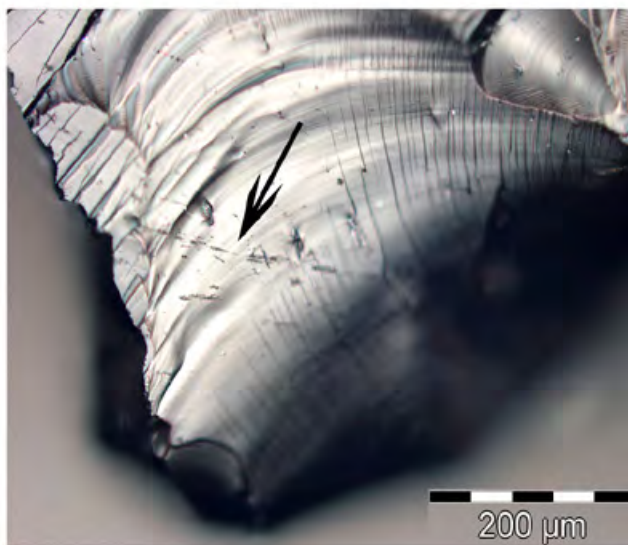
68C



68D



69A

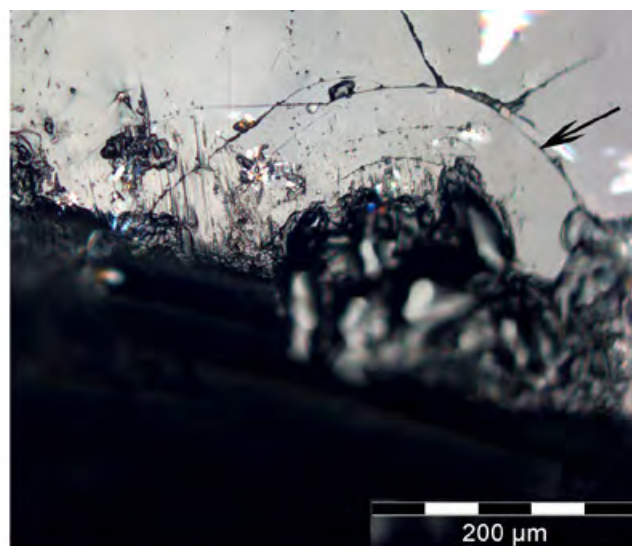


69B

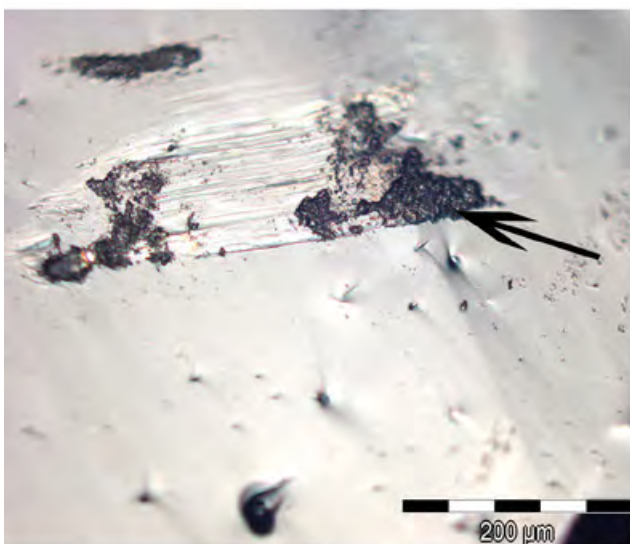
**Plates 68–69.** 68A–68D Experiment 26. Cutting pandanus for 15 minutes: (68A) cutting action, (68B) scars and striations, (68C) plant residues, (68D) plant fibre. 69A–69B Experiment 20. Cutting/slicing pandanus for 15 minutes: (69A) scars and striations, (69B) striations within scars. The arrow indicate striations.



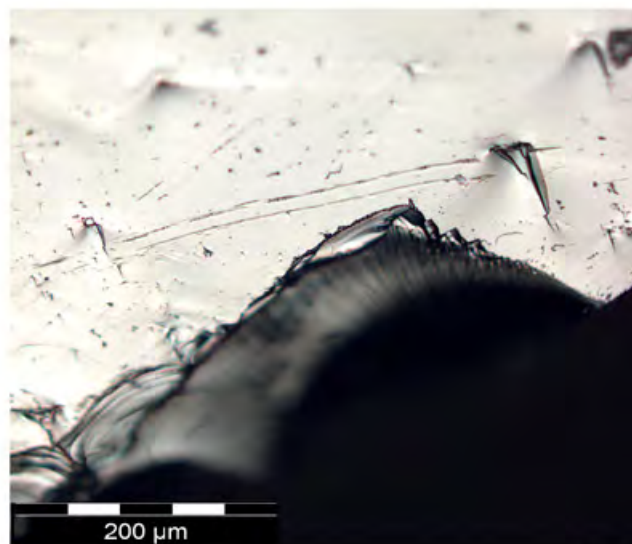
70A



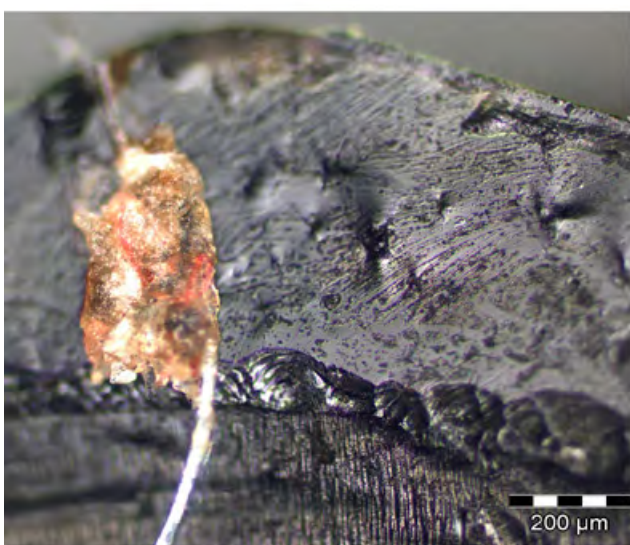
70B



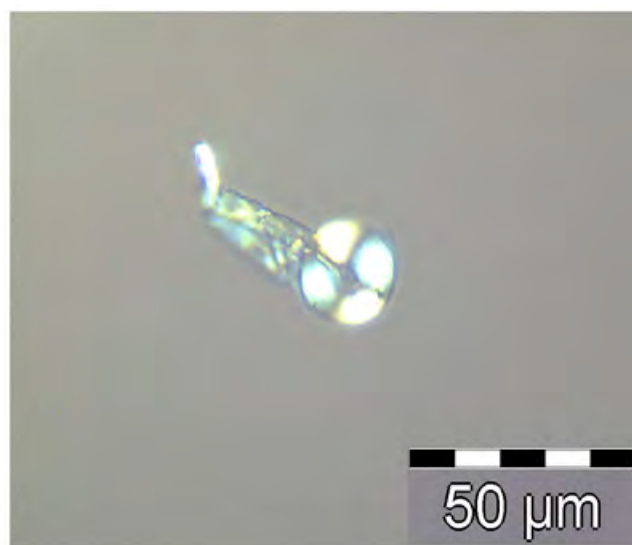
70C



70D

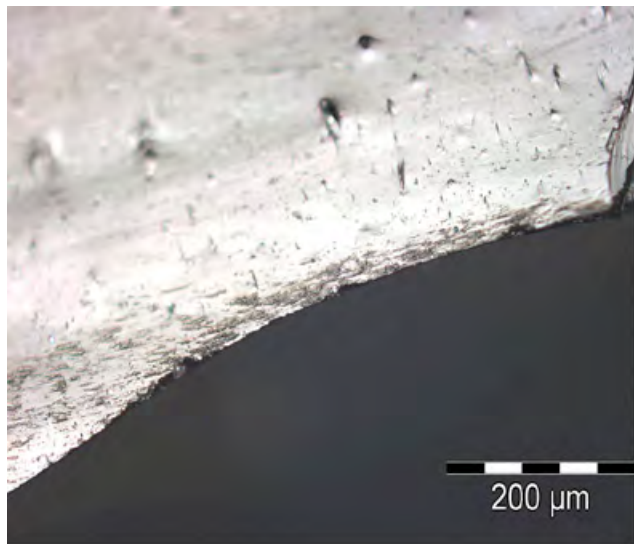


70E

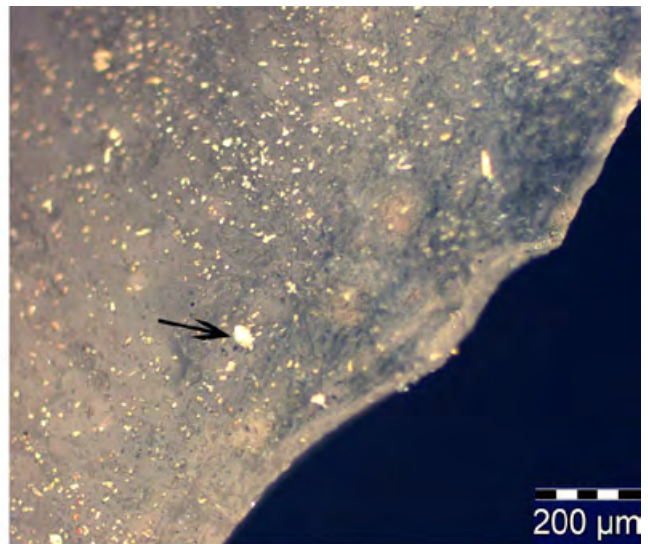


70F

**Plate 70.** 70A–70F Experiment 2. Cutting pandanus for 30 minutes: (70A) hafted tool used for cutting action, (70B) hafting wear on the edge: scars, striations and polish. The arrow indicates flaked striations. (70C) hafting wear on the surface: striations and residues. The arrow indicate residues from resin. (70D) scars and rough-bottomed striations on the working edge, (70E) film and plant residues on the working edge before cleaning, (70F) starch grain extracted from the working edge.



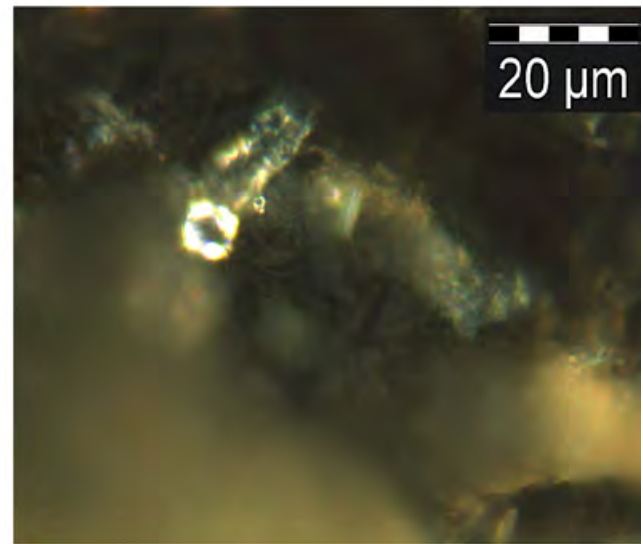
71A



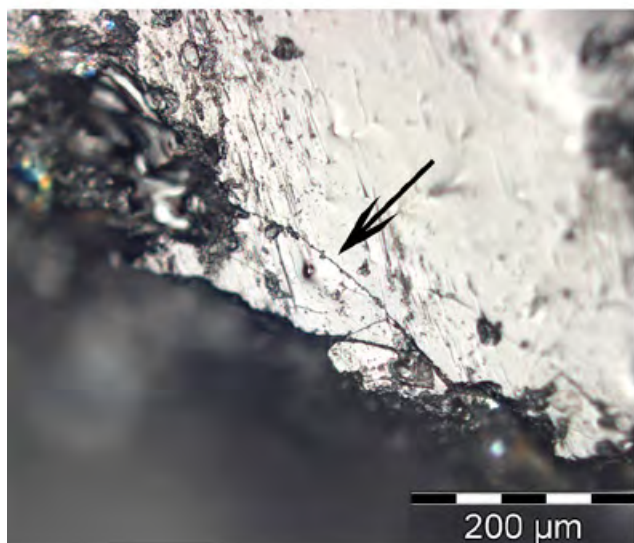
71B



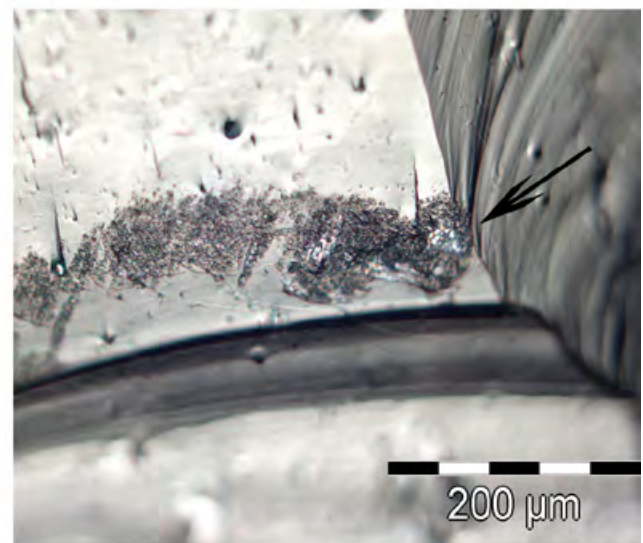
71C



71D

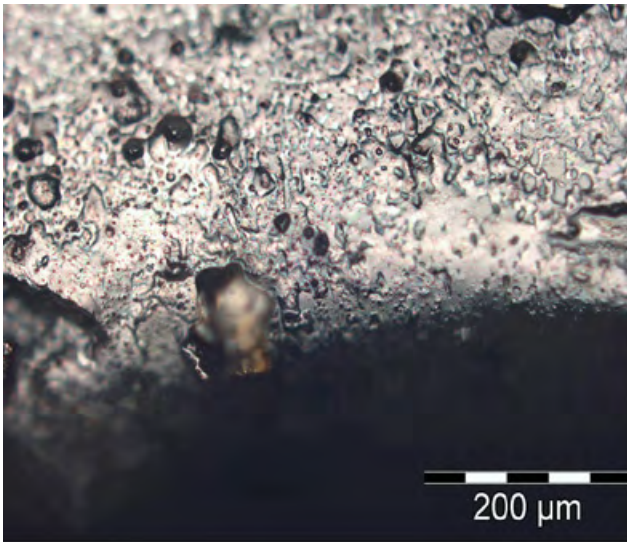


71E

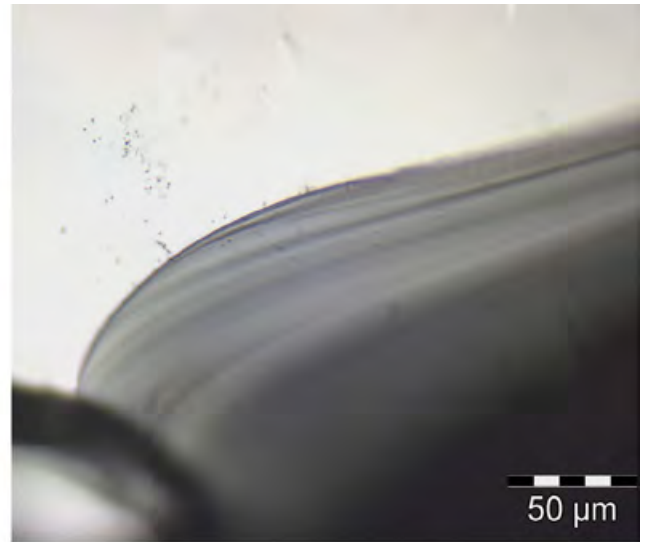


71F

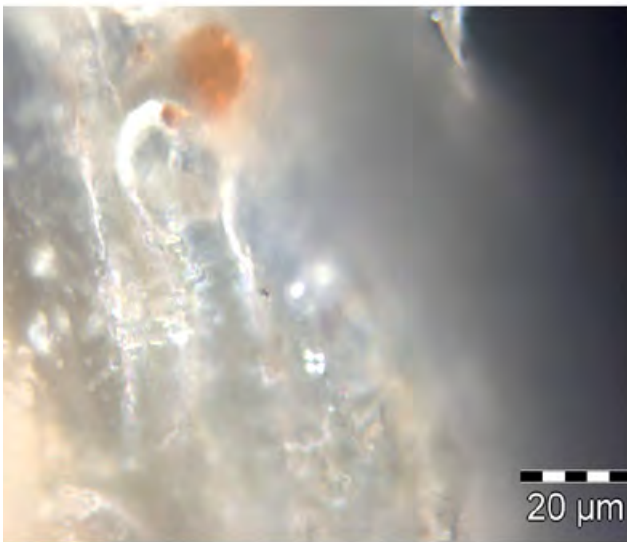
**Plate 71.** 71A–71F Experiment 176. Cutting pandanus for 1 hour and 45 minutes: (71A) edge rounding and striations, (71B) white residues before cleaning, (71C) plant fibre on the tool before cleaning, starch residues, (71E) hafting wear on the edge. The arrow indicates flaked striations. (71F) hafting wear on the surface. The arrow indicates residues from resin.



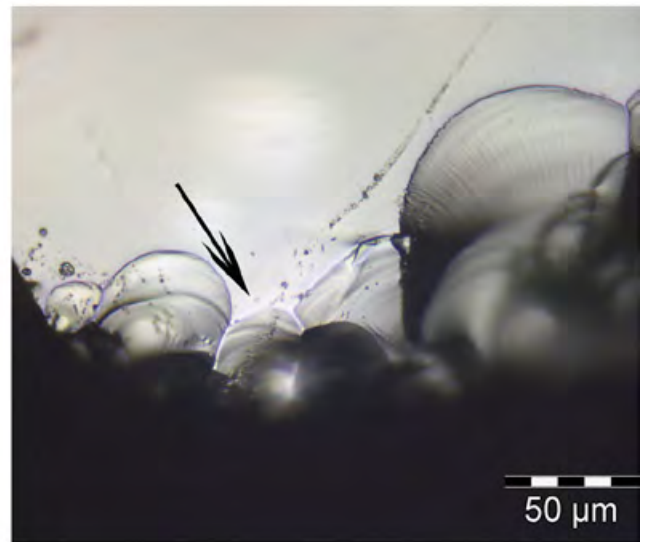
72A



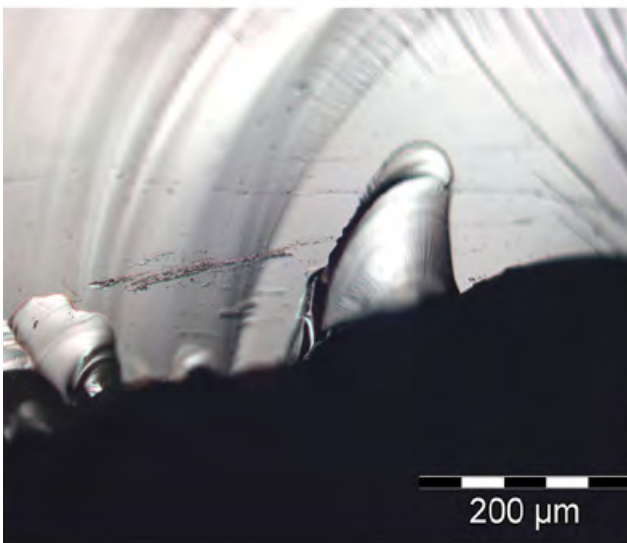
72B



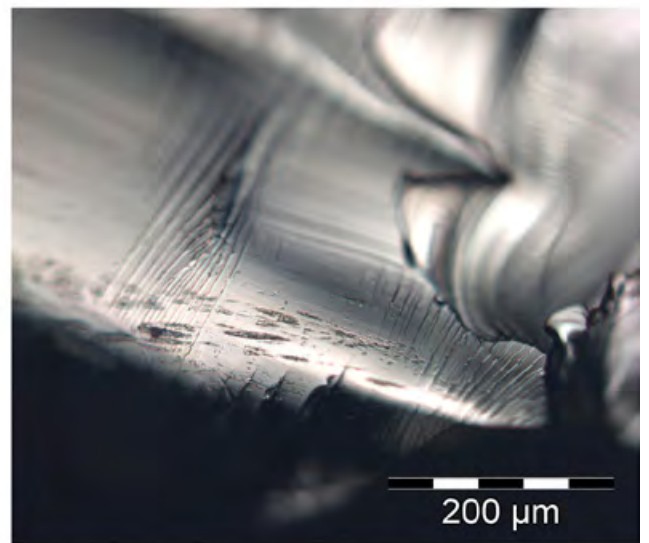
72C



73



74A

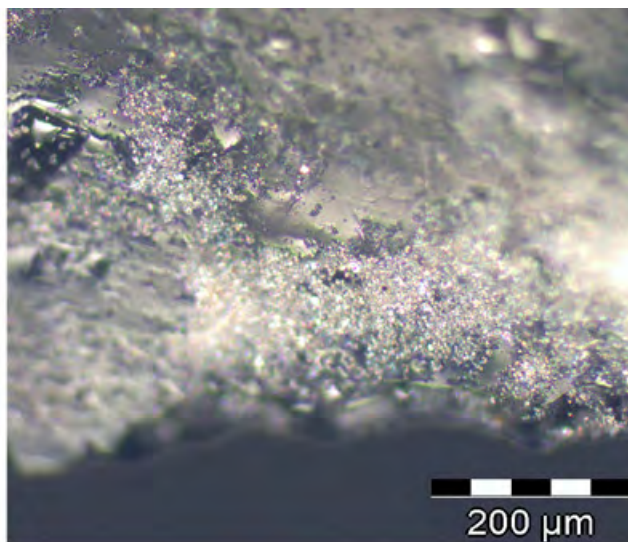


74B

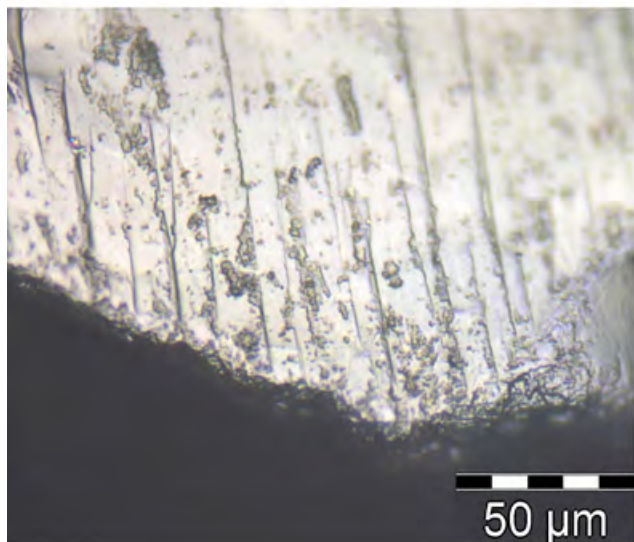
**Plates 72–74.** 72A–72C Experiment 6. Scraping coconut meat for 30 minutes: (72A) before cleaning, (72B) after cleaning, (72C) starch residues. (73) Experiment 309. Scraping/slicing coconut meat for 25 minutes: scars and striations. The arrow indicates light polish. 74A–74B Experiment 253. Cutting/slicing coconut meat for 30 minutes: (74A) scars and striations, (74B) striations and light polish.



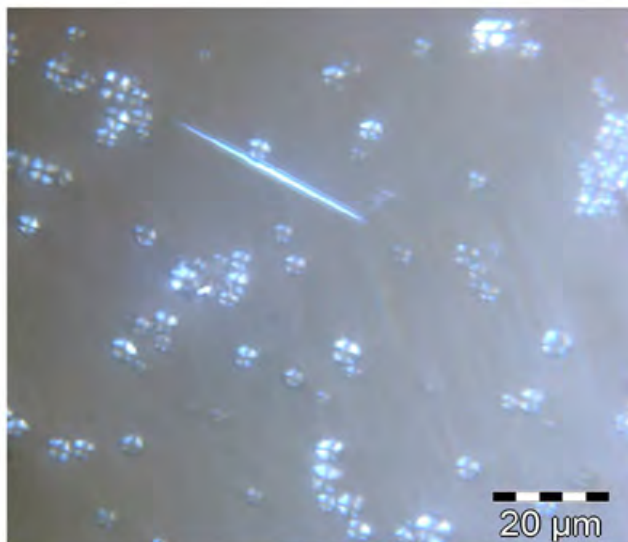
75A



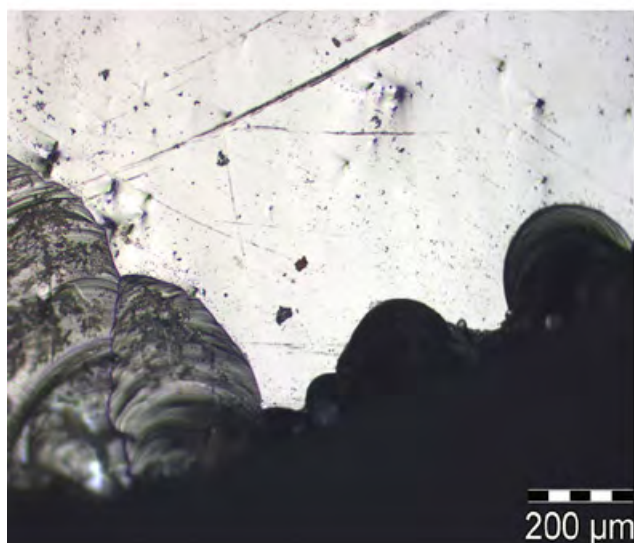
75B



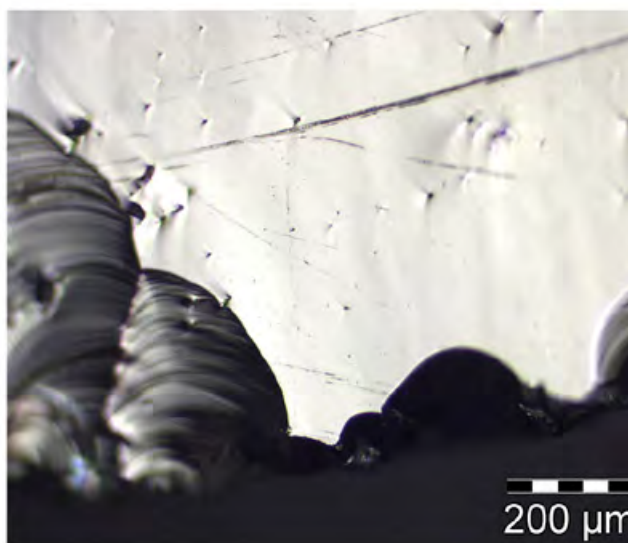
75C



75D



76A



76B

**Plates 75–76.** 75A–75D Experiment 36. Scraping/slicing raw taro for 5 minutes: (75A) cutting/slicing action, (75B) starch residues concentration on the edge before cleaning, (75C) edge rounding, striations and polish, (75D) starch and raphide-like residues. 76A–76B Experiment 277. Slicing raw taro for 10 minutes: (76A) scars, striations and residues before cleaning, (76B) scars, striations and light polish after cleaning.



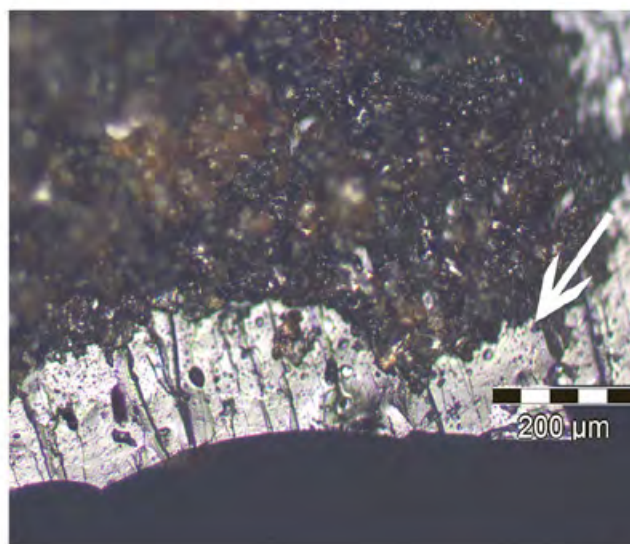
77A



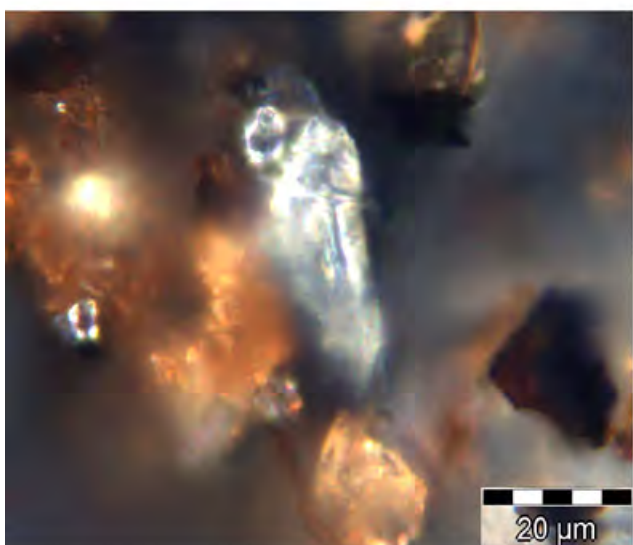
77B



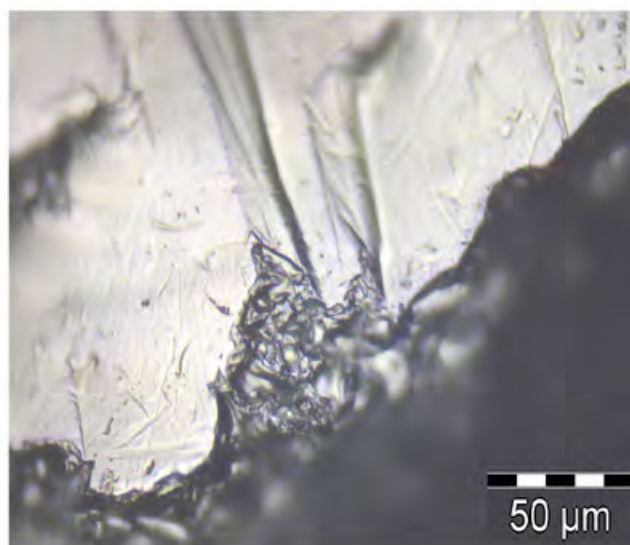
77C



77D

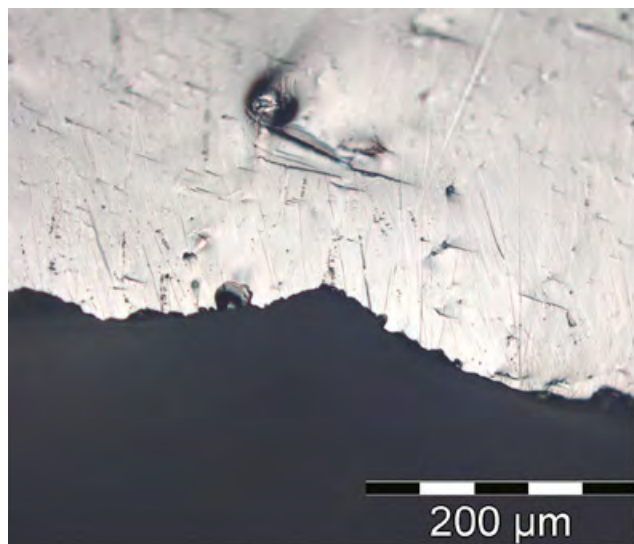


77E

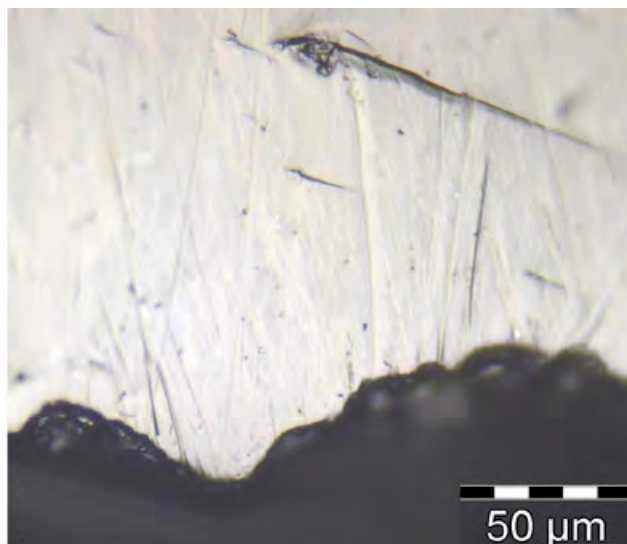


77F

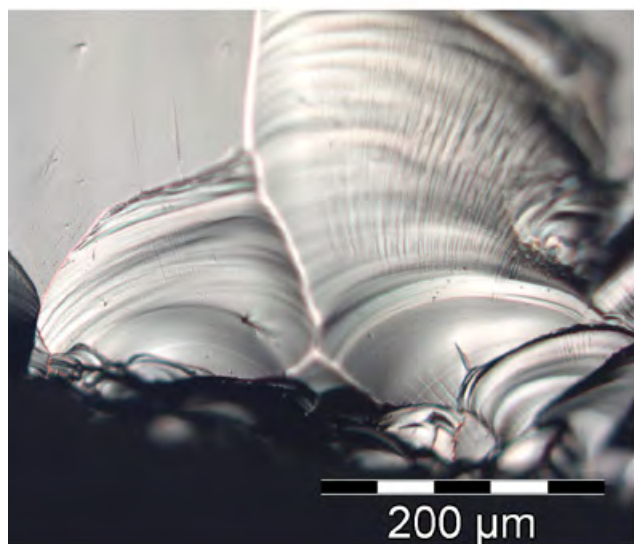
**Plate 77.** 77A–77F Experiment 151. Scraping roasted taro for 15 minutes: (77A) scraping taro after the first period of cooking, (77B) the second period of cooking, (77C) scraping taro after cooking, (77D) residue concentration before cleaning. The arrow indicates the location of residues on the working edge. (77E) starch residues, (77F) scars, striations and polish.



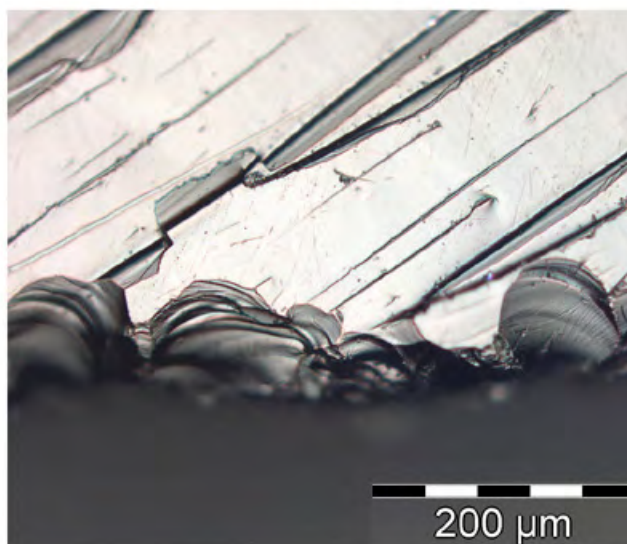
78A



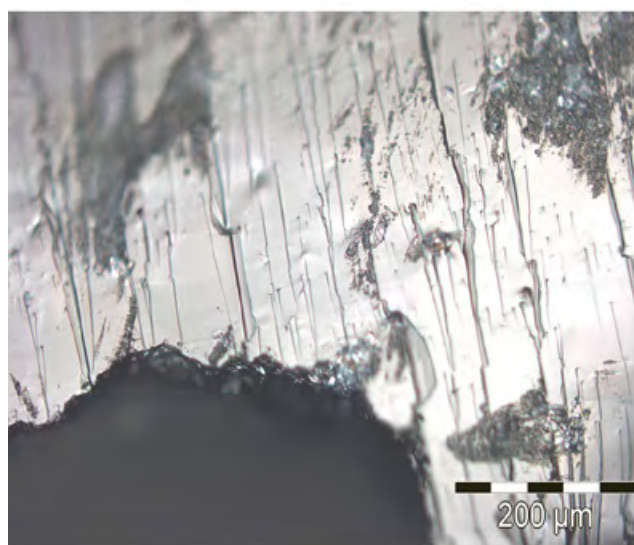
78B



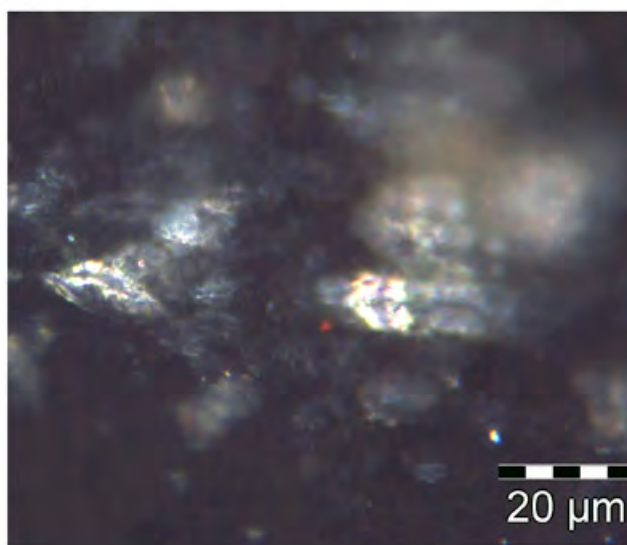
79



80



81A

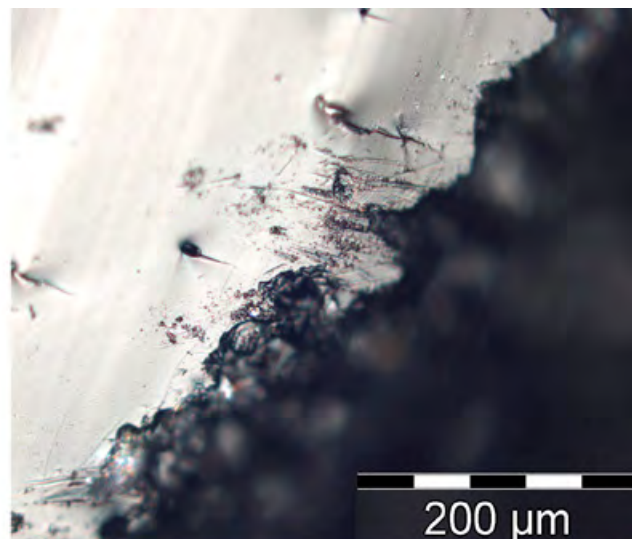


81B

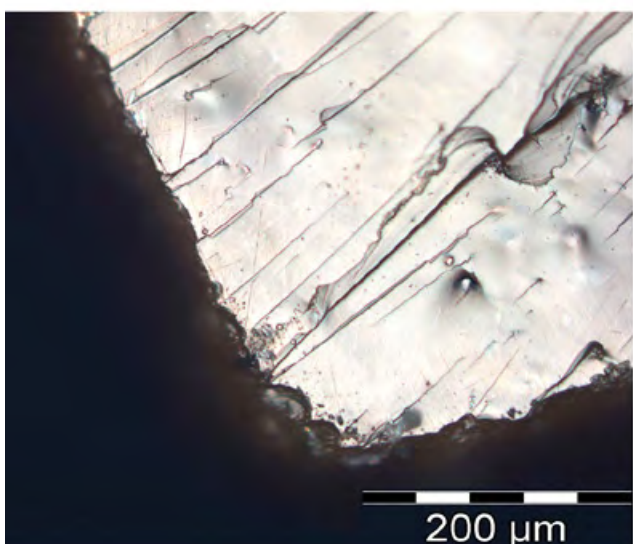
**Plates 78–81.** 78A–78B Experiment 148. Scraping roasted taro for 30 minutes: (78A) scars and striations, (78B) edge rounding, polish and striations. (79) Experiment 311. Scraping/slicing yam for 10 minutes: scars and striations. (80) Experiment 310. Scraping/slicing yam for 25 minutes: scars, polish and striations. 81A–81B Experiment 279. Slicing sweet potato for 10 minutes: (81A) scars and striations, (81B) starch residues.



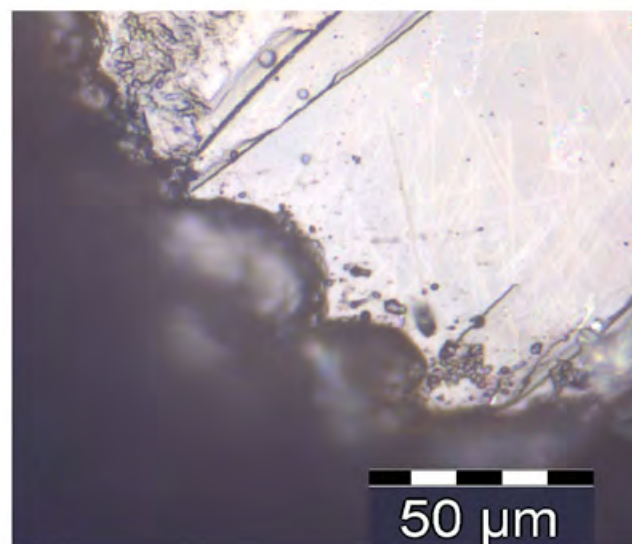
82



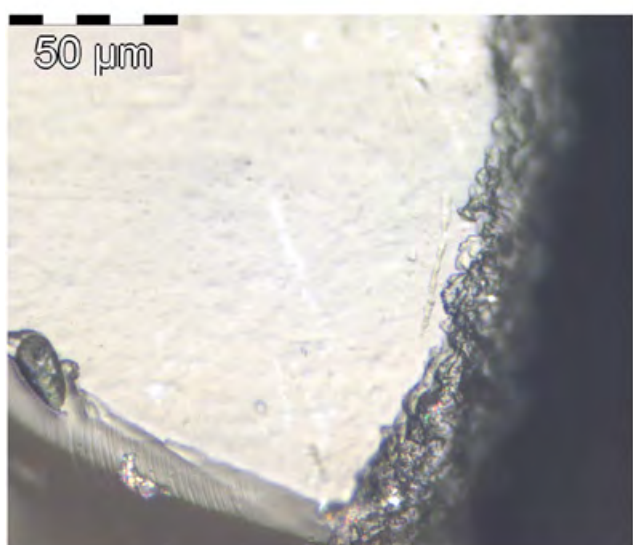
83



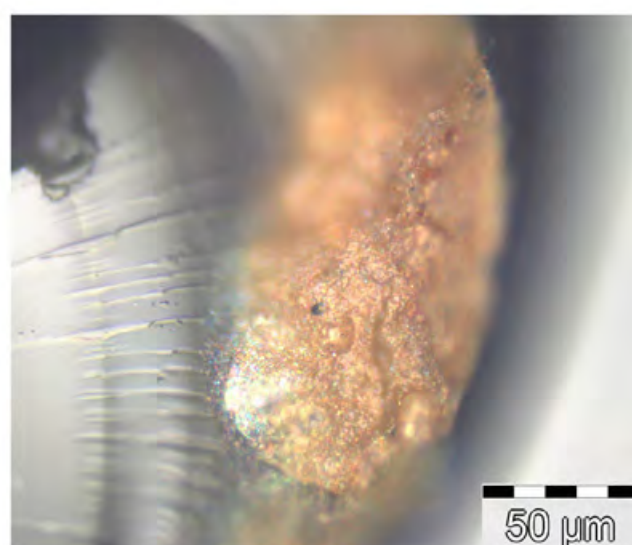
84A



84B



85A

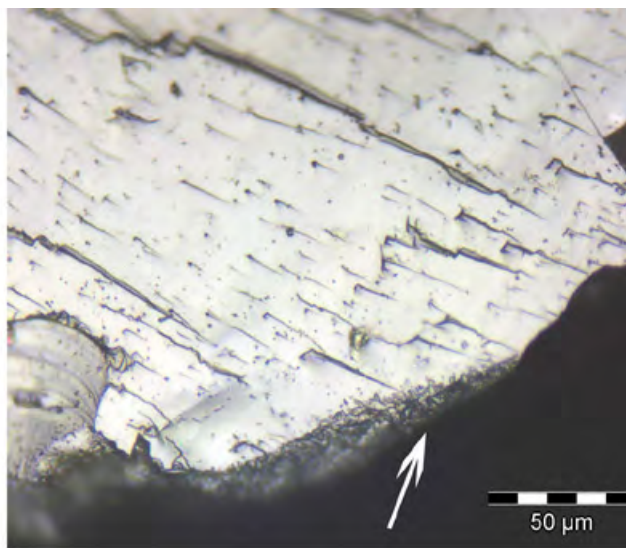


85B

**Plates 82–85.** (82) Piercing chicken skin in action. (83) Experiment 265. Cutting chicken skin for 25 minutes: scars and striations. 84A–84B Experiment 264. Piercing chicken skin for 30 minutes: (84A) scars and sleek striations, (84B) edge rounding, striations and polish. 85A–85B Experiment 266. Cutting/piercing chicken skin for 30 minutes: (85A) isolated striations and polish, (85B) residues.



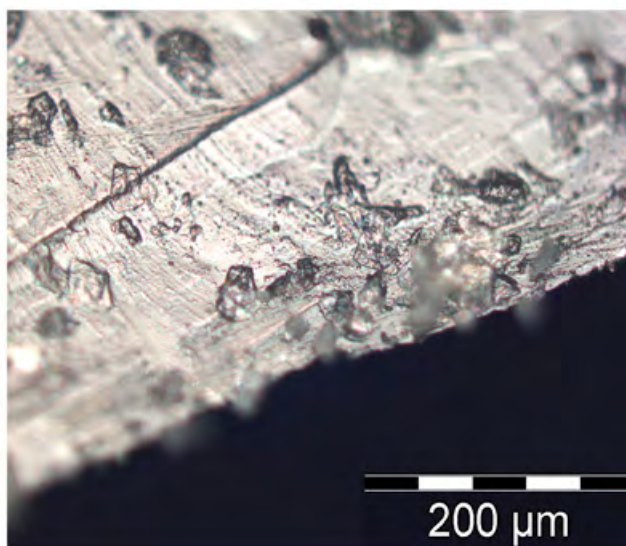
86A



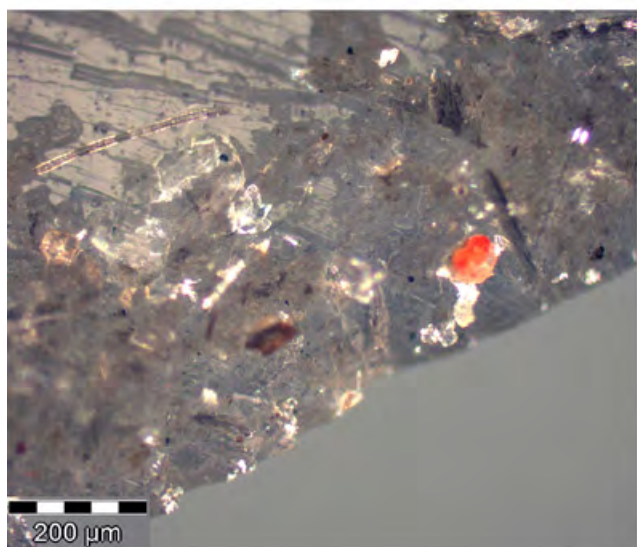
86B



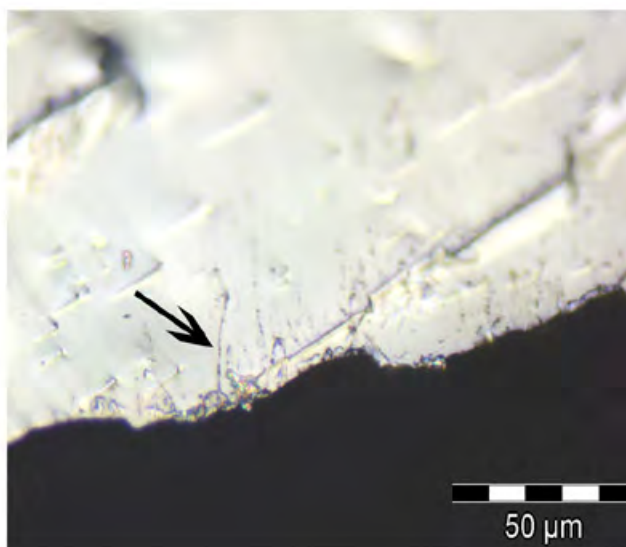
87A



87B



87C

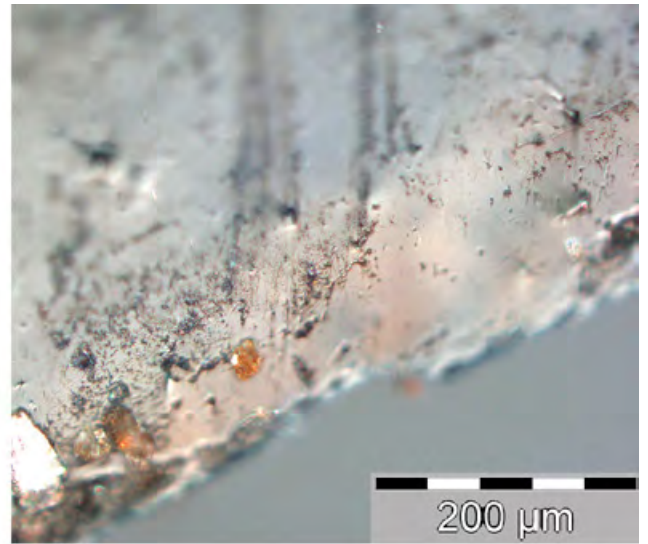


87D

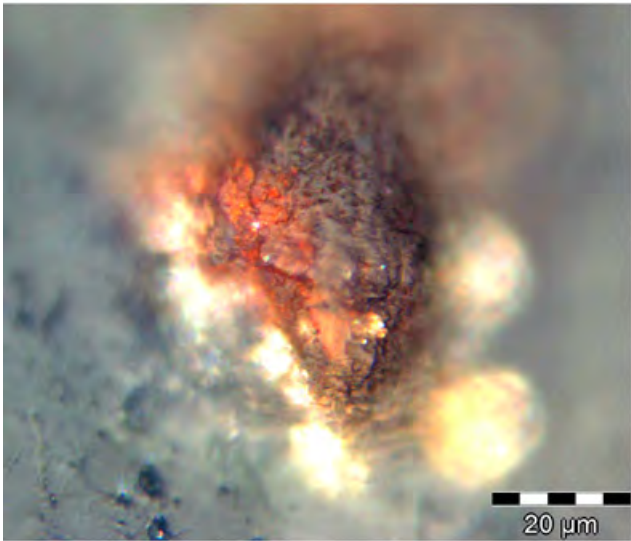
**Plates 86–87.** 86A–86B Experiment 52. Shaving the human face for 3 minutes: (86A) shaving action, (86B) edge rounding and polish. The arrow indicates polish. 87A–87D Experiment 55. Shaving the human face for 3 minutes: (87A) shaving action, (87B) residues on the edge before cleaning, (87C) residues (polarized light), (87D) microscars, residues and striations after cleaning.



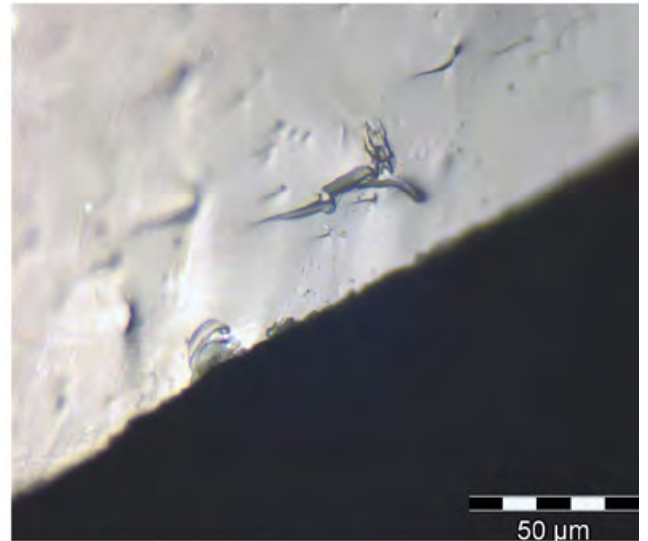
88A



88B



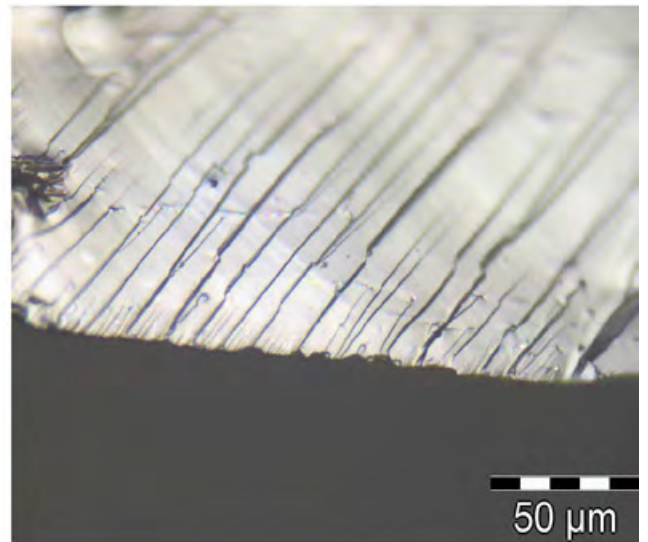
88C



88D



89A

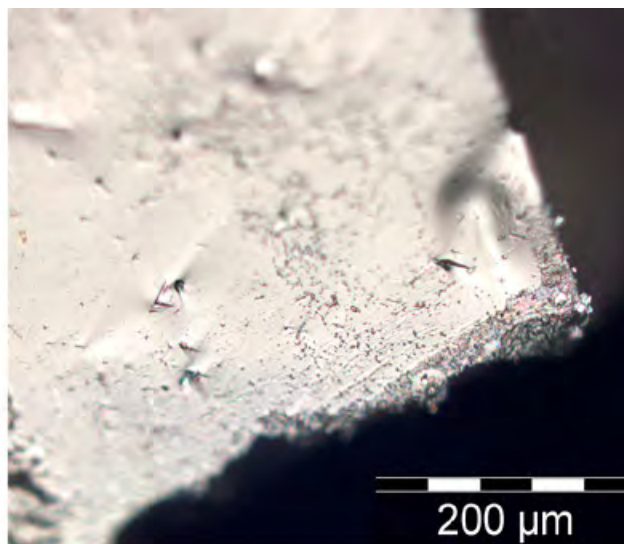


89B

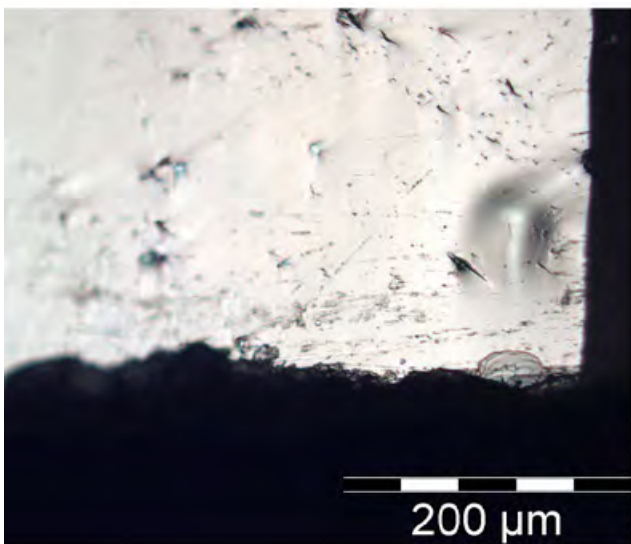
**Plates 88–89.** 88A–88D Experiment 46. Shaving the human face for 5 minutes: (88A) shaving action, (88B) residues before cleaning, (88C) blood-like residues, (88D) scars and microscars. 89A–89B Experiment 319. Shaving the human face for 10 minutes: (89A) shaving action (89B) edge rounding and scars.



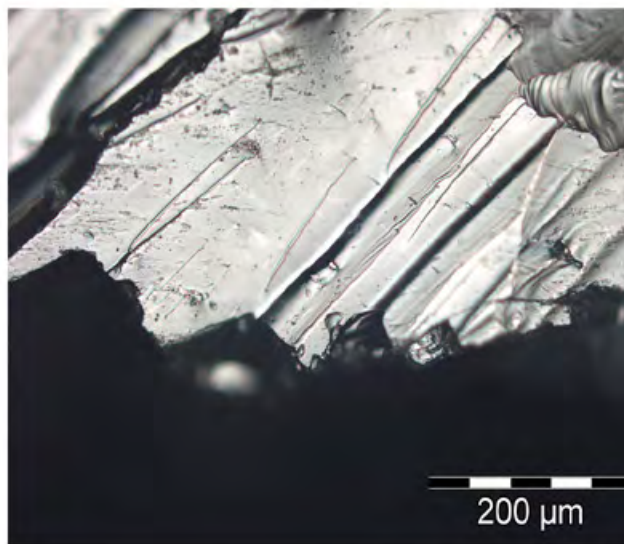
90A



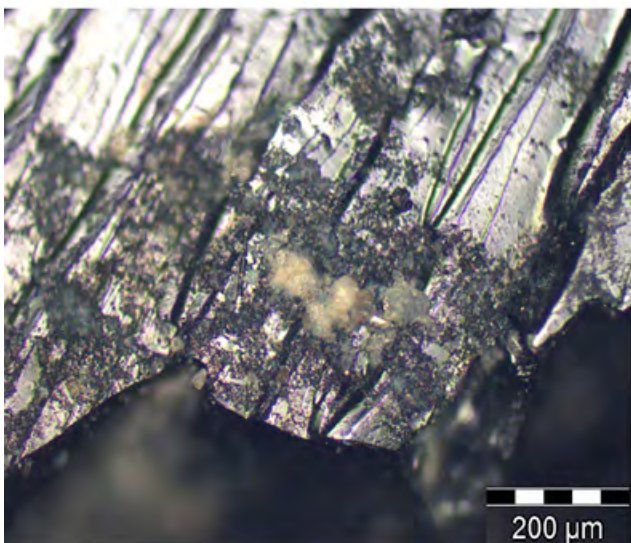
90B



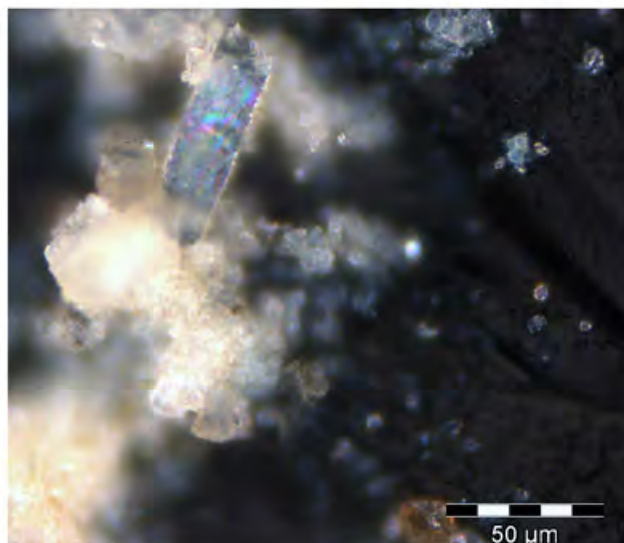
90C



90D

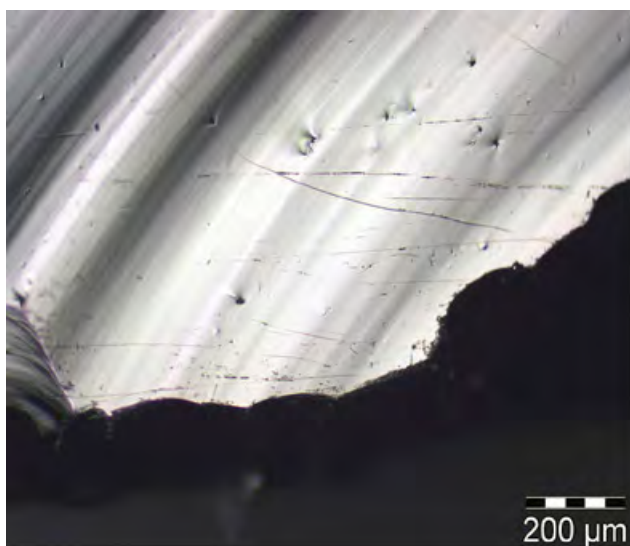


90E

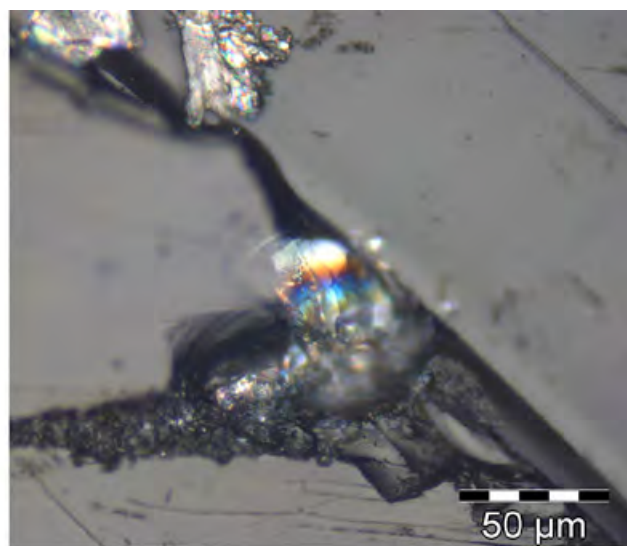


90F

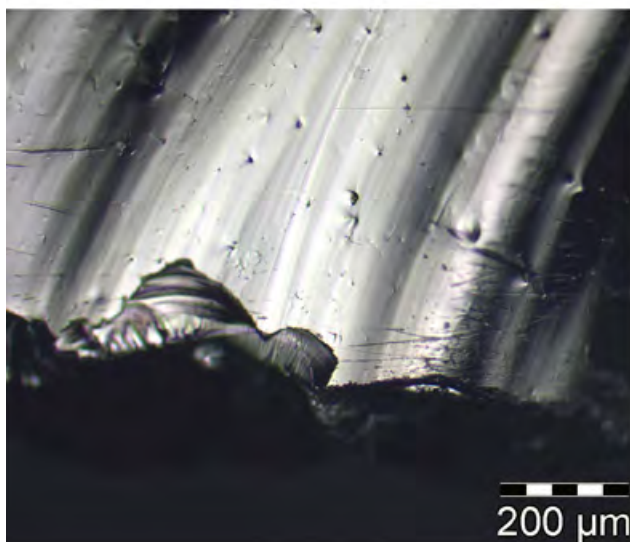
**Plate 90.** 90A–90F Experiment 76. Gutting/cutting fish for 15 minutes: (90A) gutting/cutting in action, (90B) striations and residues before cleaning, (90C) scars and striations after cleaning, (90D) scars, striations and polish, (90E) residues on the edge, (90F) rainbow residues.



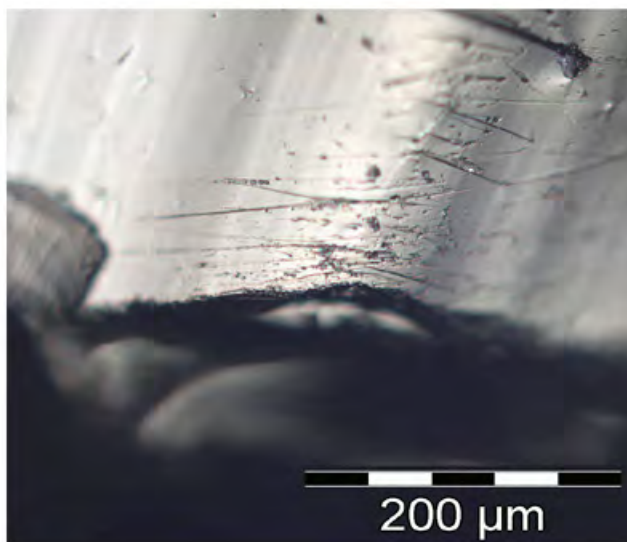
91A



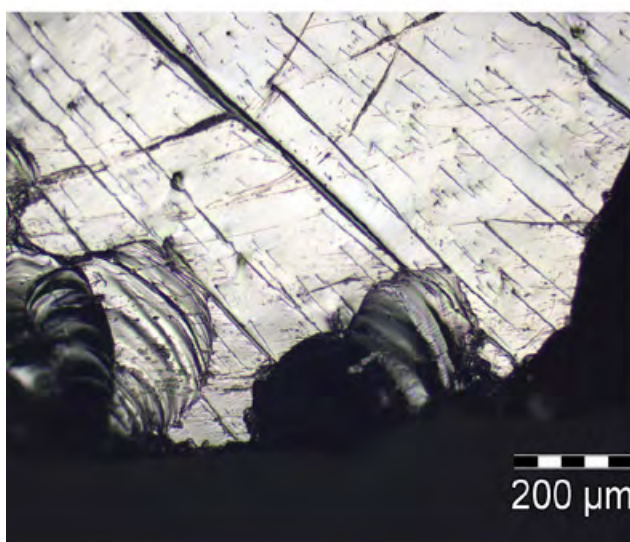
91B



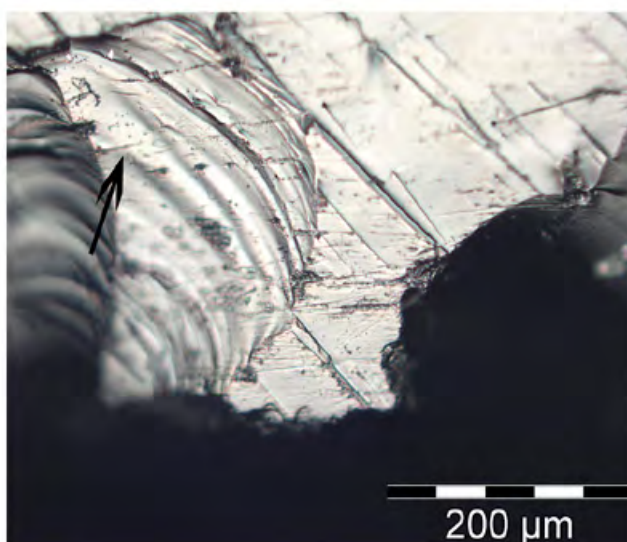
91C



91D

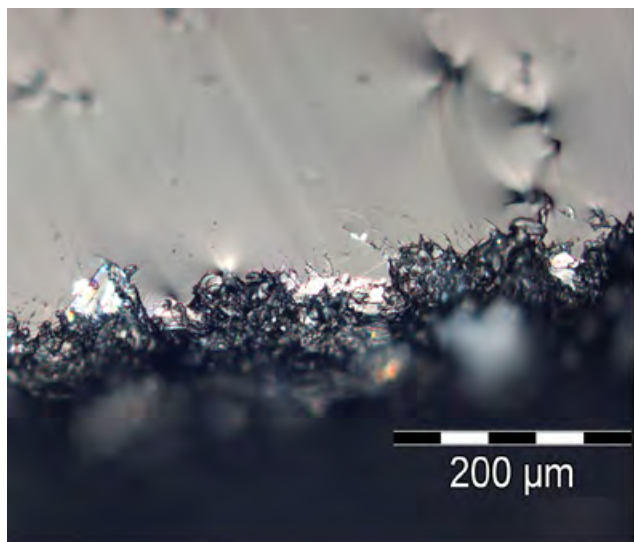


91E

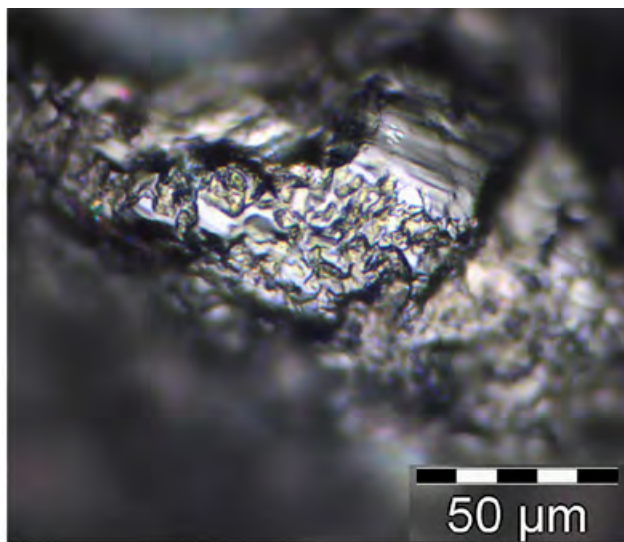


91F

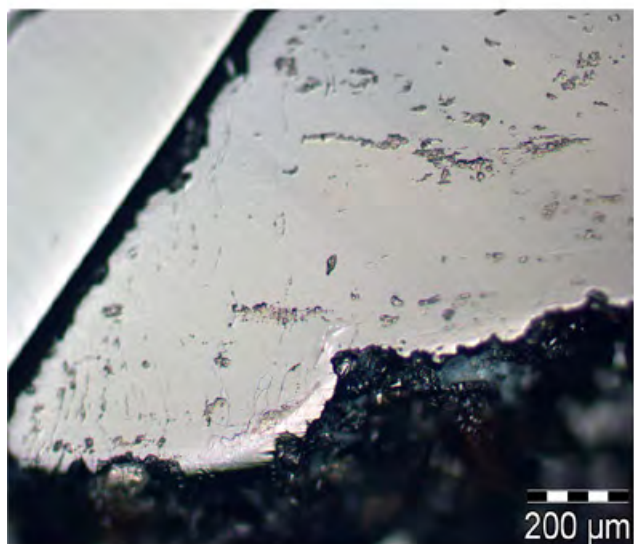
**Plate 91.** 91A–91F Experiment 263. Gutting/cutting fish for 25 minutes: (91A) striations, (91B) residues, (91C) scars and striations, (91D) edge rounding, polish and striations, (91E) scars and striations, (91F) polish and striations. The arrow indicates striations within scars.



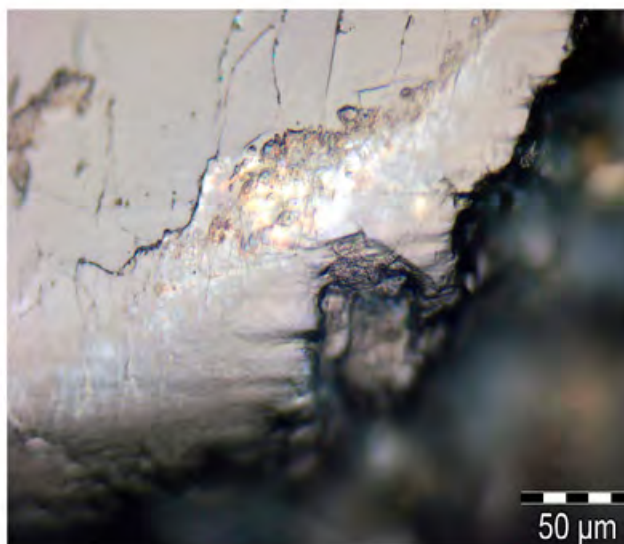
92A



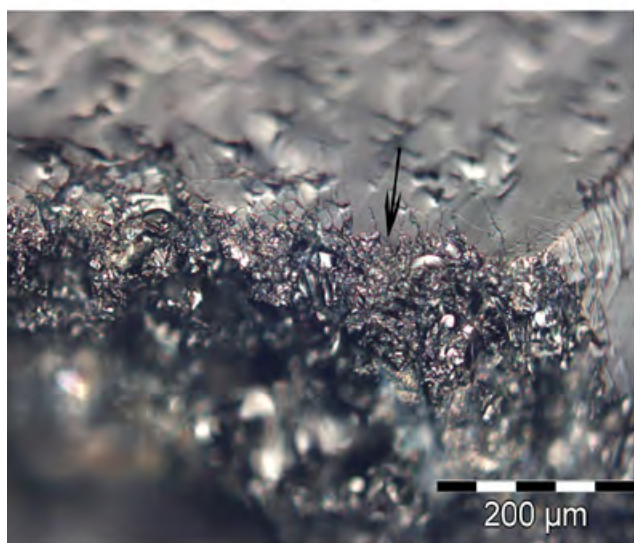
92B



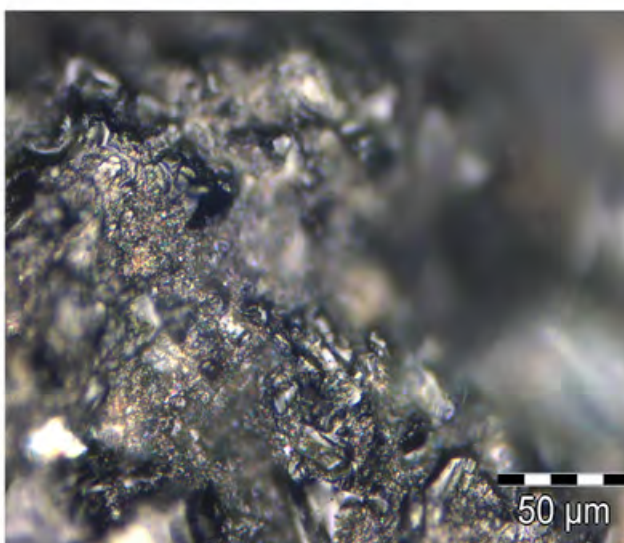
93A



93B

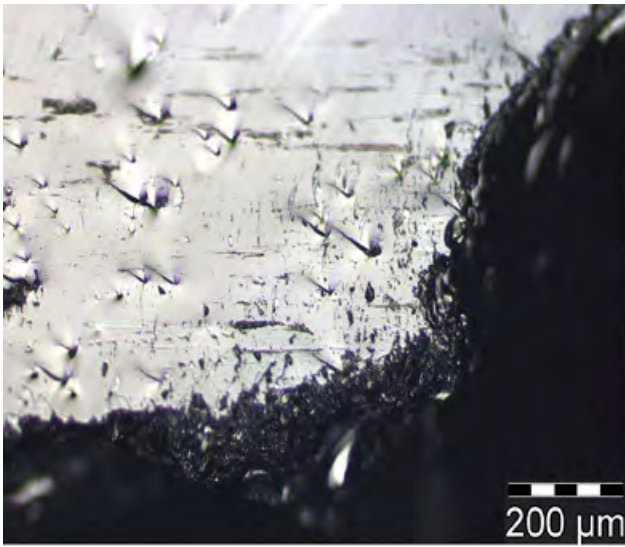


94A

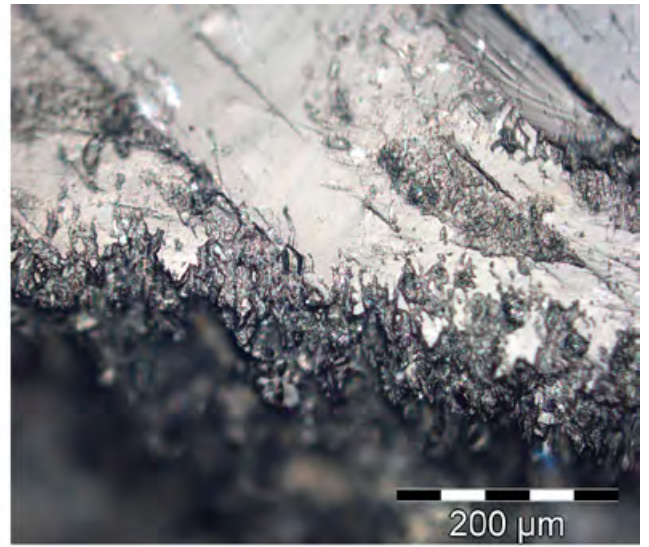


94B

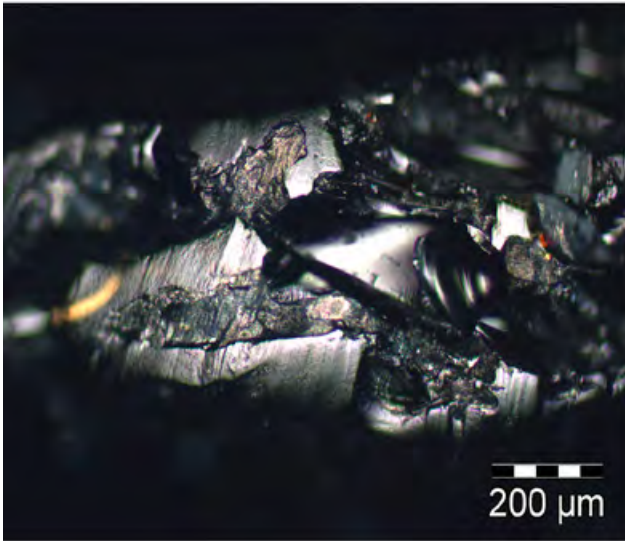
**Plates 92–94.** 92A–92B Experiment 254. Sawing shell for 5 minutes: (92A) scars and polish, (92B) polish and striations. 93A–93B Experiment 259. Sawing shell for 15 minutes: (93A) edge rounding, striations and polish, (93B) polish and residues. 94A–94B Experiment 256. Sawing shell for 45 minutes: (94A) edge rounding, striations and polish. The arrow indicates polish. (94B) polish and residues.



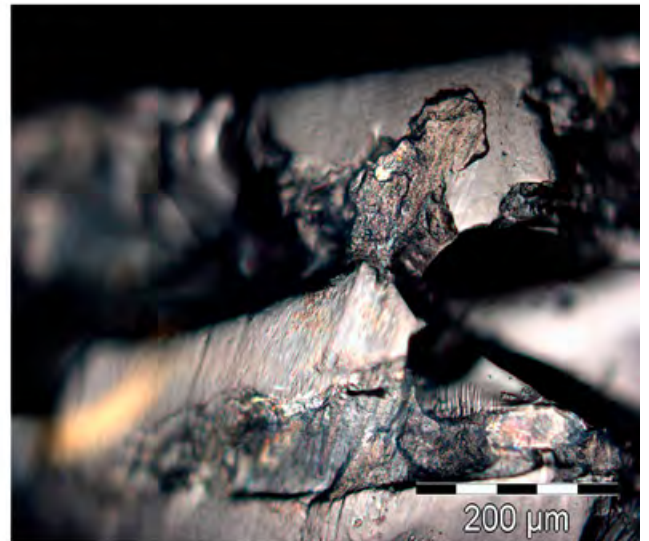
95A



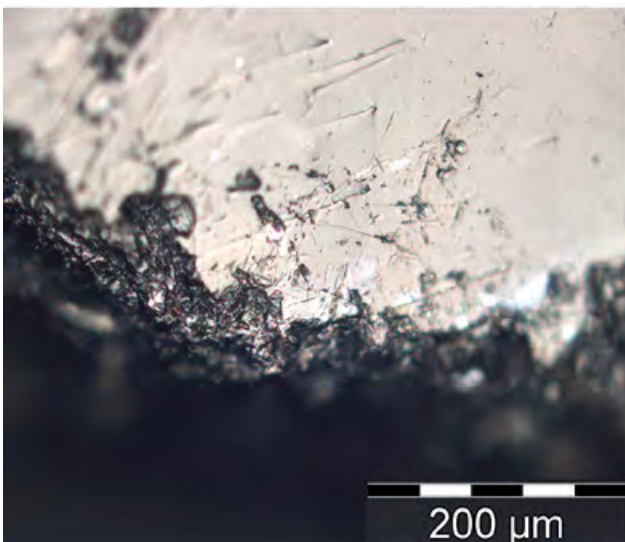
95B



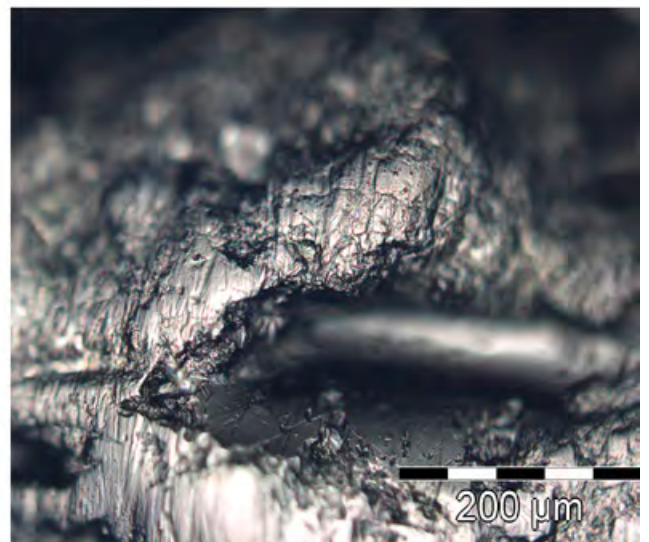
96A



96B

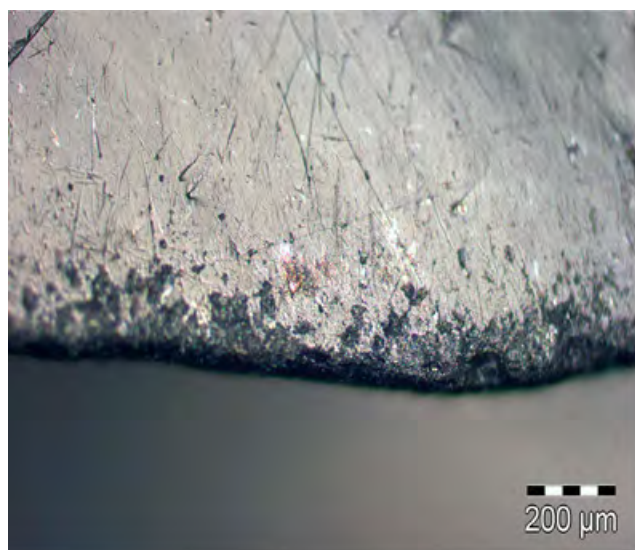


97A

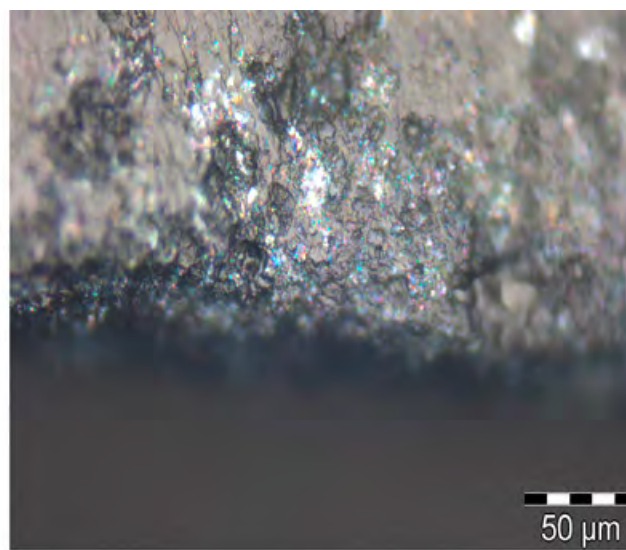


97B

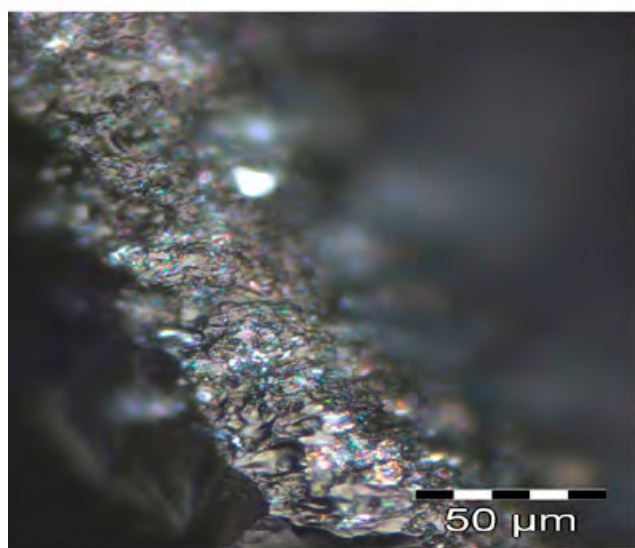
**Plates 95–97.** 95A–95B Experiment 260. Sawing shell for 2 hours: (95A) edge rounding, polish and striations, (95B) polish and striations. 96A–96B Experiment 261. Scraping shell for 10 minutes: (96A) scars and polish, (96B) polish and residues. 97A–97B Experiment 262. Scraping shell for 25 minutes: (97A) edge rounding, polish and striations, (97B) polish.



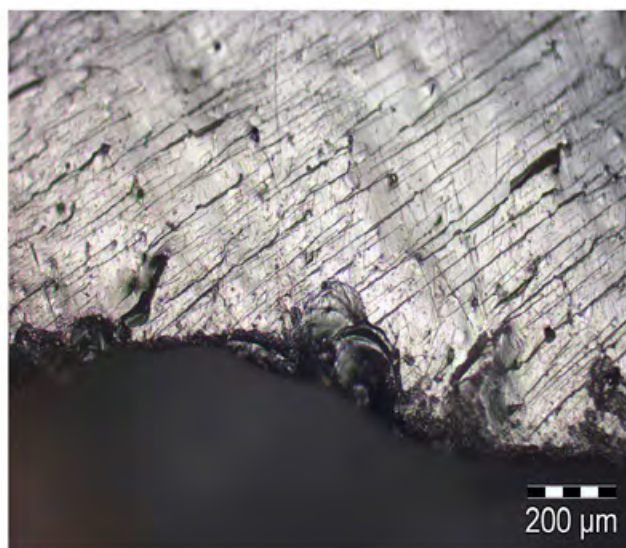
98A



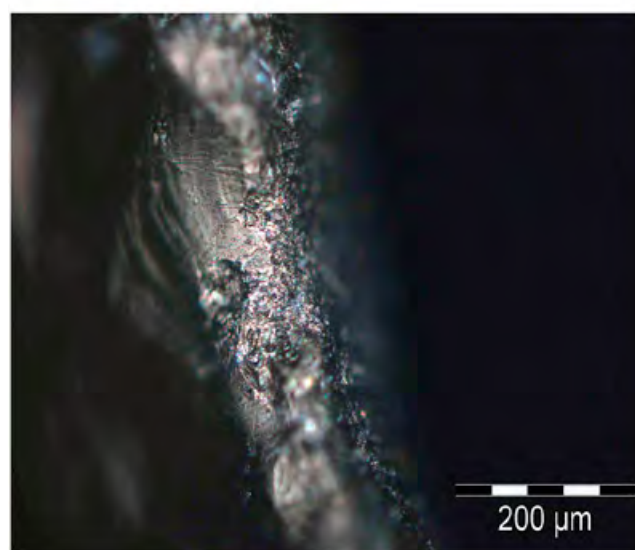
98B



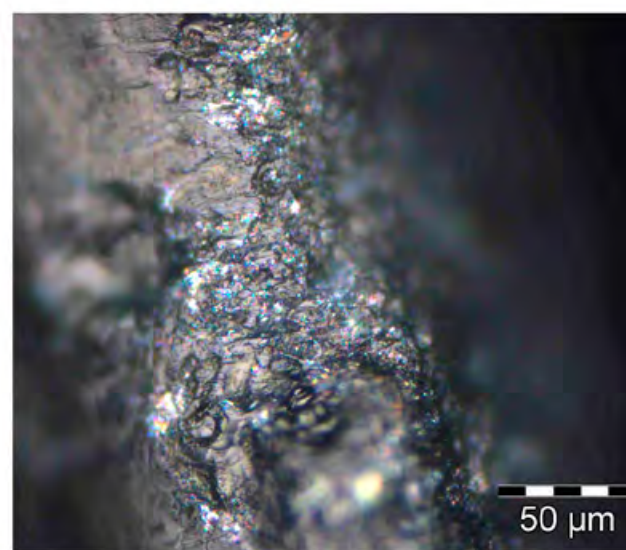
98C



99A

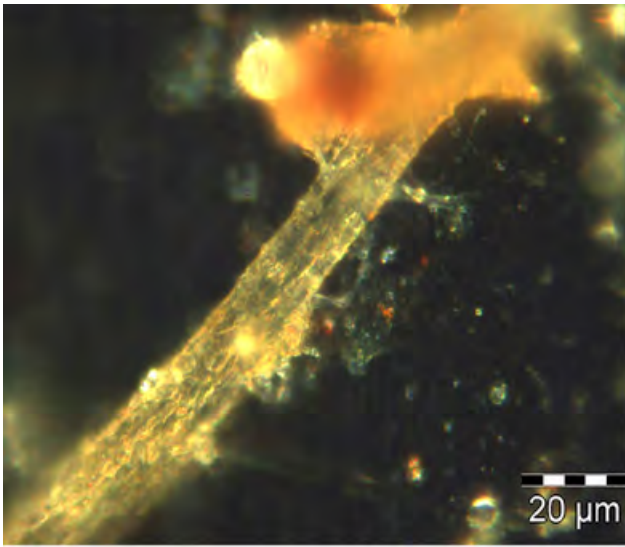


99B



99C

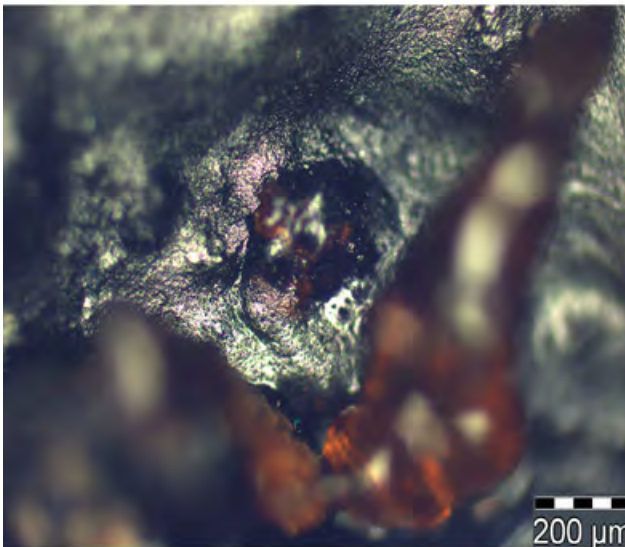
**Plates 98–99.** 98A–98C Experiment 251. Scraping clay for 15 minutes: (98A) edge rounding and striations, (98B) polish and residues, (98C) profile of the edge. 99A–99C Experiment 252. Scraping clay for 15 minutes: (99A) scars, edge rounding and striations, (99B) profile of the edge: rounding and striations, (99C) profile of the edge: polish and residues.



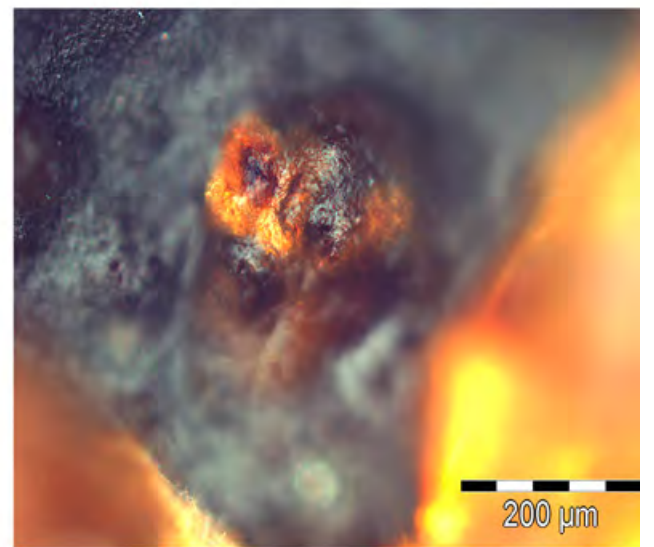
100



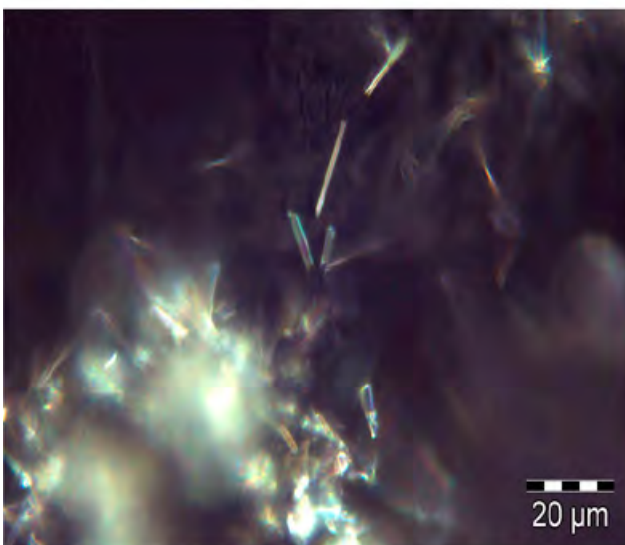
101



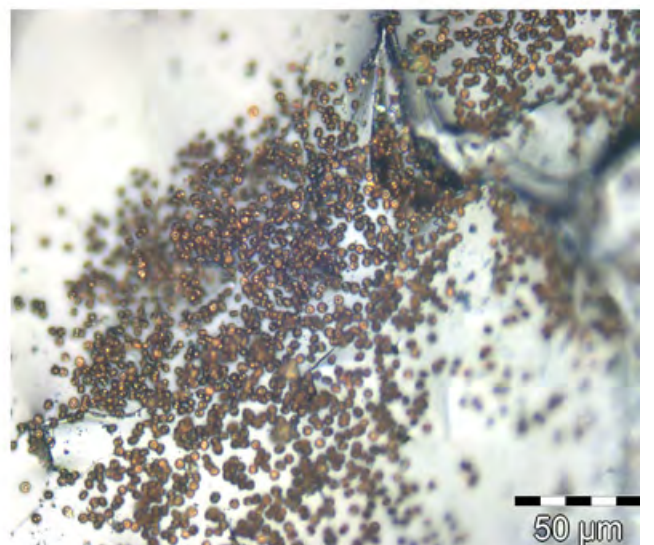
102A



102B

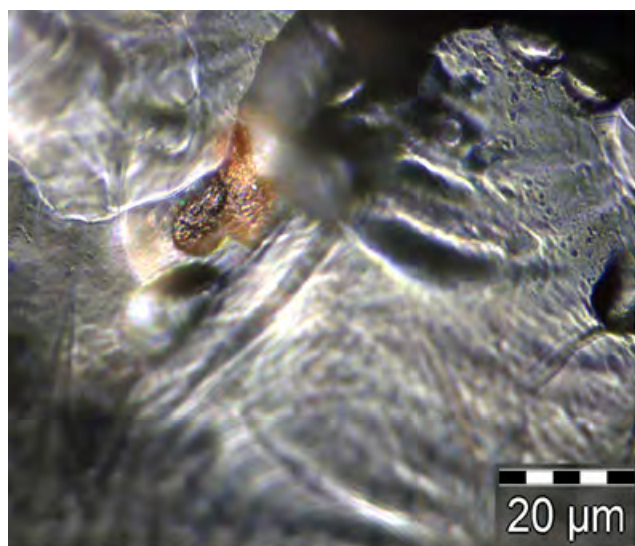


102C

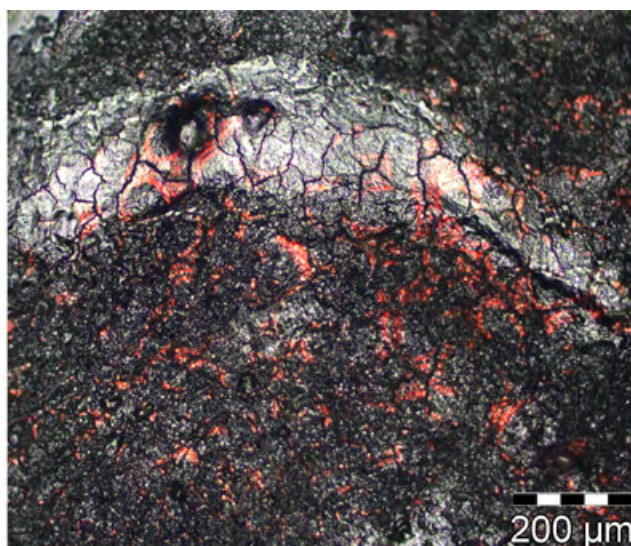


103

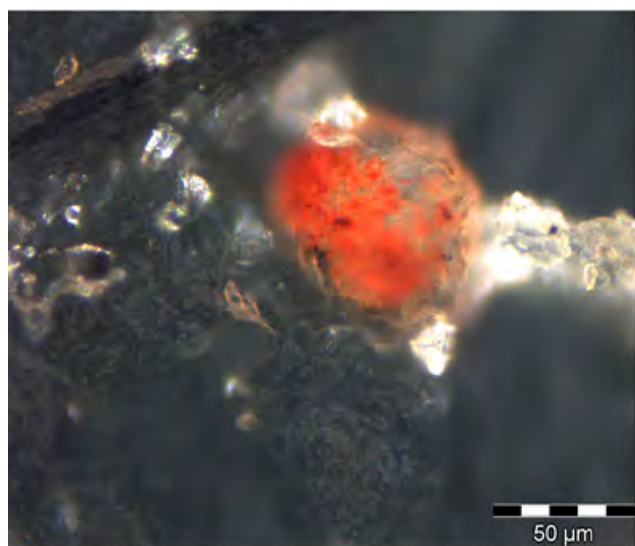
**Plates 100–103.** (100) Experiment 277. Slicing taro for 10 minutes: plant fibre. (101) Experiment 135. Cutting/slicing fern stem for 5 minutes: plant fibre. 102A–102C Experiment 235. Whittling bark (Hibiscus) for 20 minutes, hafting area on the tool: (102A) resin residue from breadfruit trees, (102B) resin residue from breadfruit trees, (102C) raphides-like residue within resin. (103) Experiment 180. Cutting palm frond for 1 hour, hafting area on the tool: fungal residues.



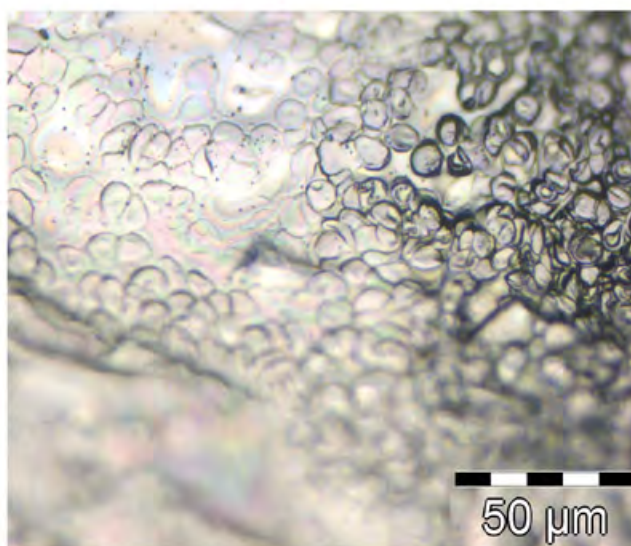
104A



104B



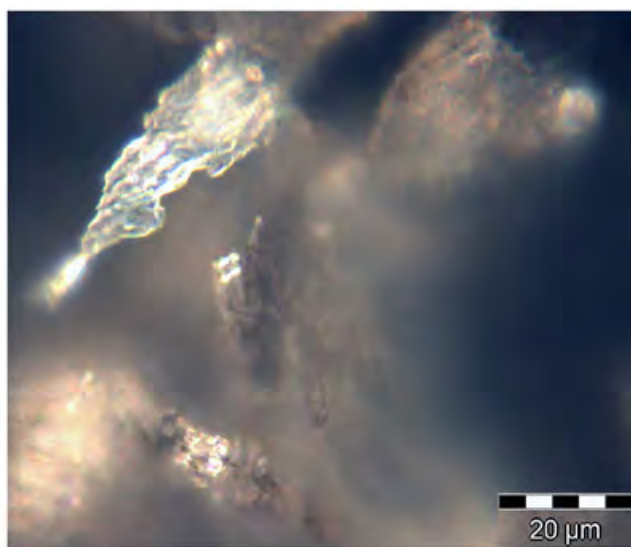
104C



104D

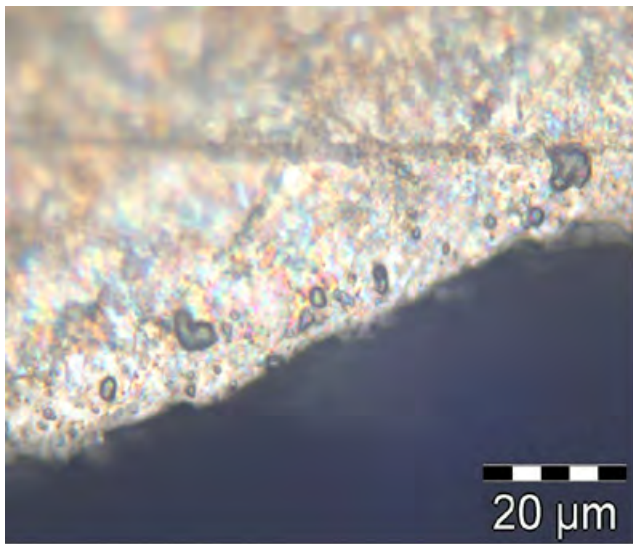


104E

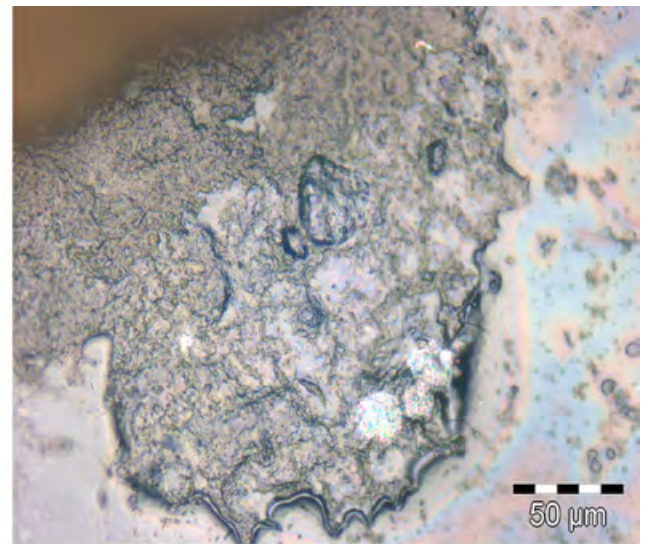


104F

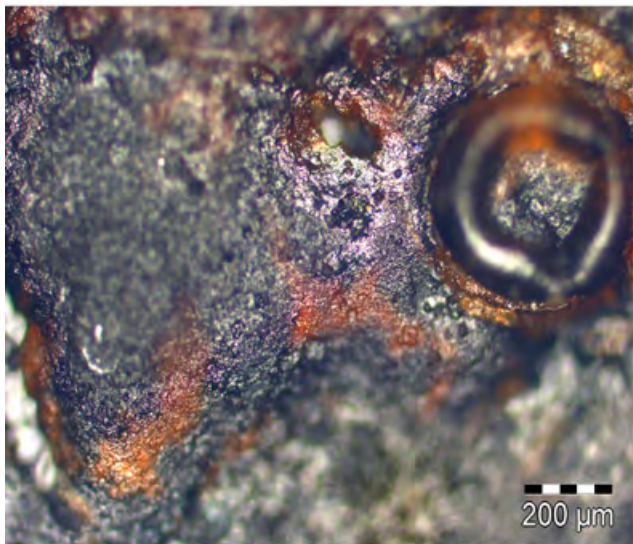
**Plate 104.** 104A–104F Human proteinaceous blood residues: (104A) experiment 215, a thick blood residue deposit, (104B) experiment 93, a thicker film with polygonal cracking, (104C) experiment 55, tissue, blood and collagen, (104D) experiment 31, blood cells on the tool, (104E) experiment 31, blood cells on glass slide, (104F) experiment 52, collagen.



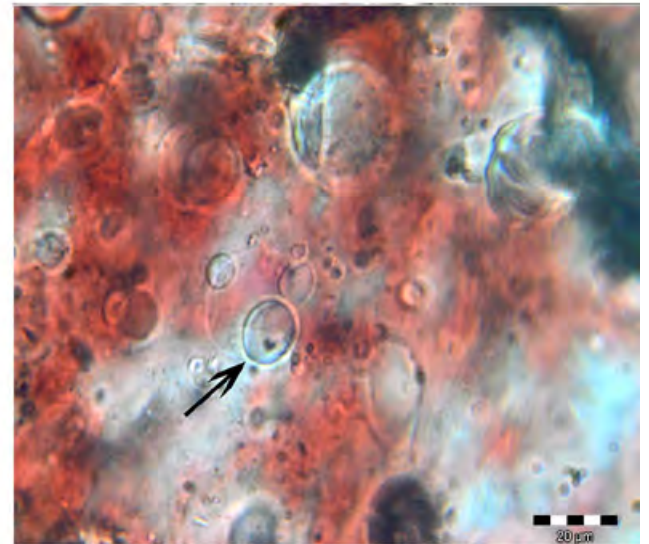
105A



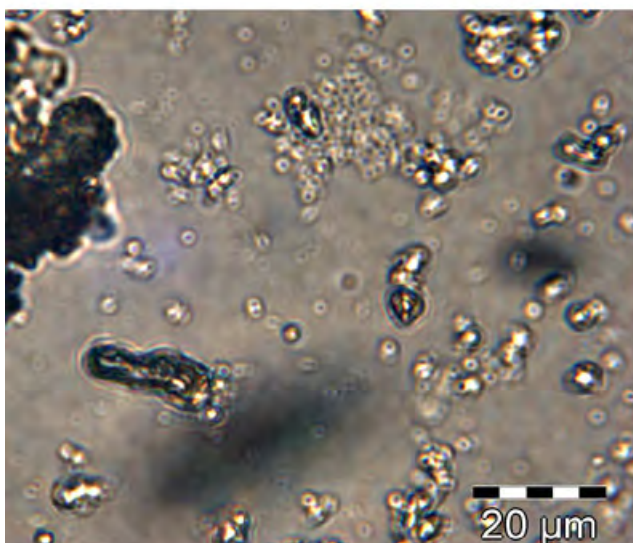
105B



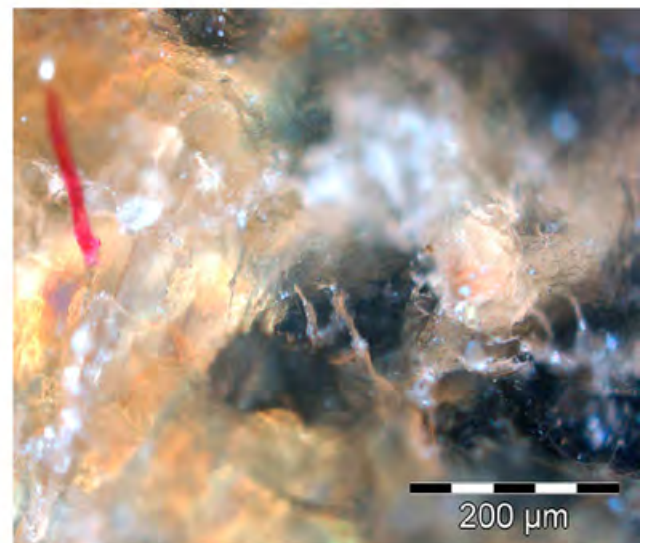
105C



105D



105E



105F

**Plate 105.** 105A–105F Fish residues on the tools: (105A) experiment 308, rainbow residues, (105B) experiment 322, black and rainbow residues, (105C) blood residues, (105D) blood cells on glass slide. The arrow indicates blood cell with nucleus. (105E) blood cells on glass slide, (105F) tissue.



106A



106B



106C



106D



106E

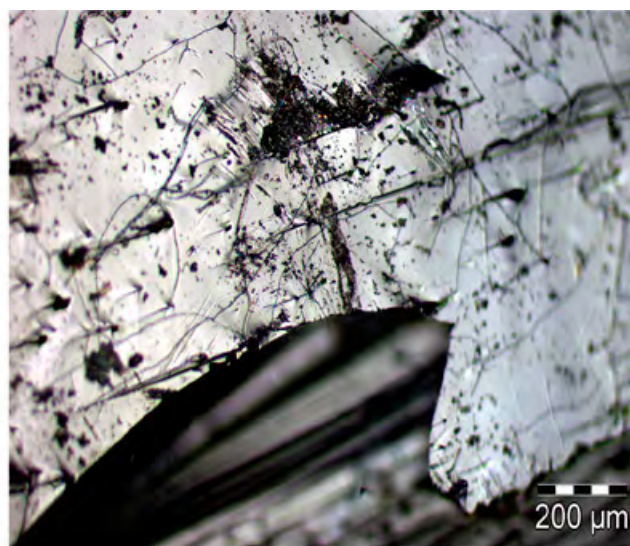


106F

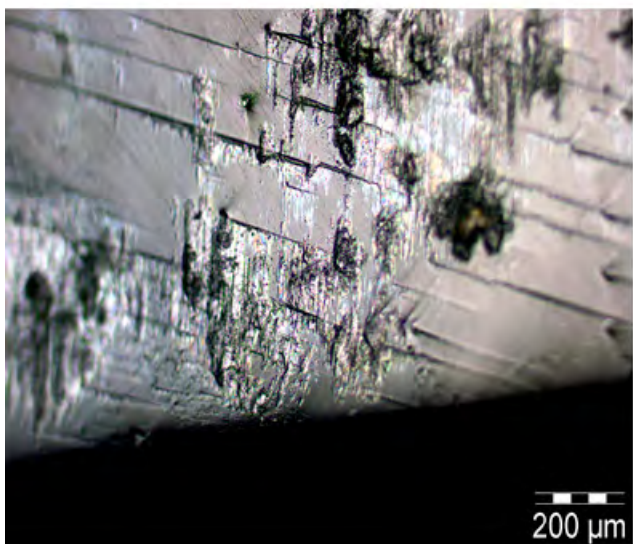
**Plate 106.** 106A–106F Types of hafting of stemmed tools in wooden handles (106A–106E) and stemmed tools after use (106F).



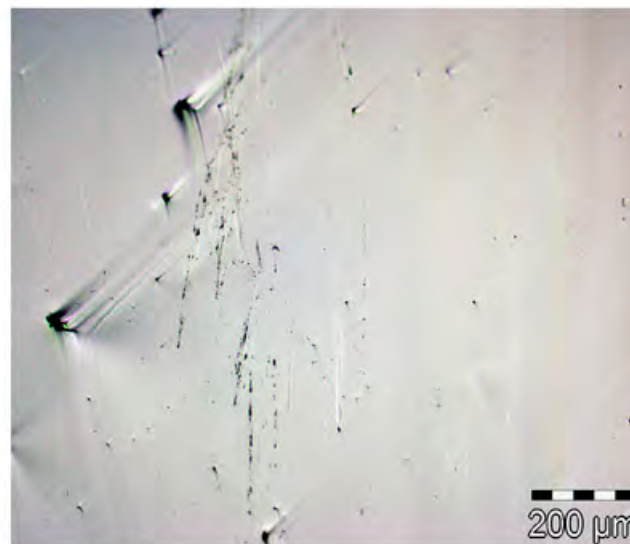
107A



107B



108A



108B



109A



109B

**Plates 107–109.** 107A–107B Experiment 178. Wear from a wooden handle: (107A) the edge of the handle, (107B) the surface of the handle. 108A–108B Experiment 247. Wear from a wooden handle: (108A) the edge of the handle, (108B) the surface of the handle. 109A–109B Experimental tools wrapped in (109A) leaves, and (109B) strings.